Central University of Himachal Pradesh

(Established under Central Universities Act 2009
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

UNIVERSITY'S

COURSE OFFERING

"Aug – Dec 2013"

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School of Business & Management Studies

Courses Offered in SBMS

School of Business & Management Studies
Name of the Programme of Study: MBA

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MSC 401	Marketing Management	2	NA	Bhagwan Singh, Chaman Lal, Sarvesh Kumar, Ajay Kumar
2	AFA 407	Accounting for Managerial Decisions	2	NA	Ashish Nag, Manpreet, Mohinder Singh
3.	EDM 401	Fundamentals of Entrepreneurship	2	NA	Sanjeev Gupta AshishNag ChamanLal
4.	HRM 401	Organizational Behaviour	2	NA	Geetanjali Aditi Sharma Bhawana Bhardwaj
5	MSO 402	Legal Aspects of Business	2	NA	Mohinder Singh Manpreet Arora
6	MSO 401	Management Principles and Function	2	NA	Geetanjali Aditi Sharma Bhawana Bhardwaj Ajay Sarvesh Kumar

Note:

 1. A student has the option of making a basket of courses from any one of the following Departments:

> 1. Accounting & Finance
> 2. Human Resource Management & Orgainsational Behaviours
> 3. Marketing and Supply Chain Management

 2. Out of first four courses one course will fall in the category of Department in which
   student is going to make the Basket.
 3. And rest of the courses will be counted in School wide category.

Courses for Semester 3

Group A (ACCOUNTING & FINANCE)   **Credits: 10**

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	AFA 525	Fundamentals of Investments	2	NA	Md. Atif
2	AFA 507	Working Capital Management	2	NA	Manpreet Arora
3	AFA 512	Investment Analysis and Portfolio Management	2	NA	Ashish Nag
4	AFA 415	Stock Market Operations	2	NA	Sanjeev Gupta
5	AFA 502	Project Management	2	NA	Manpreet Arora
6	AFA 526	Bond Markets Analysis and Strategies	2	NA	Ashish Nag

Group B (Marketing & Supply Chain Mgt.)   **Credits: 10**

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MSC-507	Rural Marketing	2	NA	Chaman Lal
2	MSC-513	ERP (Enterprise Resource Planning)	2	NA	Sarvesh Kumar
3	MSC-504	Internet Marketing	2	NA	Bhagwan Singh
4	MSC 402	Services Marketing	2	NA	Ajay Kumar
5	MSC 512	International Marketing	2	NA	Chaman Lal
6	MSC 405	Integrated Marketing Communication	2	MSC 401,MSC 506	Ajay Kumar
7	MSC 408	Supply Chain Management	2	NA	Sarvesh Kumar

Group C (HRM & OB)   **Credits: 10**

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	HRM 502	Management of Industrial Relations	2	NA	Aditi Sharma
2	HRM 503	Human resource Development	2	NA	Bhawana Bhardwaj
3	HRM 508	Compensation	2	NA	Geetanjali Upadhay

		Management			
4	HRM 513	Labour Laws	2	NA	Aditi Sharma
5	HRM 504	Social Security and Labour Welfare	2	NA	Aditi Sharma
6	HRM 410	Personality Development and Career Management	2	NA	Bhawan Bhardwaj Geetanjali Upadhya

School Wide Courses:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MIB411	International Business Environment	2	NA	Chaman Lal
2	MIB 404	OR International Organisations, Regional Blocks & WTO	2	NA	Mohinder Singh
3	POM 505	OR Total Quality Management	2	NA	Sarvesh Kumar
4	MSO 506	Strategic Management	2	NA	Sanjeev Gupta Bhagwan Singh
5	MSO 507	On-the-job Training and Training Report*	4	NA	All Faculty Members

University Wide Courses

The students of other Programmes of Study may choose any courses offered by the school. However, for the guidance of the students of other departments, a tentative list of courses is given as under:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MSC 401	Marketing Management	2	NA	Bhagwan Singh, Chaman Lal
2	AFA 407	Accounting for Managerial Decisions	2	NA	Ashish Nag, Manpreet, Mohinder Singh

3	EDM 401	Fundamentals of Entrepreneurship	2	NA	Ashish Nag Mohinder Singh Manpreet
4	HRM 401	Organizational Behaviour	2	NA	Aditi Sharma
5	MSO 402	Legal Aspects of Business	2	NA	Mohinder Singh Manpreet Arora
6	MSO 401	Management Principles and Function	2	NA	Geetanjali Aditi Sharma BhawanaBhardwaj
7	MSO 506	Strategic Management	2	NA	Sarvesh Kumar Bhagwan Singh
8	MIB 411	International Business Environment	2	NA	AshishNag Mohinder Singh ChamanLal
9	HRM 410	Personality Development and Career Management	2	NA	Bhawan Bhardwaj Geetanjali Upadhya

Marketing Management

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Course Code: MSC 401

Course Name: Marketing Management

Faculty Name: Dr. Bhagwan Singh, Associate Professor, SBMS

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable the students to apply marketing theory and concepts to what marketers do in "the real world".
- Enable the students to design effective marketing programs by selecting appropriate strategies for product, pricing, place and promotion.
- Improve familiarity of the students with current issues and emerging trends in marketing.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Assignments: 4%
   - Presentations: 8%
   - Case studies: 4%
   - Surprise test/Activity: 4%

Course Contents:

UNIT – I: Introduction to Marketing   (4 Hours)

- Importance, Scope of Marketing and Core Marketing Concepts
- Company Orientation towards the market place
- Marketing Management Tasks
- Levels of Market Segmentation

UNIT – II: Developing Marketing Strategies & Plans   (4 Hours)

- New Marketing Realities
- Creating Customer Value, Satisfaction, and Loyalty
- Business Unit Strategic Planning
- Connecting with customers

UNIT – III: Buying Behaviour, Marketing Mix, Product and Pricing Decisions   (6 Hours)

- Buying Process & Buying Behavior of Consumers and Organizations
- 4 P's : Product, Price, Place and Promotion
- Product Life Cycle Marketing Strategies

UNIT – IV: Brand, Branding Decisions and Marketing network   (3 Hours)

- Creating Brand Equity & Crafting the Brand Positioning
- Role of Distribution and Marketing Network

UNIT – V: Current Issues and Emerging Trends in Marketing   (3 Hours)

- Customer Relationship Management
- E-CRM, E-Marketing, Green Marketing and Web Based Advertisements
- Marketing of Services, Rural Marketing, Social Marketing and Ethical Issues in Marketing

Prescribed Text Books:

1. Kotler Philip; Keller Kevin Lane; Koshy Abraham & Jha Mithileswar (2009), Marketing Management: A South Asian Perspective, 13th Edition, Pearson Education, New Delhi.
2. Kumar Arun and Meenakshi N., Marketing Management, 2nd Edition, Vikas Publishing House, New Delhi
3. Rai Kumar Alok, Customer Relationship Management: Concept & Cases, 1st Edition, 2008, PHI, New Delhi.

Suggested Additional Readings:

1. Ramaswamy V.S. & Namakumari S. (2009), Marketing Management: Global Perspective Indian Context, 4th Edition, Macmillan Publishers India Ltd., New Delhi.
2. Kotler Philip; Armstrong Gary; Agnihotri Prafulla Y. & Haque Ehsan Ul (2011), Principles of Marketing: A South Asian Perspective, 2nd Edition, Pearson Education, New Delhi.
3. Saxena Rajan (2009), Marketing Management, 4th Edition, Tata McGraw Hill Education Pvt. Ltd., New Delhi.
4. Bose Biplab S. (2010), Marketing Management, 3rd Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.
5. Sherlekar S.A. (2010), Marketing Management, 14th Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.
6. Prof. Anand Vijay Prakash (2012), Marketing Management: An Indian Perspective, 1st Edition, Biztantra Publications, Delhi.
7. Govindarajan M. (2009), Marketing Management: Concepts; Cases; Challenges and Trends, 2nd Edition, Prentice Hall of India.
8. Balakrishna Sidharth (2011), Case Studies in Marketing, 1st Edition, Pearson Education, New Delhi.
9. Karunakaran K. (2010), Marketing Management: Text and Cases in Indian Context, 3rd Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.

Accounting For Managerial Decisions

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Course Code: AFA 407

Course Name: Accounting For Managerial Decisions

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Define management accounting and understand the techniques used in management accounting.
- Apply the tools of financial analysis to perform horizontal and vertical analysis.
- Calculate and interpret various financial ratios.
- Demonstrate knowledge of, and ability to prepare, a statement of cash flows.
- Define managerial accounting and understand the techniques used in cost accounting.
- Compute break-even and cost-revenue analysis and understand how to interpret the results.
- Prepare various types of budgets.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance 5%
   - Quiz 5%
   - Case study 5%
   - Presentation and problem solving 10%

   Course Contents

UNIT - I   Introduction to Accounting and Management Accounting   (4 Hours)
- Accounting, Bookkeeping and Accounting, Users of Accounting, Basic Concepts and Conventions, Components of Financial Statements, Format of Balance sheet, Accounting terminology
- Liabilities, Equity Shares, Share Capital and its types, Preference Share Capital, Reserves and Surplus, Secured loans, Equitable Mortgage, unsecured Loans, Current Liabilities and Provisions, Assets, Fixed Assets, Current Assets, Investments
- Management accounting: Meaning, nature, scope and functions of management accounting;
- Role of Management accounting in decision making;
- Management accounting vs financial accounting;
- Tools and techniques of Management accounting;

UNIT - II   Financial Statements   (4 hours)
- Financial Statements: Meaning and type of financial statements;
- Limitations of financial statement;
- Objectives and methods of Financial Statement Analysis;

UNIT - III   Ratio Analysis   (4 hours)
- Ratio analysis;
- Classification of Ratios;
- Advantages and Limitations of Ratio Analysis.

UNIT - IV   Cash flow and Marginal costing
**   (6 hours)**
- Cash flow statement;
- Marginal costing and Profit planning - Managerial applications.

UNIT - V   Budgeting   (2 hours)
- Budgeting for profit planning and control: Meaning of Budget and Budgetary control;
- Objectives; Merits and Limitations of Budgeting;
- Types of budgets fixed and flexible budgeting;
- Zero Base Budgeting,

Prescribed Text Books:
1. Bhattacharyya Debarshi, (2011). Management Accounting. Pearson Education.
2. Khan, Jain, (2010). Management Accounting: Text, Problems and Cases. Tata Mc Graw Hill Education Pvt. Limited, India.
3. Mathur Satish B. (2011). Accounting For Management. Tata Mc Graw Hill Education Pvt. Limited, India.

Suggested Extra Readings:

1. Maheswari S.N. (2004). Financial & Management Accounting. Sultan Chand & Sons Pvt. Ltd, New Delhi.
2. Hugh Coombs, Ellis Jenkins and David Hobbs, (2007).Management Accounting: Principles and Applications. Sage South Asia Edition.
3. Horngren, (2009). Introduction to Management Accounting. Pearson India.
4. Singhvi and Bodhanwala, (2007).Management Accounting- Text and Cases. PHI.
5. Anthony A. Atkinson, G. Arunkumar, Robert S. Kaplan, Ella Mae Matsumura, S. Mark Young, (2009). Management Accounting. Pearson Education.
6. Murthy and Gurusamy, (2009). Management Accounting. Tata Mc Graw Hill Education Pvt. Limited, India.
7. Arora M.N. (2009). Management Accounting Theory: Problem and Solutions. Himalaya Publishing House Pvt. Limited, India.
8. Kuppapally, (2011). Accounting for Managers. Eastern Economy Edition. PHI India.
9. Jiambalvo, (2011). Managerial Accounting. Wiley India.
10. Jawaharlal,(2011). Cost and Financial Analysis. Himalaya Publishing House Pvt. Limited, India.
11. Proctor Ray, (2010). Managerial Accounting For Business Decisions. Pearson India.
12. Gupta Ambrish, (2012). Financial Accounting for Management: An Analytical Perspective. Pearson India.

Ghosh T P.(2007). Accounting and Finance for Managers. Taxmann.

Fundamentals of Entrepreneurship

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Course Code: EDM 401
Course Name: Fundamentals of Entrepreneurship

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Develop Entrepreneurship Skills in Students by giving an overview of who the entrepreneurs are and what competencies are needed to become an Entrepreneur.
- Enable the students to prepare business plan, successfully launch and subsequently manage their enterprises.
- Make students familiar with different financial institutions which support entrepreneurship development.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
    - Business Plan(Presentation): 10%
    - Assignments/Presentation: 5%
    - Case Studies/Activities: 5%
    - Class Participation: 5%

Course Contents:

UNIT – I: **Fundamentals of Entrepreneurship**   **(6 Hours)**

- Concept of Entrepreneur
- The Nature and Importance of Entrepreneurship.
- Theories of Entrepreneurship
- Classification of Entrepreneurs/Entrepreneurship.
- Successful Entrepreneurs

UNIT – II: **Entrepreneurial Development**   **(5 Hours)**

- Factors Influencing Entrepreneurial Development
- Entrepreneurial Development Models.
- Entrepreneurship Development Programme.
- Entrepreneurship Training.

UNIT – III: **Creating and Starting the Venture**   **(7 Hours)**

- Creativity and Business Idea.
- Legal Issues for the Entrepreneur.
- Feasibility Analysis
- The Business Plan.

UNIT – IV: **Entrepreneurship Management**   **(6 Hours)**

- Entrepreneurial Strategy: Generating and Exploiting New Entries.
- Strategies for Growth.
- Going Public.
- International Entrepreneurship

UNIT – V: **Support Institutions**   **(6 Hours)**

- Central Level Institutions: KVIC, SIDO, NSIC, NIESBUD, IIE and EDII.
- State Level Institutions: DIs, DICs, SFCs, SIDCs and SSIDCs.
- SIDBI, NABARD and Other Agencies.
- Industry Associations.

Prescribed Text Books:

1. Hisrich, R.D., Peters, M.P. & Shepherd, D.A., (2008), Entrepreneurship, Sixth Edition, Tata McGraw-Hill, New Delhi.
2. Charantimath P.M., (2008), Entrepreneurship Development & Small Business Enterprise, Third Edition, Pearson Education, New Delhi.
3. Desai, Vasant, (2011), Entrepreneurial Development, Sixth Edition, Himalaya Publishing House, Mumbai.

Suggested Extra Readings:

1. Zimmerer, W., Thomas, Scarborough, M., Norman, (2009), Essentials of Entrepreneurship and Small Business Management, Fifth Edition, PHI Learning Private Ltd, New Delhi.
2. Barringer, R., Bruce, Ireland, Duane, R., (2011), Entrepreneurship: Successfully Launching New Ventures, Third Edition, Pearson Education, New Delhi.
3. Timmons, A., Jeffry, Spinelli, Stephen, (2009), New Venture Creation: Entrepreneurship for the 21st Century, Seventh Edition, Tata McGraw-Hill, New Delhi.
4. Morse, A., Eric, Mitchell, K., Ronald, (2009), Cases in Entrepreneurship: The Venture Creation Process, Fourth Printing, SAGE Publications Inc., New Delhi.
5. Desai, Vasant, (2012), Entrepreneurial Development and Management of Small and Medium Enterprises, Second Edition Edition, Himalaya Publishing House, Mumbai.
6. Sinha, S K (2010), Small Business Management, Centrum Press, New Delhi.

Organizational Behaviour

Course Code: **HRM 401**
Course Name: **Organizational Behaviour**
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Familiarize students to the field of Organizational Behaviour and provide a clear understanding of Concepts, processes and practices of Organizational Behaviour
- To show how concepts and theories can and have been put into practice in a variety of organizations
- Train students to apply the Knowledge of Organizational Behaviour for bringing out organisational effectiveness.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance and Class Participation: 5%
   - Library Assignment:5%
   - Presentation: 10%
   - Quiz: 5%

Course Contents

UNIT IIntroduction to Organizational Behaviour   4 Hours
- Definition and Importance of OB
- Multidisciplinary Nature of OB
- Understanding and managing individual behaviour, Decision Making
- Models of OB

UNIT II Perception, Attitude and Job Satisfaction   **4 hours**
- Perception, Factors affecting Perception
- Meaning and Components of Attitude
- Major Job attitudes
- Job satisfaction and Factors Affecting Job satisfaction

Unit III Leadership and Motivation   **6 Hours**
- Definition and Importance of Leadership
- Theories of leadership-Trait , Contingency and Behavioural Theories
- Motivation – Concept and Importance
- Content and Process Theories of Motivation
- Implication of Motivational Theories in Management

UNIT IVGroup Dynamics and Work Teams   **3 Hours**
- Group , Types of Group
- Stages of Group Development
- Group Property, Group Think, Group Shift
- Team and Types of Team
- Introduction to Conflict, Johary Windows and Transactional Analysis

Unit V Foundation of Organizational Culture and Organizational Structure   **3 Hours**
- Organizational culture- Definition and Importance
- Spirituality and Organizational culture
- Organizational Structure, Types and Its Importance
- Change Management

Text Books
1. Robbins, P. Judge, A. and Vohra, N .(2012), Organizational Behaviour, Pearsons. 14th Edition
2. Nelson, D, Quick, James; Khandelwal(2012). ORGB.Cengage Learning. Second Edition

Suggested Reading
1. Luthan, F.Organizational Behaviour.Mc Graw Hills.1995
2. Ashwathapa, K. "Organizational Behaviour"Himalayan Publishing House.
3. Pareek, U."Understanding Organizational Behaviour". Oxford University Press. Second Edition
4. Prasad, L.M. "OrganizationalBehaviour "Sultan Chand and Sons, New Delhi.

Fundamentals of Investments

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Course Code: AFA 525

Course Name: Fundamentals of Investments

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To provide an insight into the complex world of investment
- To equip the students with advanced tools and techniques for making profitable investment decisions
- To discuss the implications of modern research in the field of investments

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 marks out of 100
   - Attendance: 5%
   - Class participation: 5%
   - Presentation & Library Work Assignment: 5%
   - Quizzes/Games/Puzzles: 5%
   - Case study : 5%

Course Contents:

UNIT I Introduction to Investment   **(3 Hours)**

- Meaning of Investment, Investment versus Speculation
- The investment process
- Investment alternatives, Real assets, Financial assets
- Types of Securities, Securities Markets and Their Functions, Market for Securities in India

UNIT II Risk and Return   **(3 Hours)**

- Security Return, Computation of return
- Concept of Risk, Types of Risk, Risk in a traditional Sense, Systematic & Unsystematic Risk
- Measurement of Risk, Standard Deviation, Computation and Interpretation of Beta, Risk in a Contemporary Mode, Using Beta to Estimate Return
- Risk-Return Analysis of Bonds, Term Structure of Interest Rates

UNIT II Fundamental Analysis   **(4 hours)**

- Economic Analysis, Major Economic Indicators, Economic Forecasting and Stock Investment Decision
- Industry Analysis, Key Characteristics in an Industry Analysis, Industry Life Cycle, External Sources of Information
- Company Analysis, Internal & External Information, Operating Analysis, Management Analysis, Financial Analysis
- Applied Stock Valuation, Price-Earnings Ratio

UNIT IV Technical Analysis & Market Efficiency   **(4 Hours)**

- Technical analysis concept, Market Indicators, Dow Theory, Price Indicators, Volume Indicators, Short Selling, Odd Lot Trading, Confidence Indicators
- Forecasting Individual Stock Performance, Price Analysis Approaches, Point and Figure Charting,
- Moving Averages, Relative Strength, Price Volume Analysis Approaches
- Market Efficiency, Random Walk, The Efficient Market Hypothesis, Tests for Market Efficiency

UNIT V Portfolio Management & Capital Market Theory   **(6 Hours)**

- Need for Portfolio, Traditional Portfolio Analysis, Diversification, Risk and Return of a Portfolio
- Markowitz Risk-Return Optimization, The Sharpe Index Model, Generating the Efficient Frontier

- Portfolio Selection, Investment Constraints
- Portfolio evaluation measures, Sharpe's Performance Index, Treynor's Performance Index, Jensen's Performance Index.
- Capital Market Theory, The Capital Asset Pricing Model,
- CAPM in the Practical World, The Arbitrage Pricing Model

Prescribed Text Books:

1. Fischer & Jordan (2011) Security Analysis and Portfolio Management, Sixth Edition, Prentice Hall of India, New Delhi
2. Prasanna Chandra (2012) Investment Analysis and Portfolio Management, Fourth Edition, Tata McGraw Hill, New Delhi.

Suggested Extra Readings:

1. Alexander and Sharpe (2012) Fundamentals of Investment, Third Edition, Prentice Hall of India, Delhi
2. Pandian (2012) Security Analysis and Portfolio Management, Second Edition, Vikas Publishing House Pvt. Ltd.
3. Pandey, I. M. (2012) Financial Management, Tenth Edition, Vikas Publishing House Pvt. Ltd.
4. Martin (2012) Technical Analysis for the Trading Professionals, Second Edition McGraw Hill.
5. Avadhani (2011) Security Analysis and Portfolio Management, Eleventh Edition, Himalaya Publishing House, Mumbai.
6. Chakrabarti (2010) Capital Markets in India, Second Edition, Response Books (Sage), New Delhi.
7. Agarwal (2011), Security Analysis and investment Management, First Edition, Himalaya Publishing House, New Delhi.

Working Capital Management

Course Code: AFA 507

Course Name: Working Capital Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

Acquaint the students with the concept of working capital, its overall management, the various constituents of working capital and their management, determining and financing working capital requirements.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   i.   Library Work Assignment: 10%
   ii.   Case study: 5%
   iii.   Group Presentation: 10%

Course Contents:

UNIT I **Working Capital Management** **(4Hours)**

- Meaning of Working Capital
- Need of Working Capital
- Types of Working Capital
- Determination of Working Capital
- Characteristics of current assets, Factors influencing working capital requirements,
- Level of Current assets, Current assets financing policy, Operating Cycle and Cash cycle,
  Cash requirement for working capital

UNIT II **Planning and Financing of Working Capital** **(4Hours)**

- Objectives and Elements of Working Capital
- Sources of Working Capital
- Effects of overtrading and under capitalization, Working capital Management strategies,
  Estimation of working capital Management Strategies, Estimation of Working Capital,

  Methods of Working Capital Estimation

- Tandon Committee and Chore Committee Recommendations for Working Capital Management
- Measurement of Liquidity and Ratios of Measuring Liquidity

UNIT III **Cash Management** **(4Hours)**

- Motives for Holding Cash
- Objective of Cash Management
- Factors Determining the Cash Needs
- Advantages of Maintaining Optimum Cash
- Issues in Cash Management
- Utilization of Cash Surplus
- Cash Models, Types of Float
- Methods of Cash Forecast, Cash Budgeting, Factors determining cash Budgets, Purpose of Cash Budget, Steps in Cash Budget, Items of Receipts and Payments of Cash
- Cash Flow Statement, Sources and application of Cash, calculation of Cash Flow from operations,
  Investing and Financial activities

UNIT IV   Fund Flow Statement and Working Capital Finance   (3Hours)

- Meaning and Concept of Flow of Funds
- Procedure for preparing Schedule of Changes in Working Capital
- Trade credit and bills discounting, Factoring of Book debts, factoring mechanism, types and benefits of factoring
- Working Capital Finance From Banks, other sources of working capital finance

UNIT V   Inventory and Accounts Receivable   (5Hours)

- Types and Need of holding Inventory, Importance of Inventory Management, Inventory control Ratios
- Inventory Control Techniques: EOQ, VED, FNSD, ABC
- Cost of maintaining accounts receivable , Formulation of credit policies, Analysis of customer credit worthiness, Factors influencing size of receivables

- Trade Debt, Credit term and Cash Discount, Monitoring of Accounts receivables, Ratio analysis, ageing schedule, discriminate analysis, Credit utilization report, Cost Benefit analysis of collection expenses

- Management of Trade Debts: Credit Control Department, Credit standards, Credit risk, Administration of Debtors, Customer Creditworthiness, Establish Policy on Bad Debts

Case Study:

1. Cash flow analysis of Reliance Industries

2. Assessment of creditworthiness and grant of credit limits

Prescribed Text Books:

1. Dr. Periasamy .P, (2010).Working Capital Management. Second Edition. Himalaya Publishing House, New Delhi.
2. Kishore M. Ravi, Financial Management. Seventh Edition. Taxmann's publishing House, New Delhi.
3. Chandra. Prasanna, (2009). Financial Management: Theory and Practice. Tata McGraw-Hill Publishing House, New Delhi.

Suggested Additional Readings:

1. Rao P. Mohana, and Alok K. Pramanik. Working Capital Management. Deep and Deep Publishing
   House, New Delhi
2. Khan and Jain, Financial Management: Text and Problems. McGraw-Hill Publishing House, New Delhi.
3. James C.Van Horne. Fundamentals of Financial Management. PHI,New Delhi.
4. Pandey. I M, (2009). Essential of Financial Management. Vikas Publishing House, New Delhi.
5. Bhattacharya Hrishikes,(2010). Working Capital Management. PHI India.

Investment Analysis and Portfolio Management

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: AFA 512

Course Name: Investment Analysis and Portfolio Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Help students in understanding Basic concepts of Portfolio Management and also to know about the various tools of Investment Analysis.
- Understand the various concepts of risk analysis and risk management.
- It is also aimed at helping student equip themselves with the various techniques used in Investment analysis and portfolio management.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 marks out of 100
   - Library Work Assignment: 5 marks
   - Subjective Assignment: 5 marks
   - Quizzes/Games/Puzzles: 5 marks
   - Case study : 5 marks
   - Live Projects: 5 marks

Course Contents:

UNIT - I: **Introduction to Portfolio Management**   **(3 Hours)**

- What is portfolio Management ,Phases of Portfolio Management
- Securities Market, Securities Analysis, Portfolio Analysis, Portfolio Selection, Portfolio revision, Portfolio evaluation
- Evolution of Portfolio Management, Role of Portfolio management, Financial Derivatives

UNIT - II: **Investment: Objectives and Risks**   **(5 Hours)**

- Meaning of Investment, Financial and economic meaning of Investment, Characteristics of investment
- Objectives of Investment, Investment Vs Speculation, Investment Vs Gambling, Types of Investors, Investment Avenues
- Securities Market, Stock Exchanges in India, Stock market Indices, Depository System and Listing of securities
- Risks of Investments: Business and Financial Risk, Elements of Risk, Systematic Risk, Unsystematic Risk, Security returns, Use of Beta, Picturing Risk and Return
- Measurement of risk

UNIT - III: **Fundamental, Industry and Company Analysis**   **(3 hours)**

- Fundamental Analysis, EIC Framework, Economy Analysis
- Economic Forecasting and its techniques, Anticipatory surveys, Barometric or indicator Approach, Econometric Model Building, Opportunistic Model building
- Industry Analysis and Company Analysis

UNIT - IV: **Technical Analysis and Bond Valuation**   **(5 Hours)**

- Bond returns, Coupon rate, Current yield, Spot interest rate, Yield to maturity, Yield to call
- Bond prices, Bond pricing Theorems, Bond Risks, Default risk, Interest rate risk, Bond duration
- Technical analysis concept, Basic Principles of technical Analysis, Technical Vs. Fundamental analysis
- Dow theory, Price charts, Trend and trend reversals, Chart patterns
- Elliot Wave Theory, Mathematical Indicators, Market Indicators

UNIT – V: Efficient Market Theory, Portfolio Analysis, Portfolio Selection, Portfolio Revision and Portfolio Evaluation   (4 Hours)

- Efficient Market theory Efficient Market Hypothesis Vs Fundamental and Technical Analyses, Competitive Market Hypothesis
- Efficient Market Hypothesis Vs Fundamental and Technical Analyses, Competitive Market Hypothesis,
- Portfolio Analysis: Expected return of a Portfolio, Risk of a Portfolio, Reduction of portfolio risk through Diversification, Portfolio with more than two securities, Risk-return calculations of portfolios with more than two securities
- Markowitz Model, Portfolio Selection, Portfolio Revision, Portfolio Evaluation

Prescribed Text Books:

1. S.Kevin (2011). Security Analysis and Portfolio Management, First Edition, PHI Learning, New Delhi.
2. Donald E. Fischer and Ronald J. Jordan (2012). Security Analysis and Portfolio Management, Sixth Edition, Pearson, New Delhi.
3. K Sasidharan and Alex k Mathews (2012). Security Analysis and Portfolio Management, First Edition, Tata McGraw Hill, New Delhi.

Suggested Extra Readings:

1. M.Ranganatham and R. Madhumati (2012). Security Analysis and Portfolio Management, First Edition, Pearson, New Delhi.
2. Prasanna Chandra (2012). Investment Analysis and Portfolio Management, Third Edition, Tata McGraw Hill, New Delhi.
3. V.K. Bhalla (2011). Investment Management (Security Analysis and Portfolio Management), Seventeenth Edition, S. Chand, New Delhi.
4. V.A Avadhani (2011). Investment Analysis and Portfolio Management, First Edition, Himalaya Publishing House, New Delhi.
5. Suyash N Bhatt (2011). Security Analysis and Portfolio Management, First Edition, Wiley Publishing, New Delhi.

Stock Market Operations

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: AFA 415

Course Name: Stock Market Operations

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Help students in understanding Basic concepts of Stock market.
- Understand the working of Indian Stock market.
- It is also aimed at helping student equip themselves with the various terminology used in stock markets as well as practical Implication of stock markets.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

    - Library Work Assignment: 5%
    - Subjective Assignment: 5%
    - Quizzes/Games/Puzzles: 5%
    - Personality Assessment: 5%
    - Live Projects: 5%

Course Contents:

UNIT - I: **An overview of Financial Markets in India**   **(3 Hours)**

- Introduction of Indian Financial System, Functions of Financial System, Financial Assets
- Money market: Features, Instruments, Composition and Functions
- New Issue Market: Functions, Methods of Floating New Issue, SEBI Guidelines for IPO, Recent trends in New Issue Market.

UNIT - II: **Equity Market**   **(5 Hours)**

- Players in the equity market: Depository Institutions, Insurance Companies
- Asset Management Firms, Investment Banking firms.
- Structure of Secondary market: Functions of secondary market, architectural structure of secondary market.
- Secondary Market Trading Mechanics: Types of orders, Short selling
- Brokers: Kinds of brokers, Role of brokers and Dealers in Real market.

UNIT - III: **Trading System in Stock Exchanges**   **(5 hours)**

- Meaning and Functions of Stock exchanges.
- Organisation of Stock Exchanges in India: Traditional structure, Demutualisation, Corporatisation of Stock exchanges.
- Listing of Securities: Advantages of listing, listing Procedure
- Clearing and Settlement, Online Trading, D-Mat
- Speculative Transactions, Margin Trading, Stock Market Quotations

UNIT - IV: **Indian Stock Exchanges**   **(4 Hours)**

- NSE: Features, Corporate Structure of NSE, Stock Indices of NSE
- Trading at NSE: Wholesale Debt Market (WDM), Public Issue Offerings(PIO), Time Bound PIO System, Screen Based Trading System(SBTS)
- BSE: Introduction, Organistion structure, Segments of BSE.
- Indices of BSE, Trading and Settlement System at BSE

UNIT – V: **Derivatives Market**   **(3 Hours)**

- Introduction to Financial Derivatives, Derivatives market in India
- Forward Contract, Hedging of Foreign Exchange Risk through Currency Forwards, Advantages and Disadvantages of Forwards.
- Future Contracts, Options, Swaps

Prescribed Text Books:

1. Gordan and Natrajan (2011), Financial Market Operation, First Edition, Himalaya Publishing House, New Delhi.
2. Fabozzi and Modigliani (2010), Capital Markets Institutions and Instruments, Fourth Edition, PHI Learning, New Delhi.
3. Chakrabarti (2010) Capital Markets in India, Second Edition, Response Books (Sage), New Delhi.
4. Alok Goyal, Financial Market Operation, 2012 Edition, VK Publications, New Delhi.

Suggested Extra Readings:

1. Sarma (2011), Banking and Financial System, First Edition, Foundation Books, New Delhi.

2. Bhalla (2011) Investment Management, Seventeenth Edition, S. Chand, New Delhi.

3. Kevin (2011) Security Analysis and Portfolio Management, Tenth Edition, PHI Learning, New Delhi.

4. Hull (2011) Risk Management and Financial Institutions, Second Edition, Pearson, New Delhi.

5. Fabozzi (2011) Foundations of Financial Markets and Institutions, Third Edition, Pearson, New Delhi.

6. Sanjeev Agarwal, *A Guide to Indian Capital Market*, Bharat Publishers
7. Ravi Puliani and Mahesh Puliani, *Manual of SEBI*, Bharat Publication.
8. Khan and Goel (2011), Capital and Money Market, First Edition, Himalaya Publishing House, New Delhi.

Project Management

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Course Code: AFA 502

Course Name: Project Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to enable the student to know about the steps of project initiation, Project planning, organizing, project monitoring and control, various sources of finance for the projects, project auditing and control.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
    * Attendance 5%
    * Ability to express unusual situations 5%
    * Case study 5%
    * Presentation 5%
    * Quiz 5%

Course Contents

UNIT I Project Initiation   (5 Hours)

- Project Management – Project in Operations, Project management- Project hierarchy, Project Lifecycle, Project and Strategic Management
- Project Origination – Political, Legal, Economic, Socio-demographic, Technological factors, Other sources for Project ideas, Preliminary screening, Project rating
- Project Feasibility – Market Analysis, Technical Analysis, Financial Analysis, IRR, NPV, Benefit Cost Ratio, ARR, Payback Period, Environmental Analysis, Social Cost – Benefit Analysis, Project Appraisal and Selection

UNIT II Project Planning   (5 Hours)

- Project Definition – Project Scope, Project Planning model, Work Breakdown Structure, Organizational Breakdown Structure
- Estimating Time and Cost – Factors affecting quality of Estimate, Estimating Guidelines, Cost estimates
- Scheduling, Networking, PERT, CPM
- Resource Allocation – Types of Project Constraints, Time Constrained Projects, Working Capital Management
- Risk Management – Process, Identifications, Analysis, Risk Response Planning, Risk Monitoring and Control, Managing Change

UNIT III Project Execution – Monitoring and Control   (3 Hours)

- Project Organization Structure and Culture – Traditional or Functional Organizations, Project management through dedicated team, Matrix Organizations, Choice of Organizations, Organizational Culture
- Project Staffing – HR issues, Leadership and Management skills, Interpersonal Skills, Organizational Skills, Duties of Project Manager, Traits of Project Manager, The Project Team, Team Building, Managing Conflict, Other issues
- Project Monitoring and Control – Setting a Baseline, Project Management Information System, Monitoring and Controlling Time Performance, Integrated Monitoring System, Indices to Monitor Progress, Forecasting Final Project Cost

UNIT IV Project Financing   (4 Hours)

- Financing of the Project – Capital Structure, Menu of Financing, Internal Accruals, Equity Capital, Preference Capitals, Debentures, Term Loans, Working Capital Advances, Raising Venture Capital, Raising Capital in International Market, Project Financing Structures, Financial Closure, Credit Risk Rating
- Financial Infrastructure Projects – Project Configuration, Project Parties, Project Contracts, Financial structure and Corporate Governance
- Venture Capital and Private Equity – Venture Capital Investor, VC & PE comparison, The VC investment appraisal; Process and Management

UNIT V Project Audit – Closure and Review   **(3Hours)**

- Project Audit – When to audit, How to audit, Who should audit, The Audit Report, Project Closure, Project Closure Process, Performance Evaluation
- Project Review and Administrative Aspect – Control of In-progress Projects, The Post Audit, Abandonment Analysis, Administrative aspects of Capital Budgeting, Evaluation

Text Books:

1. Khanna R B. (2011). Project Management. PHI Learning Pvt. Ltd. New Delhi.
2. Chandra Prasanna (2011). Project; Planning, Analysis, Selection, Financing, Implementation, and Review. Tata McGraw Hill Education Pvt. Ltd. New Delhi.

Additional Readings:

1. Maylor Harvey (2012). Project Management. Pearson Education.
2. Desai Vasant, (2011). Project Management. Third Edition. Himalaya Publishing House, New Delhi.
3. Goel,B.B,(2009). Project Management-Principles and Techniques. First Edition. Deep & Deep Publications Pvt Ltd., New Delhi.
4. Singh, Narendra, (2009). Project Management and Control. Fifth Revised Edition. Himalaya Publishing House, New Delhi.
5. Pinto,K.,Jeffrey,(2009). Project Management. Pearson Education.
6. Richardson Gary L. (2011). Project Management Theory and Practice. CRC. Taylor and Francis.
7. Meredith, Mantel (2011). Project Management: A Managerial Approach. Wiley India Edition.
8. Koster Katherin (2010). International Project Management. Sage South Asia Edition.

Bond Markets Analysis and Strategies

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: AFA 526

Course Name: Bond Markets Analysis and Strategies

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Help students in understanding Basic concepts of Bond markets and also to know how to assess and invests in bonds.
- Prepares students to analyse bond market and manage bond portfolios.
- It is also aimed at helping student equip themselves with the various latest developments in structured products related to bond markets.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 marks out of 100
   - Library Work Assignment: 5 marks
   - Subjective Assignment: 5 marks
   - Quizzes/Games/Puzzles: 5 marks
   - Case study : 5 marks
   - Live Projects: 5 marks

Course Contents:

UNIT - I: Introduction to Fixed Income Securities   (4 Hours)

- Overview of the Types and Features of Fixed Income Securities
- Risks Associated With Investing In Fixed Income Securities
- The Primary and Secondary Bond Markets
- Bond Market Indexes

UNIT - II: Bond Pricing, Yield Measures, and Total Return   (5 Hours)

- Pricing of Bonds, Measuring yield, Bond price Volatility
- Conventional yield measures, Total Return Analysis
- Factors Affecting Bond Yields and the Term Structure of Interest Rates
- Calculating Investment returns
- Bond performance measurement and evaluation

UNIT - III: Bond Analysis: Returns (Systematic and Unsystematic Risk)   (5 hours)

- The Strategic role of bonds, Markets for debt securities, Govt. and corporate bond market
- International fixed income investing, Specialized bonds
- Bond returns and prices, Preferred stock Valuation, Systematic Risk in holding fixed income securities
- Business and Financial Risk, Factors in bond rating process, Default risk and market yields, Non risk factors influencing yields
- Analysis of bonds with Embedded options, Analysis of Convertible bonds, Analysis of Mortgage-Backed securities

UNIT - IV: Bond Management Strategies   (3 Hours)

- Passive or buy or hold strategy, Bond Ladder strategy, Semi active Management Strategy
- Maturity Matching, Active Bond portfolio Management Strategies
- Corporate bond credit analysis, Credit risk Modeling

UNIT – V: International Bond Market and Bond Portfolio Management   (3 Hours)

- Inflation-Linked Bonds, Floating-Rate Securities, International Bond Markets and Instruments
- The Eurobond Market, Emerging Markets Debt, Credit Card Asset-Backed Securities
- Introduction to Bond Portfolio Management, Quantitative Management of Benchmarked Portfolios, Financing Positions in the Bond Market, International Bond Portfolio Management

Prescribed Text Books:

1. Frank J. Fabozzi (2010). Bond Markets, Analysis and Strategies, Pearson, New Delhi.
2. Donald E. Fischer and Ronald J. Jordan (2012). Security Analysis and Portfolio Management, Sixth Edition, Pearson, New Delhi.
3. Frank J. Fabozzi and Steven V. Mann. The Handbook of fixed income securities, Seventh Edition, Tata McGraw Hill, New Delhi.

Suggested Extra Readings:

1. Bruce Tuckman and Angel Serrat(2012) . Fixed income securities (Tools for today market), Third Edition, Wiley, New Delhi.
2. Prasanna Chandra (2012). Investment Analysis and Portfolio Management, Third Edition, Tata McGraw Hill, New Delhi.
3. Moorad Choudhary (2010). Fixed income securities and derivatives, Second Edition, Wiley, New Delhi.
4. Johnson Stafford (2010). Bond Evaluation, Selection, and Management, Second Edition, John Wiley & Sons, Hoboken, NJ

Rural Marketing

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: MSC 507

Course Name: Rural Marketing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable students to apply the concepts and methods of marketing management to rural markets.
- Understand the characteristics of the evolving rural consumer
- Understand the unique challenges and peculiarities of Indian Rural Markets.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Class participation   = 5%
   b. Assignments/Presentations =10%
   c. Case studies   =5%
   d. Surprise test/Activity   =5%

Course Contents:

UNIT - I: Rural Marketing   (6 Hours)

- Meaning, Characteristics of Rural Markets, Rural Marketing, Evolution of Rural Marketing, and Difference between Rural Marketing and Urban Marketing.
- Need for Exploring the Rural Markets and Go Rural Decision
- Rural Marketing Models and Rural Marketing: Challenges & Opportunities
- The Rural Marketing Mix

UNIT - II: Rural Market Environment and Segmenting and Targeting Rural Markets
                                                                   (5 Hours)

- Understanding Rural Marketing Environment and their influences on marketing operations
- Need for Rural Market Segmentation, and Bases for Market Segmentation
- Market Segmentation, Targeting and Positioning Strategies
- Rural Marketing Case

UNIT - III: Rural Consumer Behaviour and Rural Marketing Mix-I   (7 Hours)

- Rural Consumer Behaviour
- Rural Shopping Habits and Consumer Buying Process
- 4As of Rural Marketing
- Product Strategies in Rural Marketing
- Pricing Strategies in Rural Markets

UNIT - IV: Rural Marketing Mix-II   (6 Hours)

Distribution Decisions: -

- Distribution Channels and Logistics in Rural Markets
- Rural Retailing
- Guidelines for Achieving Efficiency in Retail Operations

Promotion Decisions: -

- Importance of Promotion Mix
- Promotion Strategies
- Rural Specific Promotion Methods and Developing the Sales Force for Rural Markets

UNIT – V: Applications   (6 Hours)

- Marketing of Consumer Goods and Services
- Agricultural Marketing
- Marketing of Rural Industrial Products
- Marketing in Small Towns
- Future of Rural Marketing in India

Prescribed Text Books:

1. Krishnamacharyulu C S G and Ramakrishnan Lalitha (2011), Rural Marketing: Text and Cases, Second Edition, Pearson Education, India.
2. Kashyap Pradeep, Rural Marketing (2012), Second Edition, Pearson Education, India.
3. Balram, Dogra and Ghuman Kharminder (2008), Rural Marketing: Concept and Practices, Tata McGraw Hill, New Delhi.

Suggested Additional Readings:

1. Gopalaswamy T P, Rural Marketing, Wheeler Publishers, New Delhi.
2. Kashyap Pradeep, Amp, Raut, Sidhartha (2005), Rural Marketing, Wiley, New Delhi.
3. Neelmeghan S, Marketing in India: Cases and Readings, Vikas Publishing House, New Delhi.
4. Krishnamoorthy R(2011), Introduction to Rural Marketing, 3rd Revised Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.

Enterprise Resource Planning (ERP)

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: MSC 513

Course Name: Enterprise Resource Planning (ERP)

Faculty Name: Dr Sarvesh Kumar, Assistant Professor, Marketing & SCM, SBMS

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.).

Course Objectives: Enterprise Resource Planning (ERP) is a type of integrated Information system (IS) which have come into prominence during recent times and whose purpose is to bring in an overall improvement in the Business process by integrating the isolated and standalone IS of the organization corresponding to each of the functional areas. The objective of the present course is to introduce ERP to the students as an enterprise wide integrated Information system. Issues connected with the Architecture and design of such an application package is included. To understand the pre and post implementation issues of introduction of ERP also forms as part of the objective. The course is designed to:

- Enable the students to understand basic concepts of ERP.
- Conceptualize ERP aligned with business models for manufacturing and service companies.
- Help the students to use the understanding of ERP for effective implementation in dynamic business environment.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class participation: 5%
    - Presentations: 10%
    - Assignments/Live Projects: 10%

Course Contents:

UNIT - I: Introduction to ERP   **(4 Hours)**

- Brief history and overview of ERP,
- Architecture of Integrated Information System (ARIS),
- Business processes,
- Workflows,

UNIT - II: Business Process Management   **(4 Hours)**

- Process models and modeling languages.
- BPM through applications of IT; SCM and other

UNIT - III: enterprise-wide Systems applications   **(4 hours)**

- enterprise-wide Systems applications - SRM, CRM, PDM and relation amongst themImprovement Tools and techniques

UNIT - IV: Value chain integration through ERP   **(4 Hours)**

- ERP as a strategic initiative, IS and IT strategy of an organization.

- E-Business and ERP

UNIT – V: ERP Implementation   **(4 Hours)**

- Business Process Reengineering (BPR),
- Understanding ERP functioning through a standard ERP package
- Change management in organizations -Business examples

Prescribed Text Books:

1. **Zaveri, (2012). ERP. HPH, N. Delhi.**
2. **Alexis Leon, ERP Demystified, 2/E, Tata Mc Graw Hill, (2010)**

Suggested Readings:

1. August-Wilhelm Scheer, Business Process Engineering, Springer Verlag Publication,(1999).

2. O'Leary, Enterprise Resource Planning Systems, Cambridge University Press.

3. Langenwalter, Enterprise Resources planning and Beyond, St Lucie Press, (2009)

4. Carol Ptak & Eli Schragenheim, ERP: Tools, Techniques, and Applications for integrating the Supply Chain, St Lucie Press, (2000).

5. Summer, Enterprise Resource Planning, Pearson Education.

Internet Marketing

Course Code: MSC 504

Course Name: Internet Marketing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable the students to apply marketing theory and concepts to what marketers do in "the real world".
- Enable the students to design effective marketing programs by selecting appropriate strategies for product, pricing, place and promotion.
- Improve familiarity of the students with current issues and emerging trends in marketing.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Assignments: 8%
   - Presentations: 4%
   - Case studies& Survey: 4%
   - Surprise test/Activity: 4%

Course Contents:

UNIT – I: Internet Marketing Fundamentals **(3 Hours)**

- Introducing Internet marketing & the abbreviations used while working/marketing on internet
- The Internet micro-environment
- The Internet macro-environment

UNIT II: Internet Strategy Development **(3 Hours)**
- Internet marketing strategy
- The Internet and the marketing mix
- Relationship marketing using the Internet

UNIT – III: Creativity, Website Planning & Designing **(4 Hours)**

- Learning creativity
- Learning appeal, content writing of/for Websites
- Website Planning
- Website Designing

UNIT – IV: **Web Based Advertising   (WBA)** **(6 Hours)**
- Defining WBA
- Important terms in WBA
- Prospects & Problems of WBA
- Role of Distribution and Website Marketing Network
- Ethical Issues in Web Marketing
- Delivering the online customer experience

UNIT – V: Emerging Trends in Web Marketing **(4 Hours)**

- Animations, 3Ds
- Campaign planning for digital media
- Marketing communications using digital media channels
- Evaluation and improvement of digital channel performance
- Business-to-consumer & Business-to-business Internet marketing
- Mobile marketing & Advertising
- E-CRM, E-Banking, E-Green Marketing etc.

Prescribed Text Books:

- Dave Chaffey / Fiona Ellis-Chadwick / Kevin Johnston / Richard Mayer (2009), Internet Marketing: Strategy, Implementation and Practice, 3rd Edition, Pearson Education
- Books on Website Designing
- Handouts for WBA

Suggested Additional Readings:

1. Ramaswamy V.S. & Namakumari S. (2009), Marketing Management: Global Perspective Indian Context, 4th Edition, Macmillan Publishers India Ltd., New Delhi.
2. Kotler Philip; Armstrong Gary; Agnihotri Prafulla Y. & Haque Ehsan Ul (2011), Principles of Marketing: A South Asian Perspective, 2nd Edition, Pearson Education, New Delhi.
3. Saxena Rajan (2009), Marketing Management, 4th Edition, Tata McGraw Hill Education Pvt. Ltd., New Delhi.
4. Bose Biplab S. (2010), Marketing Management, 3rd Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.
5. Kotler Philip; Keller Kevin Lane; Koshy Abraham & Jha Mithileswar (2009), Marketing Management: A South Asian Perspective, 13th Edition, Pearson Education, New Delhi.
6. Kumar Arun and Meenakshi N., Marketing Management, 2nd Edition, Vikas Publishing House, New Delhi
7. Rai Kumar Alok, Customer Relationship Management: Concept & Cases, 1st Edition, 2008, PHI, New Delhi.

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: MSC 402

Course Name: Service Marketing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Understand the importance of Services.
- Understand the challenges towards Managing Services.
- Review and understand the past and ongoing trends in service industry.
- Understand the overall dynamics of services.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Presentations: 10%
   - Assignment (Role Play, Cases, Panel Discussion, Project, Surprise Quiz etc): 10%

Course Contents:

UNIT – I: Introduction to Services   **(4 Hours)**

- Emergence of Service Economy
- Introduction to Services: Definition, Concepts & Nature of Services
- Service Environment

UNIT – II: Designing Services   **(7 Hours)**

- Service Marketing Mix
- Physical Evidence and Servicescape
- Designing and Managing Services Processes
- Service Standards

UNIT – III: Pricing & Distribution of Services   **(6 Hours)**

- Demand Capacity Management
- Pricing the Services
- Distribution of Services

UNIT – IV: Service Promotion   **(6 Hours)**

- Positioning of Services
- Customer Expectation of Services
- Customer Perception of Services

UNIT – V: Managing Service Failure   **(7 Hours)**

- Service Quality Model
- Employees and Service Delivery
- Customers and Service Delivery
- Service Failure and Recovery

Prescribed Text Books:

- Zeithaml, VA., Gremler, DD., Bitner, MJ. & Pandit, A (2011). Service Marketing – Integrating Customer Focus across firm. 5th Ed. McGraw Hill.
- Lovelock, C., Wirtz, J,. & Chatterjee, J.(2011). Service Marketing – People, Technology, Strategy. 7th Ed. Pearson.

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: MSC 512

Course Name: International Marketing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Acquainting students with the concepts and operations of marketing in international environment.
- Enable the students to develop and implement plans and strategies for entering international markets and managing overseas operations.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    a. Class participation   = 5%
    b. Assignments/Presentations=10%
    c. Case studies   =5%
    d. Surprise test/Activity   =5%

Course Contents:

UNIT - I: International Marketing   **(7 Hours)**

- Meaning, Nature and Importance of International Marketing
- Concepts and International Marketing Orientations
- Factors Affect International Marketing
- Reasons for International Marketing and International Marketing Decisions
- Driving and Restraining Forces

UNIT - II: International Marketing Environment   **(5 Hours)**

- Internal and External Environment
- Barriers in International Marketing
- Growing Intra-regional Trade
- MNCs and International Business

UNIT - III: Foreign Market Selection   **(6 Hours)**

- Market Selection Process
- Determinants of Market Selection
- International Market Segmentation, Targeting, and Positioning
- Foreign Market Entry Strategies

UNIT - IV: International Marketing Mix   **(7 Hours)**

 Product Decisions: -

- Product mix and International PLC
- Branding, Packaging, and Labeling
- Product Communication Strategies

Pricing Decisions: -

- Environmental Influences on Pricing Decisions
- Global Pricing objectives and Strategies

Distribution Decisions: -

- International Channel System and Types of Intermediaries
- Channel Strategy for New market Entry
- International Logistics

Promotion Decisions: -

- Promotion Strategies and Communication Mix
- Role of Export Promotion Organisation and Problems in International Marketing Communication

UNIT – V: Issues in Global Marketing and Future of Global Marketing   **(5 Hours)**

- Export Promotion, Export Procedures and Documents
- Global e-marketing, and International Marketing of Services
- Future of Global Marketing

Prescribed Text Books:

1. Keegan Warren J. & Bhargava Naval K. (2011), Global Marketing Management, 7th Edition, Pearson Education, India.
2. Joshi R M (2005), International Marketing, Oxford University Press.
3. Rajagopal, International Marketing: Global Environment, Corporate Strategy, Case Studies, Vikas Publishing House Pvt. Ltd., Delhi.

Suggested Additional Readings:

1. Srinivasan R, International Marketing (2011), 3rd edition, PHI Learning Pvt. Ltd., New Delhi.
2. Joshi R M (2005), International Marketing, Oxford University Press.
3. Kotler Philip, Principles of Marketing, Prentice Hall New Delhi.
4. Fayerweather John, International Marketing, Prentice Hall, New Delhi.
5. Bhattacharya R L & Varshney B, International Marketing Management, Sultan Chan, New Delhi.
6. Onkvisit Sak and John J Shaw, International Marketing: Analysis and Strategy, Prentice Hall, New Delhi.
7. Cherunilam Francis (2012) International Marketing (Text and Cases), 12th Revised Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.
8. Siddiqui S A (2011), International Marketing, Dreamtech Press.

Integrated Marketing Communication

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code: MSC 405

Course Name: Integrated Marketing Communication

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Understand the fundamentals of communication.
- Understand the challenges towards communicating to consumer and there solutions.
- Review and understand various media available.
- Understand the overall dynamics of IMC.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Presentations: 10%
   - Assignment (Role Play, Cases, Panel Discussion, Project, Surprise Quiz etc): 10%

Course Contents:

UNIT – I: Introduction to IMC & its role in Marketing 　　　　　　**(4 Hours)**

- Introduction to IMC
- Role of IMC in Marketing Process
- Role of Advertising Agencies
- Perspectives of Consumer Behavior

UNIT – II: Communication Process and Budgeting 　　　　　　**(7 Hours)**

- The Communication Process
- Source, Message and Channel Factors
- Establishing objective and Budgeting for promotional program

UNIT – III: Developing IMC Program 　　　　　　**(6 Hours)**

- Planning and Development
- Implementation and Evaluation
- Media Planning and Strategy
  Various Medias Available

UNIT – IV: Components of IMC - 1 　　　　　　**(6 Hours)**

- Advertising
- Direct Marketing
- Sales Promotion

UNIT – V: Components of IMC - 2 　　　　　　**(7 Hours)**

- Public Relations, Publicity
- Personal Selling
- Social, Ethical and Economic aspects of Promotion
- Case Study on IMC

Prescribed Text Books:

- George E Belch, George E. & Belch, Micheal E (2003). Advertising and Promotion: An Integrated Marketing Communications Perspective. McGraw Hill.
- Shah, Kruti. & D'Souza, Alan. (2009). Advertising & Promotions – An IMC Perspective. McGraw Hill.

Supply Chain Management

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: MSC 408

Course Name: Supply Chain Management

Faculty Name: Dr Sarvesh Kumar, Assistant Professor, Marketing & SCM, SBMS

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.).

Course Objectives: The course is designed to:

- Enable the students to understand basic concepts of Supply Chain Management.
- Conceptualize supply chain designs, which are aligned with business models for manufacturing and service companies.
- Help the students to use the understanding of supply chain for effective implementation of supply chain relationships in dynamic business environment.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Presentations: 10%
   - Assignments/Live Projects: 10%

Course Contents:

UNIT - I: SUPPLY CHAIN BASICS   (4 Hours)

- Understanding Supply Chain
- Role of Logistics in Supply Chain
- Supply Chain vs. Demand Chain
- Value Creation Through Supply Chain

UNIT - II: SUPPLY CHAIN SUB-SYSTEMS   (4 Hours)

- Supply Chain Planning and Procurement Methods
- E-Procurement and Strategic Sourcing
- Lean Manufacturing
- Distribution Decisions

UNIT - III: TACTICAL AND OPERATIONAL DECISIONS   (3 hours)

- Transportation and Freight Management
- Inventory Management and Network Designing
- Information System and IT Enablement

UNIT - IV: STRATEGIC APPROACH   (4 Hours)

- Alliances and Outsourcing
- Agile, Global and Reverse Supply Chain
- Re-engineering SC to Differential Strategies
- Supply Chain Integration Strategies
- Cold Chain Networking

UNIT – V: MEASUREMENTS AND CONTROLS   (5 Hours)

- Quantitative Techniques in Supply Chain
- Supply Chain Risk Management
- Pricing, Costing and Financial Decisions
- Performance Measurement and Controls
- Supply Chain Challenges for the Future

Prescribed Text Books:

3. Sople, (2012). **Supply Chain Management: Text and Cases**, Pearson Education, New Delhi.
4. Bhat, Shridhara K. (2011). **Logistics and Supply Chain Management**, Himalaya Publishing House: New Delhi.

Suggested Readings:

1. Altekar, V.Rahul (2010). *Supply Chain Management: Concepts and Cases*, PHI Learning Pvt. Ltd. New Delhi.
2. Bhat, Shridhara K. (2010*). Supply Chain Management*, Himalaya Publishing House: New Delhi.
3. Chopra, Sunil, Meindl, Peter and Kalra, D. V. (2010). *Supply Chain Management: Strategy, Planning and Operation*, Pearson: New Delhi.
4. Christopher, Martin (2011). *Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service (2nd ed.)*, Pearson: New Delhi.
5. Stadtler, Hartmut and Kilger, Christoph, (ed.) (2008). **Supply Chain Management and Advanced Planning: Concepts, Models, Software, and Case Studies** (4th ed), Springer: Berlin.

Management of Industrial Relations

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: HRM 502

Course Name: Management of Industrial Relations

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

1. To make students of HR understand the significance of industrial relations in an organization
2. To give an insight into the Industrial relations scene in India

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation- 10%
   - Presentations - 10%
   - Assignment--   05%

Course Contents:

UNIT I Industrial Relations: Concept and Evolution   **6 Hours**

- Evolution of Industrial Relations, Scope and Aspects of Industrial Relations,
- Factors Affecting Industrial Relations, Approaches to Industrial Relations
- Models of Industrial Relations
- Development of Industrial Relations in India, Salient Features of Industrial Relations in India

UNIT II: Trade Unionism   **5 Hours**

- Origin of Trade Union Movement in India

- Objectives of unions Theories of trade unionism
- Structure and Government of Trade Unions, Size and Finance of Indian Trade Unions
- Problems of Trade Unions, Trade Union Rivalry and Recognition

UNIT III Labour Management Cooperation   5 Hours

- Determinants of Workers' Participation in Management, Traditional Forms of Control and Management of Enterprise under Capitalism
- Schemes of Workers' Participation
- Workers Participation in the Private Sector, Hurdles to Worker Participation in Management in India
- Participation of Workers in Management Bill, 1990; Recommendation of the Second NCL

UNIT IV Industrial Dispute   7 Hours

- Concept of Industrial Dispute, Strikes
- Statutory and non –statutory methods of industrial dispute resolution
- Nature of Conflict and its manifestations, Causes Of Industrial Conflicts
- Collective bargaining and Grievance Procedure

UNIT V Industrial Relations Modern and International Scenario   7 Hours

- Industrial Relations in U.K, U.S.A
- India and International Labour Organization
- Industrial Relations and Technological Change, Labour Policy in Five Year Plans
- Industrial Relations and HRD

Text Books:

1. Sinha, P.R.N, Sinha, Indu Bala and Shekhar, S.P (2013). Industrial Relations, Trade Unions and Labour Legislation. Dorling Kindersley (India) Pvt. Ltd., New Delhi.
2. Mamoria, C.B., Mamoria, Satish and Gankar, S, V. (2010). Dynamics of Industrial Relations. Himalaya Publishing House Pvt. Ltd., Mumbai.

Additional Readings:

1. Monappa, Arun (2010). Industrial Relations.Tata McGraw Hill Education Pvt. Ltd., New Delhi.

2. Chamberlain, N.W. (1965).Collective Bargaining. McGraw Hill, New York.

3. Dunlop,J.T. (1958). Industrial Relations Systems. Henry Hold and Company, New York.

4. Government of India, Planning Commission, Tenth Five Year Plan, Vol.3, p.392.

5. Government of India, Planning Commission, Eleventh Five Year Plan, Vol.2, p.145.

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Course Code: HRM 503

Course Name: Human Resource Development

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Familiarize students to the field of HRD and provide a clear understanding of Concepts, processes and practices of HRD
- To show how concepts and theories can and have been put into practice in a variety of organizations
- Train students to apply HRD for bringing out organisational effectiveness.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance and Class Participation: 5%
   - Library Assignment:5%
   - Presentation: 10%
   - Quiz: 5%

Course Contents

UNIT IFoundations of Human Resource Development   **3 Hours**

- Introduction to Human Resource Development
- Functions of HRD
- HRD Matrix and Role of HRD managers as Change Agent

UNIT II Framework of Human Resource Development   **4 hours**

- HRD Need Assessment – Strategic, Task and Personal Analysis
- Designing Effective HRD program
- Implementing HRD Program
- Evaluating HRD Program

UNIT III Learning and Training   **4 hours**

- Basic Learning Principles
- Learning Styles
- Individual Differences in Learning
- Training and Development- Methods
- Ealuation of Training Programs

UNIT IV Career and Performance Management   **6 hours**

- Career – Concept and stages
- Models of Career development
- Process of Career management
- Performance management- Process
- Coaching , Counselling, Mentoring
- Competency Mapping and HR Scorecard

UNIT V Strategic HRD and Current Issues of HRD   **3Hours**

- Strategic HRD
- HRD Audit
- Globalization, Technology and HRD Issues

Case Study:

1. *Aligning Strategy wirh the Performance Management System- Cases and Examples from World Class Organizations*
2. *HR Scorecard at Tata Engineering*

Text Books:

1. Werner, J.M; Desimone, R.L.(2012). Human Resource Development. Cengage Learning Private Limited, New Delhi, Fifth Edition
2. Bhattacharyya, D.R. Human Resource Development"Himalaya Publishing House, 2009.

   Additional Readings:
1. Reid, Barrington and Brown, Human Resource Development, 7th edition, Pinnacle, 2007
2. Mankin, D."Human Resource Development" Oxford University Press.2009

Compensation Management

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: HRM 508

Course Name: Compensation Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to;

1. Discuss the strategic importance of compensation to the achievement of organizational Objectives
2. Identify links between compensation objectives and business policy.
3. Discuss the role of compensation in attracting and retaining a highly competent workforce.
4. Discuss how compensation management can lead to competitive advantage.
5. Discuss the role of compensation management for HR executives.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.
Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    * Class Participation-   10%
    * Presentation-   10%
    * Assignment-5%

Course Contents:

UNIT I Wages and Salary Administration   **5 Hours**

* The concept of wages
* Theories of Wages
* Wage Policy and its Importance
* Pay and Social Class

UNIT II Compensation Management   **6 Hours**

- Concept of compensation, its objective and importance
- Internal and external equity
- Job Evaluation
- Incentive Plans and Fringe benefits

Unit III Strategic Perspectives in Compensation   **5 Hours**

- Strategic and Tactical Compensation Issues
- Strategic Pay
- Competency Based Compensation Program
- Performance Based Compensation

UNIT IV Legal Aspects of Compensation   **9 Hours**

- Workmen Compensation Act, 1923
- The Minimum Wages Act, 1948
- The Payment of Wages Act, 1936
- The Payment of Bonus Act, 1976

UNIT V Executive Compensation and International Compensation   **5 Hours**

- Compensation of CEO
- Compensation of Top Executives
- Compensation Plan for an expatriate
- Managing Global Compensation

Text Books:

1. Bhatia, Kanchan (2009).Compensation Management. Himalaya Publishing House Pvt. Ltd., Mumbai

Additional Readings:

1. Henderson, Richard I. (2006) Compensation Management in a Knowledge-Based World. Dorling Kindersley (India) Pvt. Ltd., New Delhi.

2. Milkovich, George T, and Jerry M. Newman (2005).Compensation. McGraw Hill/Irwin, New York.

3. Goel, Dewakar (2008). Performance Appraisal and Compensation Management: A Modern Approach, PHI Learning Private Limited, New Delhi.

4. Armstrong, Michael and Muri's, Helen (1991). Reward Management: A Hand book of Salary Administration. Kagan Paul, London.

5. Belchor, David W. (1973).Compensation Administration. Prentice Hall, Englewood Cliffs NT.

Labour Laws

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: HRM 513

Course Name: Labour Laws

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

1. To make students of HR understand the significance of labor laws hold in an organization
2. To provide an insight into the various laws that govern workers and employees employment in an organization

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation-   10%
    - Presentations - 10 %
    - Assignment-   05%

Course Contents:

UNIT I   **6 Hours**

- The Trade Unions Act, 1926
- The Industrial Disputes Act, 1947

UNIT II: **7 Hours**

- The Industrial Employment (Standing Orders) Act, 1946
- Contract Labour (Regulation and Abolition) Act,1970
- Apprentices Act, 1961

UNIT III: **5 Hours**

- Maternity Benefit Act, 1961
- Equal Remuneration Act, 1976

UNIT IV: **6 Hours**

- Factories Act, 1948
- Mines Act, 1952
- Plantation Labour Act, 1951

UNIT V: **7 Hours**

- Child Labour (Prohibition and Regulation) Act, 1986
- The Employees State Insurance Act, 1948
- The Payment of Gratuity Act, 1972
- The Employees' Provident Funds & Miscellaneous provision Act, 1952

Text Books:
1. Sinha, P.R.N, Sinha, Indu Bala and Shekhar, S.P (2013). Industrial Relations, Trade Unions and Labour Legislation. Dorling Kindersley (India) Pvt. Ltd., New Delhi.

Additional Readings:

1. Mamoria, C.B., Mamoria, Satish and Gankar, S, V. (2010). Dynamics of Industrial Relations.

2. Kubendran, V. and Kodeeswari, K. (2011). Industrial Relations and Labour Law. Himalaya Publishing House Pvt. Ltd., Mumbai.

3. Srivastava, S C (2012). Industrial Relations And Labour Laws. Vikas Publishing House, Delhi.

4. Sarma , A.M (2013). Industrial Relations and Labour Laws. Himalaya Publishing House Pvt. Ltd., Mumbai.

5. H.L. Kumar (2013). Labour Laws - Everybody Should Know. Universal Law Publishing Co Pvt Ltd., Delhi.

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Course Code: HRM 5o4

Course Name: Social Security and Labour Welfare

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

1. To make students of HR understand the growth of labour welfare movement.
2. To give an insight into the various labour welfare and social security measures being provided to workers by the government.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation-   10%
    - Presentations - 10%
    - Assignment-   5%

Course Contents:

UNIT I Social Security   6 Hours

- Evolution and Growth of Social Security in Selected Countries
- Social Assistance, Social Insurance, Financing of Social Security Schemes
- Social Security Schemes in Industrial Countries, Social Security and the National Economy
- Social Security Measures, ILO on Social Security

UNIT II Labour Welfare   **6 Hours**
- Growth of Industrial Labour Force
- Characteristics of Indian Labour
- Impact of Industrialization on Labour
- Theories of Labour Welfare

UNIT III Development of Labour Welfare   **5 Hours**
- Historical Development of Labour Welfare
- Labour Welfare Practices in Europe
- Labour Welfare Practices in India
- Philosophy of Labour Welfare

UNIT IV Welfare Provisions   **5 Hours**
- Statutory Welfare Provisions
- Voluntary Welfare Provisions
- Agencies for Labour Welfare
- Welfare of Special Categories of Labour

UNIT V Welfare Measures   **7 Hours**
- Industrial Safety, Industrial Health
- Industrial Housing
- Industrial Hygiene
- Social Responsibilities of Industries and Trade Unions

Text Books:

1. Sarma, A.M.(1981). Aspects of Labour Welfare and Social Security. Himalaya Publishing House, Mumbai.

Additional Readings:

1. Punekar, S.D., Deodhar, S.B. and Sankaran, S. (2011). Labour Welfare, Trade Unionism and Industrial Relations. Himalaya Publishing House, Mumbai.
2. Mamoria, C.B., Mamoria, Satish and Gankar, S, V. (2010). Dynamics of Industrial Relations. Himalaya Publishing House Pvt. Ltd., Mumbai.
3. Sinha, P.R.N, Sinha, Indu Bala and Shekhar, S.P (2013). Industrial Relations, Trade Unions and Labour Legislation. Dorling Kindersley (India) Pvt. Ltd., New Delhi.
4. Mishra, B.N. (1993). International Social Security Systems. Anmol Publications, New Delhi.
5. Friedlander, W.A. (1967). An Introduction to Social Welfare. Prentice Hall of India Pvt. Ltd., New Delhi.

PersonalityDevelopment and Career Management

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: HRM 410

Course Name: **PersonalityDevelopment and Career Management**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Familiarize students to the importance of Personality Development
- To understand various approaches of personality development
- To understand the importance of Career Planning and Management
- Train students to use various approached of Career Management.**U**

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance and Class Participation: 5%
   - Library Assignment:5%
   - Presentation: 10%
   - Quiz: 5%

Course Contents

UNIT IIntroduction to Personality Development (4 Hours)

- Introspection: the First Pillar
- Self-assessment: the Second Pillar
- Self-appraisal: the Third Pillar
- Self-development: the Fourth Pillar
- Self-interrogation: the Fifth Pillar

UNIT - II:Developing Soft Skills (4 Hours)

- Developing positive attitude
- Forming Values
- Team building and team work
- Time Management
- Stress Management

UNIT III:**Art of Communication** (4 Hours)

- Definition and Process
- Formal and informal communication
- Barriers to Communication
- Art of Listening, Reading and Writing
- Body Language

UNIT IV Introduction to Career Management (4hours)

- Career – Concept and Stages
- Definition of Career , Career Management and Development
- The Developmental or Stage Based Perspective on Careers- Eriksons's and Levinson's Approach
- Need To Understand CareerManagement- Individual and Organizational Perspective

UNIT V Career Management Process and Development (4 Hours)

- Process of Career management
- Career Paths and Career Development
- Career Anchors
- Career Development Interventions
- Models of Career development
- Contemporary Issues in Career Management-Work-Family Conflict, Two-Career Family, Career Management and Quality of Life

Case Study:

Career Dilemma : A Catch 22 Situation.(To be Provided in the Class by Concerned Faculty)

Text Books:
1. Onkar, R.M., 2008, Personality Development and Career Management, Third Revised Edition 2011, S.Chand, New Delhi
2. Dr. Alex, K., 2009, Soft Skills, Second Revised Edition 2011, S. Chand, New Delhi
3. Greenhaus, J.; Callanan,G.; Godshalk,V."Career Management"Sage Publication,Fourth Edition

Additional Readings:
1. Pande, S.; Basak, S."Human Resource Management"Text and Cases. Pearsons Publication.
2. Mankin, D.2009"Human Resource Development" Oxford University Press.
3. Covey R. Stephen, 2004, The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change, Free Press

Accounting For Managerial Decisions

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code: AFA 407

Course Name: Accounting For Managerial Decisions

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Define management accounting and understand the techniques used in management accounting.
- Apply the tools of financial analysis to perform horizontal and vertical analysis.
- Calculate and interpret various financial ratios.
- Demonstrate knowledge of, and ability to prepare, a statement of cash flows.
- Define managerial accounting and understand the techniques used in cost accounting.
- Compute break-even and cost-revenue analysis and understand how to interpret the results.
- Prepare various types of budgets.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance 5%
   - Quiz 5%
   - Case study 5%
   - Presentation and problem solving 10%

Course Contents

UNIT - I   Introduction to Accounting and Management Accounting   (4 Hours)

- Accounting, Bookkeeping and Accounting, Users of Accounting, Basic Concepts and Conventions, Components of Financial Statements, Format of Balance sheet, Accounting terminology
- Liabilities, Equity Shares, Share Capital and its types, Preference Share Capital, Reserves and Surplus, Secured loans, Equitable Mortgage, unsecured Loans, Current Liabilities and Provisions, Assets, Fixed Assets, Current Assets, Investments
- Management accounting: Meaning, nature, scope and functions of management accounting;
- Role of Management accounting in decision making;
- Management accounting vs financial accounting;
- Tools and techniques of Management accounting;

UNIT - II   Financial Statements   (4 hours)

- Financial Statements: Meaning and type of financial statements;
- Limitations of financial statement;
- Objectives and methods of Financial Statement Analysis;

UNIT - III   Ratio Analysis   (4 hours)

- Ratio analysis;
- Classification of Ratios;
- Advantages and Limitations of Ratio Analysis.

UNIT - IV   Cash flow and Marginal costing   (6 hours)

- Cash flow statement;
- Marginal costing and Profit planning - Managerial applications.

UNIT - V   Budgeting   (2 hours)

- Budgeting for profit planning and control: Meaning of Budget and Budgetary control;
- Objectives; Merits and Limitations of Budgeting;
- Types of budgets fixed and flexible budgeting;
- Zero Base Budgeting,

Prescribed Text Books:

1. Bhattacharyya Debarshi, (2011). Management Accounting. Pearson Education.
2. Khan, Jain, (2010). Management Accounting: Text, Problems and Cases. Tata Mc Graw Hill Education Pvt. Limited, India.
3. Mathur Satish B. (2011). Accounting For Management. Tata Mc Graw Hill Education Pvt. Limited, India.

Suggested Extra Readings:

1. Maheswari S.N. (2004). Financial & Management Accounting. Sultan Chand & Sons Pvt. Ltd, New Delhi.
2. Hugh Coombs, Ellis Jenkins and David Hobbs, (2007).Management Accounting: Principles and Applications. Sage South Asia Edition.
3. Horngren, (2009). Introduction to Management Accounting. Pearson India.
4. Singhvi and Bodhanwala, (2007).Management Accounting- Text and Cases. PHI.

5. Anthony A. Atkinson, G. Arunkumar, Robert S. Kaplan, Ella Mae Matsumura, S. Mark Young, (2009). Management Accounting. Pearson Education.
6. Murthy and Gurusamy, (2009). Management Accounting. Tata Mc Graw Hill Education Pvt. Limited, India.
7. Arora M.N. (2009). Management Accounting Theory: Problem and Solutions. Himalaya Publishing House Pvt. Limited, India.
8. Kuppapally, (2011). Accounting for Managers. Eastern Economy Edition. PHI India.
9. Jiambalvo, (2011). Managerial Accounting. Wiley India.
10. Jawaharlal,(2011). Cost and Financial Analysis. Himalaya Publishing House Pvt. Limited, India.
11. Proctor Ray, (2010). Managerial Accounting For Business Decisions. Pearson India.
12. Gupta Ambrish, (2012). Financial Accounting for Management: An Analytical Perspective. Pearson India.
13. Ghosh T P.(2007). Accounting and Finance for Managers. Taxmann.

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: HRM 401

Course Name: Organisational Behaviour

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

1. To monitor, control and predict behaviour of employees in terms of how they behave individually, in a group and in organizations
2. To comprehend intra and inter organisational functioning and its processes.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation-   10%
    - Presentations -   10 %
    - Assignment(s)-   5%

Course Contents:

UNIT I Introduction to Organisational Behaviour   **5 Hours**

- Organisational Behaviour Concept, Models of OB
- Contributing Disciplines to the OB, Challenges and Opportunities for Organisational Behaviour
- Foundations of Individual Behaviour
- Learning, OB Mod.

UNIT II Individual Processes   **8 Hours**

- Personality and Emotions
- Perception and Attribution
- Attitudes and Values
- Motivation and Theories of Motivation

UNIT III Group Processes   **7 Hours**

- Groups, Group Development, Group Dynamics, Group Cohesiveness
- Types of Teams, Creating Effective Teams
- Conflict: Sources, Patterns, Levels and Resolution.
- Organisational Power and Politics

UNIT IV Inter Group Processes   **5 Hours**

- Communication and Feedback
- Transactional Analysis (TA), Johari Window
- Leadership Concept and Styles
- Leadership Theories

UNIT V Organisational Processes   **5 Hours**

- Organisation Culture Concept and Determinants
- Organisational Effectiveness: Concept and Measurement
- Organisational Change
- Stress Management

Text Books:
1. Robbins, Stephen P. (2000) Organizational Behaviour. Prentice Hall, New Delhi

Additional Readings:

1. Aswathappa, K. (2000). Organisation Behaviour. Himalaya Publishing House, New Delhi.
2. Hersey, Paul, Blanchard, K.H.and Johnson, Dewey E. (2011). Management of Organizational Behavior: Leading Human Resources. PHI Learning Pvt. Ltd., New Delhi
3. Prasad, L. M. (2000). Organisational Behaviour. Sultan Chand & Sons, New Delhi.
4. Newstorm, John W. and Keith Davis (1998). Organizational Behaviour: Human Behaviour at Work.Tata McGraw-Hill, New Delhi.
5. Mc Shane, L.S., Von, Glinow A.M., Sharma, R.R. (2010). Organizational Behaviour. Tata McGraw-Hill, New Delhi.

Legal Aspects of Business

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: MSO 402

Course Name: Legal Aspects of Business

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: After completing this course the students will be able to:

- Understand the concepts of Agreement and Contract.
- Know the concepts of Sale of Goods Act 1930.
- Understand the basics of Company Law.
- Know about special contracts.
- Know about Partnership Act 1932.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
    - Attendance 5%
    - Quiz 5%
    - Case study 5%
    - Presentation 10%
    - Written tests 5%

Course Contents

UNIT I   THE INDIAN CONTRACT ACT 1872   (5 Hours)
- Law of Contract
- Nature of Contract
- Offer and acceptance
- Capacity of parties to contract
- Free consent
- Consideration

UNIT II   SPECIAL CONTRACTS   (3 Hours)
- Indemnity and Guarantee
- Bailment and Pledge
- Agency

UNIT III   THE SALE OF GOODS ACT 1930   (3 hours)
- Sales contract
- Guarantees and Warranties in sales contract
- Performance of sales contracts, Unpaid Seller

UNIT IV   COMPANY LAW   (6 hours)
- Major principles – Nature and types of companies, Formation of Company
- Memorandum and Articles of Association
- Prospectus

UNIT V PARTNERSHIP ACT, 1932   (3 hours)
- Nature of Partnership
- Rights and Duties of Partners
- Types of Partners, Relation of Partners

Prescribed Text Books:

1. Rao Mohana Peddina (2011). Mercantile Law. PHI. New Delhi.
2. Maheshwari & Maheshwari, (2009). Elements of Corporate Laws. Himalaya Publishing House Pvt. Limited, India.

Suggested Extra Readings:

1. SethTejpal (2012). Business Law. Pearson India.
2. Sulphey, Basheer (2011). Laws for Business. Eastern Economy Edition. PHI. New Delhi.
3. Gogna P.P.S., (2008).Mercantile Law. 4th Edition. S. Chand & Co. Ltd., India.
4. Pathak Akhileshwar, (2010). Legal Aspects of Business. 4th Edition. Tata McGraw Hill.
5. Shukla M.C., (2007).Mercantile Law. First Edition. S. Chand & Company Ltd.
6. Kapoor N. D., (2009). Elements of mercantile Law. Latest Edition. Sultan Chand and Company, India.
7. Ramachandra K., Chandrashekara B., Kanakattee Chandrakant, (2010).Legal Aspects of Business Text and Cases.1st Edition. Himalya Publishing House Pvt. Limited, India.

8. Ramtirthkar R.R. (2009). Legal Aspects of Business. 2009 Edition. Himalaya Publishing House Pvt. Limited, India.
9. Kuchhal M C, (2010). Mercantile Law. Seventh Edition. Vikas Publishing House. New Delhi.
10. Bulchandani K.R, (2010). Business Law for Management. 6th Edition. Himalaya Publishing House Pvt. Limited, India.

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Course Code: MSO 401

Course Name: Management Principles and Functions

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Present a thorough and systematic exposure of Management theory and practice.
- Provide a basic understanding of fundamental concepts and principles of Management.
- Provide knowledge of historical development and practice application of Managerial process.
- Enable the students to understand the basic roles, skills and functions of Management.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance 5%
   - Quiz 5%
   - Case study 5%
   - Presentation 10%
   - Symposia 5%

Course Contents:

UNIT - I: **Introduction to Management**   **(5 Hours)**

- Nature and Functions of Management
- Roles of a Manager
- Managerial Skills
- Evolution of Management Thought

UNIT - II: **Planning and Decision Making**   **(5 Hours)**

- Nature and Importance of Planning
- Steps in Planning Process and Limitations of Planning
- Guidelines for Effective Planning and Types of Plans
- Management By Objective (MBO)
- Decision Making Process

UNIT - III: **Organizing**   **(4 Hours)**

- Principles of Organizing
- Types of Organizational Structures
- Delegation of Authority and Decentralization
- Line and Staff Authority

UNIT - IV: **Coordinating**   **(2 Hours)**

- Need for Coordination
- Requisites for Effective Coordination
- Types and Techniques of Coordination
- Problems in Coordination

UNIT – V: **Controlling**   **(4 Hours)**

- Steps in Control process
- Types of Control methods
- Control Techniques
- Problems in Control System

Prescribed Text Books:

1. Harold Koontz & Heinz Weihrich (2010).Essentials of Management. Tata McGraw Hill Education Private Limited, New Delhi.
2. P C Tripathi & P N Reddy (2010). Principles of Management. Tata McGraw Hill Education Private Limited, New Delhi.
3. Stephens P. Robbins, David A. Decenzo, Sanghamitra Bhattacharyya & Madhushree Nanda Agarwal (2010). Fundamentals of Management. Pearson Education, New Delhi

Suggested Additional Readings:

1. James A. F. Stoner, R. Edward Freeman & Daniel R. Gilbert, JR (2010). Management. Pearson Education, New Delhi
2. Karminder Ghuman & K Aswathappa (2010). Management. Tata McGraw Hill Education Private Limited, New Delhi.
3. Dr. Neeru Vasishth (2011), Principles of Management. Taxmann publications Private Limited, New Delhi.
4. Gene Burton & Manab Thakur (2010). Management Today. Tata McGraw Hill Education Private Limited, New Delhi.
5. Dr. P. Subba Rao & C. Hima Bindu (2010), Management Theory and Practice. Himalaya Publishing House, New Delhi.

International Business Environment

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code: MIB 411

Course Name: International Business Environment

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to enable the student to know about global trade environment and the factors influencing international trade. It also emphasizes on the role of GATT, WTO and other International organizations influencing international trade majorly.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance 5%
   - Quiz 5%
   - Case study 5%
   - Presentation 10%

Course Contents

UNIT I Overview of International Business (2 Hours)
- The Growing relevance of globalization, International/Global Marketing, Why go International?
- International orientations, internationalization stages and orientations, Drivers and Restrainers of Globalization

- Internationalization Business Decisions
- Types of International Business
- Case Study

UNIT II International Business Environment and Trading Strategies (**8 Hours**)

- Determinants of Entry Mode, the trade mode, Contractual Entry Modes
- Foreign Investment, FDI, Mergers and Acquisitions
- Benefits and Costs of FDI
- Economic Environment, Economic Structures, The Balance of payments, Socio/Cultural Environment, Religion, Language, Culture and OB, Demographic, Political, Regulatory, Natural, Technological Environment
- Trade strategies, Free Trade, Methods of Protection, Dumping, Tariffs, Quantitative Restrictions, other non Tariff barriers, Commodity agreements, Cartels, State Trading, Trading Blocks, Forms of Integration
- Case study

UNIT III International Trading Environment (**4 Hours**)

- European Union, European Union Institutions, NAFTA, South- South Cooperation, SAARC, SAPTA, Indo – Lanka Free Trade Agreement, India-Singapore CECA, FTA's
- GATT, WTO, GATS, TRIMS, TRIPS, IPR's, Dispute settlement, Anti Dumping Measures, Evaluation of Uruguay Round and WTO, WTO and developing Countries, The Lodha Declaration, Hong Kong Ministerial Meet
- WTO and India
- Case study

UNIT IV International Political and Legal Environment (**3 Hours**)

- Importance of international political environment, nature of politics, political instability and risk, assessment of political risk, handling political risk
- Domestic, international, and super national law, National Legal systems
- The conflict of laws, Arbitration, International Conventions, Uniform laws

UNIT V International Socio Cultural and Financial Environment (**3Hours**)

- Concept of Culture, Meaning and Nature, Cultural Diversity, Management of Cultural Diversity
- Bretton woods system, breakdown of Bretton woods system, EURO, Foreign Exchange market, Exchange Rate System, Classification
- Foreign Exchange market, Market for derivatives, International Financial Market

Case Study:

1. South East Asian Economic Crises
2. Whose Basmati it is?
3. Mc Donald's Sells Hamburgers in India
4. Resolution of Trade Conflicts under the WTO'S Dispute Settlement Understanding

Text Books:

1. Cherunilam Francis (2010). International Business. Prentice Hall of India Private Limited. New Delhi.
2. Sharan Vyptakesh (2003). International Business: Concept, Environment and Strategy. Pearson Education, New Delhi.
3. Bennett Roger (2011). International Business. Pearson Education, New Delhi.

Additional Readings:

1. Levi MauriceD. (2009). International Finance. Routledge.
2. Conklin David w. (2011). The Global Environment of Business. Sage Publications.
3. Mithani D M. (2009). Economics of Global Trade and Finance. Himalaya Publishing House New Delhi.
4. Cherunilam Francis (2011). International Business Environment. Himalaya Publishing House, New Delhi.
5. Saleem Shaikh (2010). Business Environment. Pearson Education, New Delhi.
6. Sundharam K.P.M. and Datt Ruddar (2010). Indian Economy, S. Chand & Sons, New Delhi.
7. Paul Justin (2010). Business Environment-Text and Cases. Tata McGraw Hill, New Delhi.

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Course Code: MIB 404

Course Name: International Organizations, Regional Blocks & WTO

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable the students to understand the concept of International organizations.
- Understand the composition, working and impact of regional trade blocks on International and intraregional trade.
- Enable the students to understand the history, working, various issues related to functioning of WTO and impact of WTO on International trade.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Class participation   = 5%
   b. Assignments/Presentations=10%
   c. Case studies   =5%
   d. Surprise test/Activity   =5%

Course Contents:

UNIT - I: Fundamentals of International Trade and Organisations   **(6 Hours)**

- Intraregional and International Trade
- Concept of MNCs
- Theories of International Trade
- International Business Environment and its impact on International Organizations
- Export Procedures and Documentation

UNIT - II: Trade and International Organizations   **(6 Hours)**

- Barriers to Trade
- Balance of Payment
- IMF
- World Bank
- Asian Development Bank

UNIT - III: Regional Blocs-I   **(6 Hours)**

- European Union
- OPEC
- OECD
- G-8

UNIT - IV: Regional Blocs-II   **(7 Hours)**

- ASEAN
- SAARC
- BRICS
- G-20

UNIT – V: World Trade Organization   **(5 Hours)**

- GATT
- Formation and Working of WTO
- Various WTO Agreements
- WTO and Developing Countries

Prescribed Text Books:

1. Salvatore Dominick, International Economics, Wiley.
2. Black and Sundaram, International Business Environment, Prentice Hall of India, New Delhi.
3. Siddiqui S A (2011), International Marketing, Kogent Learing Solutions Inc, Dreamtech Press.

Suggested Additional Readings:

1. Misra S K & Puri V K, Indian Economy, Twenty Eight Edition, Himalaya Publishing House Pvt. Ltd.
2. Sodersten B O & Geoffrey Reed, International Economics, Macmillan Press Ltd, Londan.
3. Rao Guru (2006), WTO and International Trade, Excel Publication.
4. Mithani D M (2009), Economics of Global Trade and Finance, Himalaya Publishing House, New Delhi.

Total Quality Management

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: POM 505

Course Name: Total Quality Management

Faculty Name: Dr Sarvesh Kumar, Assistant Professor, Marketing & SCM, SBMS

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.).

Course Objectives: The course is designed to:

- Enable the students to understand basic concepts of Total quality Management.
- Conceptualize Total quality Management aligned with business models for manufacturing and service companies.
- Help the students to use the understanding of Total quality Management for effective implementation in dynamic business environment.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Semester Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class participation: 5%
   - Presentations: 10%
   - Assignments/Live Projects: 10%

Course Contents:

UNIT - I: TQM- History and Evolution **(4 Hours)**

- Connotations of Quality, Quality Dimensions – Product and Service.
- The concept of TQM, Evolution of TQM – Inspection, QA and TQM. Conventional quality management versus TQM.
- Customer supplier focus in TQM.
- Benefits and Costs of TQM. Historical perspectives of TQM.

UNIT - II: Tools of TQM (Measurement Tools) **(4 Hours)**

- Check Sheets,
- Histograms,
- Run Charts,
- Scatter Diagrams,
- Cause and Effect Diagrams,
- Pareto's Chart,

UNIT - III: Improvement Tools and techniques **(4 hours)**

- Kaizen,
- JIT,
- Quality Circles,
- Five S's. Control Tools: Gantt Chart, Network Diagram, Radar Chart,
- The PDCA cycle,

UNIT - IV: Six Sigma **(4 Hours)**

- The concept of Six Sigma, Objectives of Six Sigma, The frame-work of Six Sigma programme, Six Sigma Organization: roles and responsibilities,
- Six Sigma problem solving approach: The DMAICmodel,
- Six Sigma Metrics: Cost of poor quality,
- Defects per million opportunities and First pass yield.
- Benefits and costs of Six Sigma.

UNIT – V: TQM in the Service Sectors **(4 Hours)**

- Implementation of TQM in service organization: Framework for improving service quality,
- Model to measure service quality programs.
- TQM in Health-care services,
- Hotels and financial services –Banks,
- Investment Company and Mutual Funds.

Prescribed Text Books:

1. Dale H. Besterfield, Carol Besterfield - Michna, Glen H Besterfield and Mary Besterfield-sacre, "Total Quality Management", 2006, 3rd Ed. PHI.

Suggested Readings:

1. Greg Brue, "Six Sigma for Managers", 2002, TMH.
2. R. P. Mohanty & R. R. Lakhe, "TQM in the Service Sector", Jaico Books.

Strategic Management

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: MSO 501
Course Name: Strategic Management
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objectives: The course is designed to
- Enable the students to apply the strategies studied in the foundation and fundamental courses, its specific strategic knowledge in different functional areas.
- Enable the students to create, execute and evaluate different strategies in their everyday life as managers.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
4. Mid Term Examination: 25%
5. End Term Examination: 50%
6. Continuous Internal Assessment : 25%

- Assignment :   5%
- Case study :   5%
- Presentation : 5%
- Class participation: 5%
- Problem solving exercises :   5%

Course Contents:

Unit – I: Introduction to Strategic Management   (4 Hours)
- Concept of strategy: Definition need and dimension of strategy, strategic planning and strategic decision making process
- Levels of strategy: Corporate, business, functional level
- Process of strategic management: Vision and mission of company, business vision models, objectives and goals, business policies and strategy. Strategic management models
- Establishment of strategic intent

Unit – II: Strategic Formulation   (5 Hours)
- Environmental appraisal: The external assessment
- Organization appraisal: Dynamics of internal environment. Organizational capability factors. Methods and techniques used for organizational appraisal

- The internal analysis: Resource based view, value chain analysis, and internal factor evaluation
- Business strategy: Evaluating and choosing business strategies

Unit- III: Strategy Implementation **(3 Hours)**
- Business level strategy in different industrial context
- Multi business strategy: Balanced score card, types of strategies the synergy approach
- Implementing strategies: Management and operations issues
- Strategic analysis and choice

Unit – IV: Strategic Evaluation & Innovation **(5 Hours)**
- Strategic review, evaluation and control
- Challenges in strategic management
- Structural & behavioral dimensions
- Information technology and strategy
- Knowledge management

Unit – V: Corporate Level Strategy **(4 Hours)**
- Vertical integration and the scope of firm
- Growth strategies-I & II
- Strategies for domestic markets, global strategies and the multinational corporation
- Market structures and network externalities
- Strategic alliances

Prescribed Text Books:
1. Kazmi Azhar (2011). Business Policy and Strategic Management. 3rd Edition. Tata Mc Graw Hill, New Delhi.
2. David R. Fred (2011). Strategic Management -Concepts and Cases. 13th Edition. PHI Learning, New Delhi.

Suggested Extra Readings:
1. Arthur A.Thomson, A.J. Strick land III, John E. Cambel (2011). Crafting and Executing Strategy. 18th Edition. Tata Mac Grow Hill, New Delhi.
2. Grant M. Robert (2011). Contemporary Strategic Management. Sixth Edition. Wiley India Pvt. Ltd, New Delhi.
3. Pearce A. John, Robinson B. Richard and Mital Amita (2008). Strategic Management-Formulation, Implementation and Control. 10th Edition. Tata McGraw Hill, New Delhi.

School of Earth & Environmental Sciences

Department of Environmental Sciences

School of Earth & Environmental Sciences
Name of the Department: Department of Earth & Environmental Sciences
Name of the Programme of Study: MSc (Environmental Sciences)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	ENV 402	Introduction to Earth Processes	2	NA	A K Mahajan
2	ENV 403	Environmental Chemistry	4	NA	Deepal Pant & Subhankar Chatterjee
3	ENV 407	Soil Sciences and soil pollution	2	NA	Anupam Sharma
4	ENV 401	Introduction to Ecology	2	NA	Mushtaq Ahmed
5	ENV 516	Atmospheric Science	2	NA	Ankit Tandon
6	ENV 423	Basics of Computer Application and Statistical Techniques	2	NA	Ankit Tandon
7	ENV 547	Contemporary Environmental Issues	2	NA	Subhankar Chatterjee
8	ENV 424	Fundamental of Remote sensing	2	NA	Anurag Linda
9	ENV 422	Basics of Natural Resource conservation	2	NA	Anurag Linda
10	ENV 418	Ecology Lab	2	NA	Mushtaq Ahmed

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie	Teacher
1	ENV 517	Earth System Science	2	402	A K Mahajan
2	ENV 531	Toxicology Lab	2	407	Deepal Pant
3	ENV 525	Environmental Geochemistry	2	403	Anupam Sharma
4	ENV 408	Biodiversity and Wildlife Management	2	418	Mushtaq Ahmed

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
5	ENV 537	Environmental Engineering	2	403 & 423	Ankit Tandon
6	ENV 404	Energy and Environment	2	516	Ankit Tandon
7	ENV 528	Nano-techniques and Environment	2	403 &407	Subhankar Chatterjee
8	ENV 501	Environmental Pollution and Human Health	2	407	Subhankar Chatterjee
9	ENV 425	Applications of Remote sensing and GIS	2	424	Anurag Linda
10	ENV 534	Green Technology and Market	2	422	Anurag Linda

University Wide Courses

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
Semester-I					
1	ENV 423	Basics of Computer Application and Statistical Techniques	2	NA	Ankit Tandon
2	ENV 547	Contemporary Environmental Issues	2	NA	Subhankar Chatterjee
3	ENV 424	Fundamental of Remote sensing	2	NA	Anurag Linda
4	ENV 422	Basics of Natural Resource conservation	2	NA	Anurag Linda
	ENV 418	Ecology Lab	2	NA	Mushtaq Ahmed
Semester –III					
1	ENV 404	Energy and Environment	2	423	Ankit Tandon
2	ENV 528	Nano-techniques and Environment	2	547	Subhankar Chatterjee
3	ENV 501	Environmental Pollution and Human Health	2	547	Subhankar Chatterjee
4	ENV 425	Applications of Remote sensing and GIS	2	424	Anurag Linda

Introduction to Earth Processes

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Content of Courses:

Semester-I

Course Code: **ENV 402**

Course Name: **Introduction to Earth Processes**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- To introduce the students to basics of the earth structure and its physical, chemical and biological characteristics.
- To introduce the students to various earth processes those are operating inside the earth and their role in shaping and evolution of earth.
- Introduction with the surface geological processes (weathering, erosion etc) and their use in understanding geochemical cycling of elements and their role in maintaining the earth surface temperature and associated phenomenon such.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
    a. Assignment/Quiz/Term Paper: 20%
    b. Presentation/Seminar/Field work: 20%
    c. Practical: 60%

Course Contents:

Unit I **(3 hrs)**

- Earth Science as a subject and its various disciplines
- Evolution of various branches of Earth Science
- Physiography of the Earth;
- Weathering, erosion,
- Transportation and deposition of Earth's material;
- Formation of soil,

Unit II **(4 hrs)**

- Different theories of origin and evolution of the earth.
- Primary differentiation and multilayer structure of Earth
- An overview on different rock types and mineral groups
- Origin of magma and magmatic rocks
- Energy balance of the Earth's surface processes

Unit III **(5 hrs)**

- Sediments and sedimentary rocks;
- Physiographic features and river basins in India,
- Weathering and erosion processes and their role in elemental redistribution
- Sediment transport and deposition through running water, wind and glaciers and formation of sedimentary rocks and various landforms

Unit IV **(4 hrs)**

- Theory of Plate tectonics and its implications in understanding mountain building and sea floor spreading processes
- Formation of oceans, continents and mountains
- Land-ocean interaction and biogeochemical cycling
- Distribution of earthquake and volcanic activity across the globe

Unit V **(4 hrs)**

- Basic concepts of seismology and internal structure of the Earth.
- Physico-chemical and seismic properties of Earth's interior.
- Concepts of stress and strain.
- Earthquakes - their causes and measurement.

- Interplate and intraplate seismicity.
- Behaviour of rocks under stress;
- Folds, joints and faults.

Text Books

- Keller E A 2010. Environmental Geology. 9th Edition, Prentice Hall, ISBN-13: 978-0321643759.
- Duff P M and Duff D 1993. Holmes Principles of Physical Geology. 4th Edison, Stanley Thornes, ISBN 0748743812, 9780748743810.
- Tank, R W. Environmental Geology. Oxford University Press ISBN 10: 0195032888 / ISBN 13: 9780195032888.
- Aldiya K. S 2010. The Making Of India Geodynamic Evolution. Macmillan India Ltd, ISBN 13: 9780230328334

Reference Books

- Mahapatra G.B 2011. Textbook Of Geology CBS publications, **ISBN** 8123900139; **ISBN-13-**9788123900131.
- The Changing Earth: Exploring Geology and Evolution. 4th edition, Brooks/Cole Publishing Co; ISBN-10: 0495010200; ISBN-13: 978-0495010203
- Fluvial Processes in Geomorphology. Dover Publications, **ISBN-10**: 0486685888**; ISBN-13**: 978-0486685885
- **Burbank** D W and **Anderson** R S 2000. Tectonic Geomorphology. 1st edition Wiley-Blackwell, **ISBN-10:** 0632043865; **ISBN-13:** 978-0632043866
- Subramanian V. A Textbook in Environmental Science. Narosa Publishers, ISBN13:978-0849324086.
- Valdiya K S. Environmental Geology, Indian Context. **Tata McGraw-Hill Pub Co.** ISBN 10: **0074519719 / 0-07-451971-9;**ISBN 13: **9780074519714**
- Kumar R 1985. Fundamentals Of Historical Geology And Stratigraphy Of India. Wiley Eastern, ISBN 0852267452, 9780852267455.

Environmental Chemistry

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Course Code: **ENV 403**

Course Name: **Environmental Chemistry**

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

1. introduce students to the fundamental concepts of analytical techniques environmental chemistry;
2. provide knowledge about various kinds of quantitative techniques;
3. introduce about computation of analytical results, significant figures, concept of error, precision and accuracy, standard deviation, rejection of doubtful values.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
   a. Assignment/Quiz/Term Paper: 20%
   b. Presentation/Seminar/Field work: 20%
   c. Practical: 60%

Course Contents:

Unit I: (8 hrs)

Stochiometry, Gibbs' energy, chemical Potential, chemical equilibrium acid base reactions, Solubility product, solubility of gases in water, the carbonate system, Unsaturated and saturated hydrocarbons, radio nuclides.

Unit II: (8 hrs)

Chemical compositions of Air: Classification of elements, chemical speciation, Particles, Ions and radicals in atmosphere, chemical processes for formation of inorganic and organic particulate matter, thermo chemical and photochemical reaction in atmosphere Oxygen and Ozone chemistry, chemistry of air pollutants, photochemical smog.

Unit III: (8 hrs)

Water Chemistry: properties of water; sources of water and their linkages – hydrologic cycle; concepts of pH, Eh and their variations in waters; metal solubility, complexation and cheletion; aquatic life and water chemistry; organic and inorganic including radioactive water pollutants and their removal methods. Concept of DO, BOD, COD, Sedimentation coagulation, filtration, redox potential.

Unit IV: (4 hrs)

Soil Chemistry: Inorganic and organic components of soil, Nitrogen pathways and NPK in soils.

Unit IV: (12 hrs)

Main and transition metals Chemistry, Metal- Ligand concept and its implication towards biochemistry of metals.

Text Books:

1. Manahan, Stanley E. "FRONTMATTER"*Environmental Chemistry* Boca Raton: CRC Press LLC, 2000.
2. A K De Environmental Chemistry 4th Edition, New Age International (P) Ltd., New Delhi 110 002.

Reference Books:

1. Jayaraman, J., Laboratory Manual In Biochemistry, New Age International (P) Limited.
2. Puri Sharma & Kalia, Principles of Inorganic Chemistry, S. Chand and company, N Delhi.
3. Keith Bucher, Global Climate, Wiley, New York 1976.
4. J. Heichlen, Atmospheric Chemistry, Academic Press, New York 1976.

5. Levin, Aerosol pollution impact on precipitation. New York Springer, 2009.

6. Rao,M N Air pollution, New Delhi: TMH, 2010.

7. Bali, J.S Bioindustrial watershed management. New Delhi: JCS, 2005.

Soil Science and Soil Pollution

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Course Code: ENV 407

Course Name: **Soil Science and Soil Pollution**

Credit Equivalent: 2 credits (one credit is equivalent to 10 hours of lectures/ organized classroom activity /contact hours; 5 hours of laboratory work/ practical/ field/ tutorial/ teacher

–led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection/ field work; writing of papers/ projects/ dissertation / thesis; seminars, etc.)

Course Objectives: The course is designed to

1. To introduce students about soil and soil formation processes, Soil profiles and importance of soil as a resource.

2. To make students aware about soil properties and soils of India. Also discuss - soil nutrients, soil productivity, soil degradation including soil erosion.

3. To aware students about soil pollution, causes of pollution, effects of soil pollution and ways to protect of environment.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 per cent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 %

2. End Term Examination: 50 %

3. Continuous Internal Assessment: 25 %

(Depending upon the nature of the course , a teacher shall specify the breakup of each criterion into different components like written examination, assignment , case study , quiz , presentation , class participation , panel discussion , group discussion, problem solving exercises, practical , etc.)

Course Contents:

Unit I

Soil and soil formation (4 hrs)

- Definition of soil and origin of soil
- Factors responsible for soil formation
- Soil profile and different horizons
- Effect of climate on soil formation

Unit II

Soils of India (4 hrs)

- Soil Classification
- Soil properties
- Soil biology
- Soil fertility and productivity
- Essential nutrients of soil

Unit III

Soil degradation in India and soil erosion (4 hrs)

- Soil degradation and its impact
- Soil erosion, causes and effects of soil erosion, problem of soil erosion in India

Unit IV

Soil pollution and causes of soil pollution (4 hrs)

- Definition and types of soil pollution
- Causes of soil pollution- fertilizers, pesticides, Insecticides and herbicides
- Pollution due to urbanization, solid waste and deforestation

Part V: Effects of soil pollution and its control. (4 hrs)

- Effects of agrochemicals on soil quality
- Environmental effects of soil acidification
- Long term effects of soil pollution
- Remedial measures to control of soil pollution

Prescribed Text Books:

1. Edward, J. Kormondy (2009). Concept of Ecology: Published by: PHI Learning, Private Limited, New Delhi -

2. 110001Singh, H.R. and Kumar Neeraj (2006). Ecology and Environmental Sciences: Vishal Publishing Co. Books Market Road (Gumbeer Market), Old Railway Road, Jalandhar - 144008 (Punjab)

3. Garrison Sposito (1989). The chemistry of soils; Oxford University Press, Inc.; 198 Madison Avenue, New York, New York 10016-4314

4. Sharma, P.D. (2010). Ecology and Environment: Rastogi Publications, Gangotri Shivaji Road, Meerut -250002 (U.P)

Suggested Additional Readings:

1. Manoharachary, C. and Reddy, Jayarama P. (2008).Principles of Environmental Studies: Published by: B S Publications, 4-4-309, Giri Raj Lane, Sultan Bazar, Hydrabad – 500095 (A.P.)

2. Purohit, S.S., Shammi, Q.J. and Agrawal, A.K. (2007). Environmental Sciences: Published by: Student Edition, Behind Nasrani Cinema, Chopasani Road, Jodhpur

-342003 (Rajasthan)

3. Anjoneyulu, Y. and Monicleam Valli (2008). Environmental Impact Assessment Methodologies: Published by: B S Publications, 4-4-309, Giri Raj Lane, Sultan Bazar, Hyderabad – 500095 (A.P.)

Introduction to Ecology

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Course Code: ENV 401

Course Name: **Introduction to Ecology**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable students to know about and understand the basic principles of Ecology and Environment.
- The students will acquire knowledge to investigate the functional and structural aspects of different ecosystems.
- Enable students to analyze the concepts related to the establishment of ecological balance in nature.
- Enhance our understanding of the ecosystem management strategies that are key to achieve environmental sustainability.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%

    a. Assignment: 10%

    b. Class Test: 5%

    c. Presentation: 10%

Course content

Unit (I): Scope and Introduction   **4 hrs**

Ecology- Scope, Subdivisions, major landmarks in Ecology, levels of organization hierarchy; Organisms and Environment-Holocoenotic nature of environment; biotic and abiotic environment.

Unit (II): Population Ecology   **4 hrs**

Population characteristics; population growth; carrying capacity; population regulation; life history strategies (r and k selection).

Unit (III): Community Ecology   **5 hrs**

Concepts of community and continuum; community attributes; species diversity α, β and ϒ); concept of ecological niche- types, ecotone & edge effect.

Unit (IV): Community Development   **3 hrs**

Ecological succession; changes in ecosystem properties during succession; concept of climax.

Unit (V): Ecosystem Organization And Management   **4 hrs**

Ecosystem structure and functions; primary production (methods of measurement, global pattern, controlling factors); energy dynamics (tropic organization;   energy flow pathways; Ecosystem management- concepts, sustainable development.

 Text Books Recommended

1. FUNDAMENTALs OF ECLOGY – Eugene P Odum and Gary W Barrett;   ISBN: 978-81-315-0020-0. (Available with PANIMA BOOK DISTRIBUTORS, New Delhi).
2. Ecological Diversity and its measurements – Anne E. Magurran, 2003. Blackwell Publications.
3. Ecology, Environment & Resource Conservation- J.S. Singh, S.P. Singh and S. R. gupta, 2008. Anamaya Publications, New Delhi.

Reference Books

- Veena 2009. Understanding Ecology. Discovery Publishing House Pvt. Ltd., pp 344; ISBN: 978-81-8356-456-4.
- Juneja, J 2009. Advances in Historical Ecology. Cyber Tech. Publications, pp 296; ISBN: 978-81-7884-417-6.
- Allaby M. Ecology Facts.
- Vanx P C. Ecology
- Sanders W K. Biosphere. Ecology in Practice.
- Benson. Ecology. Ecosystem
- Hare G O. Soils vegetation, Ecosystem.

Atmospheric Science

Course Code: ENV – 516

Course Name: **Atmospheric Science**

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Vision

Atmospheric science is an applied discipline that is concerned with the structure and evolution of the Earth's atmosphere and with the wide range of phenomena that occur within them. Atmospheric science represents a particular fusion of elements of physics and chemistry. This course will serve to introduce the student to the fundamental principles upon which the atmospheric processes are based and to provide an elementary description and interpretation of the wide range of atmospheric phenomena.

Atmospheric science is a multifaceted subject dealing with several disciplines such as oceanography, meteorology, geology, biology, chemistry, physics and other disciplines to understand Atmospheric processes as an integrated system. An increasing number of scientists are devoting their research to understand the earth processes to address the issues like global warming, sea-level rise, climate change and so on. As all these above mentioned issues are of global significance and in a way or other are linked to the earth system sciences, a sound knowledge (material, processes and their interaction) of the subject would certainly help in developing strategies to meet these challenges.

Objectives

1. The Earth's Atmosphere- an overview
2. Understanding physical structure and chemical composition of the Earth's Atmosphere
3. Understanding the fundamental physical and chemical processes responsible for the mass and energy transport in the Earth's Atmosphere

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 percent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

Mid-term Examination: 25%

End-term Examination: 50%

Continuous Internal Assessment: 25%

Course contents

Unit 1: Vertical Structure and Composition   **(4 hrs)**

Chemical Composition

- The State of the Atmosphere
- Atmospheric Density and Pressure
- Hydrostatic Balance

Unit 2:   **Atmospheric Thermodynamics**   **(4 hrs)**

- The Ideal Gas Law and First Law of Thermodynamics
- Concept of Air Parcel and Lapse Rates
- Atmospheric Stability
- Mixing Height and Inversion

Unit 3:   **Atmospheric Energy Balance**   **(4 hrs)**

- Electromagnetic Radiations, Black Body Radiation
- The Solar Constant and the Budget of Solar Radiation
- Terrestrial Radiation, The Earth's Radiative Energy Balance
- Green House Effect

Unit 4:   **Atmospheric Chemistry**   **(4 hrs)**

- Thermo-chemical and Photo-chemical Reactions
- Chemistry of Stratosphere, Stratospheric Ozone Depletion
- Chemistry of Troposphere, Acid Rain
- Atmospheric Aerosols, Atmospheric Trace Gases

Unit 5:   **Atmospheric Dynamics**   **(4 hrs)**

- Pressure Belts and Winds
- Pressure Gradient Force
- Coriolis Force, Centrifugal Force, Frication,

- Global Circulation

Text Books:

1. **Wallace John M. Jr., Peter V. Hobbs** (2006): Atmospheric Science: An Introductory Survey, 2nd Edition, **Academic Press**, ISBN: 978-0127329512

2. **Frederick K. Lutgens, Edward J. Tarbuck** (2010)**:** The Atmosphere: An Introduction To Meteorology, **Phi (Prentice-hall New Arrivals)**, ISBN: 978-8120344150

3. **John H. Seinfeld, Spyros N. Pandis** (2006)**:** Atmospheric Chemistry and Physics, **John Wiley & Sons Inc.,** ISBN: 978-0-471-72018-8

Additional Readings:

1. **Murry L. Salby** (2012): Physics of the Atmosphere and Climate, **Cambridge University Press**, ISBN: 978-0521767187

2. **Kevin E. Trenberth** (2010): Climate System Modeling, **Cambridge University Press**, ISBN: 978-0521128377

3. **John Green** (2011): Atmospheric Dynamics, **Cambridge University Press,** ISBN: 978-0521249751

4. **Mark Z. Jacobson** (2005): Fundamentals of Atmospheric Modeling, **Cambridge University Press,** ISBN: 978-0521548656

5. **Barbara J. Finlayson-Pitts, Pitts James N. JR., James N. Pitts Jr. (**1999)**:** Chemistry of the Upper and Lower Atmosphere: Theory, Experiments, and Applications, **Academic Press** ISBN: 978-0122570605

Basics of Computer Application and Statistical Techniques

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</div>

Course Code: **ENV – 423**

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Basics of Computer Application and Statistical Techniques

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Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Vision and Objectives

Data based research in any field of natural science needs a basic level understanding of statistical data analysis using statistical software. This course is designed to provide students basic knowledge of sampling / data collection, data presentation and data interpretation using statistical software.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 percent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

Mid-term Examination: 25%

End-term Examination: 50%

Continuous Internal Assessment: 25%

Course Contents

Unit-I Descriptive Statistics (4 hrs)

- Collection, Organization and Presentation of Data
- Measures of Central Tendency
- Measures of Dispersion

Unit-II Probability and Probability Distribution (4 hrs)

- Elementary Probability Theory and Probability Distribution
- Probability Distributions: Binomial, Normal, and Poisson Distributions

Unit-III Sampling Theory and Hypothesis Testing (6 hrs)

- Elementary Sampling Theory

- Statistical Estimation Theory

- Hypothesis testing, Confidence levels, Type-I and Type-II Errors

- Student's t-test

- Analysis of Variance

- χ^2 test

Unit-IV Correlation and Linear Regression   (2 hrs)

- Correlation and Linear regression

Unit –V Statistical Analysis on Computer: (4 hrs)

- Entry and Presentation of Data using MS EXCEL software

- Use of MS EXCEL and other Statistical Software (e.g. SPSS) for Statistical Analysis of Data

Text Books:

1. **A. L. Nagar** (1996): Basic Statistics, **Oxford University Press**, ISBN: 978-0195615548

2. **Larry J Stephens, Murray R Spiegel** (2010): Statistics, Tata McGraw-Hill Education, ISBN: 978-0070151536

3. **Pranab Kumar Banerjee** (2003): Introduction To Bio-Statistics, **S. Chand Publisher**, ISBN: 978-8121923293

Additional Readings:

1. **John C. Davis** (2011): Statistics and Data Analysis in Geology, **Wiley**, ISBN: 978-8126530083

2. **Nadar** (2011): Statistics, **PHI**, ISBN: 978-8120342309

Contemporary Environmental Issues

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Course Code: ENV 547

Course Name: **Contemporary Environmental Issues**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to know recent environmental issues, their cause and environmental impact
- Acquire knowledge related to these issues in national and international perspective
- Give some future direction towards the protection of environment

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
   a. Assignment/Quiz/Term Paper: 20%
   b. Presentation/Seminar/Field work: 20%
   c. Practical: 60%

Course Contents:

Unit I   **(8 hrs)**

The state of the World Environment: Global Atmospheric Conditions and significant global environmental issues such as acid rain, climate change etc., examining both the nature of the issues and instruments of international environmental negotiations. State of the Stratospheric Conditions;

Global Climate Change- (i) Causes and consequences of Global warming: Greenhouse effect; Global and regional trends in greenhouse gas emissions; Sea level rise; role of oceans and forests as carbon sinks (ii) Ozone depletion-stratospheric ozone shield; Ozone hole (iii) Recent records of climate change; Impact of climate change on Indian environment; Measures to cope with climate change.

Unit II (4 hrs)

State of the Global Oceans; State of the Global Fresh Water; Surface Water and Water quality

Unit III (2 hrs)

Global land Degradation and Desertification

Unit IV (2 hrs)

Global Deforestation and loss of Biological Diversity

Unit V (4 hrs)

Environmental Issues at national level; International and National efforts for Environment Protection

Suggested Readings:

1. Miller. G.T. 2004. Environmental Science. Thomson, California.
2. K.B. Chokkan, Pandya, H and Raghunathan, H (Eds), 2004, Understanding Environment. Sagar publication India Pvt. Ltd., New Delhi, London
3. Barry, R. G., 2003. Atmosphere, weather and climate. Routledge Press, UK
4. Firor, J., and J. E. Jacobsen, 2002. The crowded greenhouse: population, climate change and creating a sustainable world. Yale University Press.
5. Harvey D., 2000, Climate and Global Climate Change, Prentice Hall.
6. Environmental Chemistry By G.S.Sodi
7. Geist, Helmut 2005. The causes and progression of desertification. Ashgate Publishing. ISBN 978-0-7546-4323-4
8. F. T. Mackenzie and J. A. Mackenzie, Our Changing Earth: An Introduction to Earth System Science and Global Environmental Change, Prentice Hall, 1995
9. World Resources 1992-1999: A Guide to the Global Environment, Oxford, 1992.

Fundamentals of Remote Sensing

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Course Code: ENV 424

Course Name: Fundamentals of Remote Sensing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce the basics of Remote Sensing
- cover its various components and the use of remote sensing to address various environmental issues and management of natural resources

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
     d. Assignment/Quiz/Term Paper: 20%
     e. Presentation/Seminar/Field work: 20%
     f. Practical: 60%

Course Contents:

Unit I   **(4 hrs)**

What is Remote Sensing, Electromagnetic Radiation, Electromagnetic Spectrum, Interactions with the Atmosphere, Radiation – Target, Passive vs. Active Sensing, Characteristics of Images

Unit II   **(4 hrs)**

Sensors on the Ground, in the air, in Space, Satellite Characteristics, Pixel Size and Scale, Different Resolutions, Cameras and Aerial Photography, Different Satellites, Other Sensors

Unit III **(4 hrs)**

Radar Basic, Viewing Geometry & Spatial Resolution, Airborne vs Spaceborne Radars, Airborne & Spaceborne Radar Systems

Unit IV **(4 hrs)**

Image Analysis: Visual interpretation & Digital analysis, Elements of visual interpretation, analysis of different images.

Unit V **(4 hrs)**

Applications: Agriculture, Glaciology, Forestry, Geology, Hydrology, Sea Ice, Land Cover, Biomass Mapping, Oceans & Coastal

Suggested Readings:

1. **Lillesand & Keifer**, (2011): Remote Sensing & Image Interpretation, **John Wiley & Sons**, ISBN: 9788126532230.
2. **James B.Campbell**,(2007): Introduction to Remote Sensing, **Taylor & Francis,** ISBN: 9780415416887.
3. J**.R.Jensen,** (2009): Remote Sensing of the Environment, **Pearsons education Pub.** ISBN: 9788131716809.
4. **George Joseph,** (2005): Fundamental of Remote Sensing, **University Press, India**, ISBN: 9788173715358.
5. **Bruce Grubbs,** (2005): Basic Essentials Using GPS, **Falcon Press Publishing,** ISBN: 9780762734214.

Basics of Natural Resource Conservation

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

PO Box no. 21, Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

(Temporary Academic Block, Shahpur)

Course Code: ENV 422

Course Name: **Basics of Natural Resource Conservation**

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

1. To develop understanding about the natural resources
2. Classification of renewable and non-renewable resources
3. Mineral wealth of the nation and distribution of mineral deposits
4. Energy needs and resources availability
5. Sustainable development and management of resources

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%(Breakup is following)
    a. Assignment/Quiz/Term Paper: 20%
    b. Presentation/Seminar/Field work: 20%
    c. Practical: 60%

Course contents

Unit I **(3 hrs)**

Basic concept of Natural Resource Conservation

Definition and understanding of land, water, soil, plant and animal resources

Resources that determine the quality of life

Broad classification of resources, mainly renewable and non-renewable resources

Unit II (6 hrs)

Economic Minerals and their classification and distribution (Global and national level)

Metallic and non-metallic mineral resources including mineral reserves and ore minerals

Non renewable resources to meet energy requirements mainly coal, oil and natural gas

Mineral occurrences, exploration, and prospects

Unit III (3 hrs)

Renewable energy resources such as hydropower which also includes tidal power and ocean surface waves for power generation

Wind power, Geothermal power and Solar power

Unit IV (4 hrs)

Sustainable development

Urban planning, and

Environmental management

Unit V (4 hrs)

Understanding the resource ecology

Life-supporting capacity of resources

Economic models: Green building concept- green technology concept.

Text Books

1. **Chiras** D D**, Reganold** J P and **Owen** O S**. Natural resource Conservation: Management for a sustainable future.** Prentice Hall Publishers, **ISBN** 0-13-145832.

2. **Kesler** S E. **Mineral resources Economics and the Environment**. Prentice Hall Publishers (Pearson Education), **ISBN**: 0023628421.

3. **Gangstad** E O 1990. **Natural resource management of water and land**. Van Nostrand Reinhold. ISBN 0442004818, 9780442004811.

Reference Books:

1. **Simmons** I G 1995. **Earth, Air and Water: Resources and Environment in the Late 20th Century**. John Wiley & Sons Inc., ISBN 0470249706, 9780470249703.

2. National Research Council (U.S.). Committee on Selected Biological Problems in the Humid Tropics, 1982. **Ecological aspects of development in the humid tropics**. National Academy Press, ISBN 0309032350, 9780309032353.

3. *Shenk* T M *and Franklin* *A M* 2001**. Modeling in Natural Resource Management, Development, Interpretation and Application.** Island Press, 1-55963-739-0.

4. **Ayensu** E, **Heywood** V H, **Lucas** G L and **Defilipps** R A, 1984 **Our Green and Living World:The Wisdom to Save It.** Cambridge university press, ISBN 9780521268424.

5. **Blewitt** J. **Understanding Sustainable Development.** Earthscan Ltd., ISBN 1844074544.

6. **Prasad** U 2005. **Economic Geology : Economic Mineral Deposits**.2nd edition, CBS Publishers & Distributors, ISBN 8123904606, 9788123904603.

7. **Kula** E 1992. **Economics of Natural Resources and the Environment**. Chapman & Hall, London, ISBN 0-412-36330-5.

Ecology Lab.

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(Temporary Academic Block, Shahpur)

Course Code: ENV 418

Course Name: **Ecology Lab.**

Credits Equivalent: 2 Credits

Course Objectives: The course is designed to:

- Enable students to perform practical exercises related to Ecology and Environment.

- The students will acquire practical knowledge about the current environmental issues.

- The practical work will help students to develop analytical scientific temper.

Course Content

Based on course code ENV 401 (Introduction to Ecology)

Suggested Readings

- Odum E P 1996. Fundamentals of Ecology. Natraj Publishers, Dehradun, pp 574; ISBN: 81-85019-55-X.
- Veena 2009. Understanding Ecology. Discovery Publishing House Pvt. Ltd., pp 344; ISBN: 978-81-8356-456-4.
- Juneja, J 2009. Advances in Historical Ecology. Cyber Tech. Publications, pp 296; ISBN: 978-81-7884-417-6.

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Semester - III

Course Code: ENV – 517

Course Name: Earth System Science

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

1. Introduce the subject of Earth-System to students
2. Understanding the earth materials and their classification
3. Understanding the fundamental earth processes and their products
4. Interaction amongst different earth spheres
5. Evolution and Life forms of the geological time

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)

    a. Assignment/Quiz/Term Paper: 20%

    b. Presentation/Seminar/Field work: 20%

    c. Practical: 60%

Course contents

Unit I   **(4 hrs)**

Introduction to Geology,

       Some historical notes about geology

       Geology as Environment science

       Geological time scale

       Origin of earth

       A view of earth

Unit-II

       Dynamic earth   **(4 hrs)**

       Continental drift theories

       Plate tectonics and sea floor spreading.

       Plate boundaries

Unit-III   **(5 hrs)**

Igneous, metamorphic and sedimentary rocks

Their composition, formation, Texture, types,

Unit IV   **(4 hrs)**

Mountain building and the evolution of continents

Energy and mineral resouces

Unit V   **(3 hrs)**

Climate , ocean, ocean currents, tidal currents,

Evolution of life with geological time scale:

Text Books

- **Grotzinger** J. Understanding Earth. W H Freeman also McMillan, ISBN-13: 978-1-4292-1951-8.
- **Jacobson** M C, **Charlson** R J, **Rodhe** H, and **Orians** G H 2000. **Earth System Science**. San Diego, CA Academic Press, ISBN 0-12-379370-X.
- **Earth System**, 3rd Edition, Prentice Hall, ISBN-13: 978-0321597793.

Reference Books

1. **Skinner** B J, **Porter** S C, and **Park** J. **The Dynamic Earth: An Introduction to Physical Geology.** 5th Edition. John Wiley & Sons, Inc, ISBN: 978-0-471-15228-6.

2. **Windley** B F. **The Evolving Continents**. John Wiley & Sons, New York, ISBN 0783782772, 9780783782775.

3. **Huddart** D and **Stott** T. **Earth Environments: Past, Present and Future.** John Wiley & Sons, ISBN: 978-0-471-48532-2.

4. **Lawson** D and **Schubert** T G, 2002. **Geodynamics.** Cambridge University Press, ISBN 0521666244; 9780521666244

5. **Wyllie**, P J. **The dynamic earth: textbook in geosciences**. Volume 14, Wiley & Sons, ISBN 13: 9780471968894

6. **Srikantia** S V and **Bhargava** O N. **Geology of Himachal Pradesh**. Geological Society of India, ISBN 8185867321 (81-85867-32-1).

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Course Code: ENV531 (Dr. Deepak Pant)

Course Name: Toxicology Lab

Credit Equivalent: 2 Credits

The course is designed to introduce practical exposure:

1. about the identification of toxic waste;

2. management techniques for toxic waste.

Course content:

1. Experiment based on physical properties of toxic waste on the basis of vapour pressure, Vapour density and solubility.

2. Identification of toxic substances in food sample. It includes the identification of

> Acids,
>
> Aldehydes,
>
> Amines,
>
> Dioxins,
>
> Ethers,
>
> Cyanides

3. Toxicity issue related with

> Arsenic,
>
> Cadmium,
>
> Lead,
>
> Mercury,
>
> Carbon monoxide,

Prescribed Text Books:
1. Patnaik P., A Comprehensive Guide to the Hazardous Properties of Chemical Substances (III Ed.) John Wiley & Sons, Inc., Hoboken, New Jersey
2. Moffatt H K and Shuckburgh, Environmental Hazards, Imperial College Press.(ISBN 978-981-4313-28-5)

Suggested Additional Readings:

1. Batty LC and Hallberg K B, Ecology of Industrial Pollution , Cambridge University press, New Delhi.
2. Oloman C, Material and Energy Balance for Engineers and Environmentalist, Imperial College Press.(ISBN 978-1-84816-368-3).
3. Yen T F, Chemical Processes for Environmental Engineering, Imperial College Press.(ISBN 978-1-86094-759-9).
4. Madu C N, Environmental Planning and management, Imperial College Press.(ISBN 978-1-86094-671-4).
5. Healtth Hazards of Environmental Arsenic Poisoning, Imperial College Press.(ISBN 978-981-4291-81-1).

Environmental Geochemistry

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Course Code: ENV – 525

Environmental Geochemistry

Credit Equivalent: 2 Credits (1 Credit is equivalent to 10 hours of theory (Classroom activity) and 5 hours of practical (Laboratory work).

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Introduce the students to basics of Geochemistry
- Students will be familiarized with natural systems
- Students will also be exposed to functions of natural system with little emphasis on anthropogenic effects
- Students will learn about interactions between anthropogenic activities and their impact on human life

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%

> (Depending upon the nature of the course, a teacher shall specify the breakup of each criterion into different components like written examination, assignment, field study, seminar/ presentation, class participation, problem solving exercises, practicals etc.)

Course Contents

Unit-I   Fundamentals of Geochemistry   (**2 hrs**)

1. Atomic properties of elements, the periodic table and geochemical classification of elements

2. Abundance of elements in the bulk earth and different spheres of earth

Unit-2   Thermodynamics and kinetics   (**4 hrs**)

1. The laws of thermodynamics and classification of elements into major and trace elements

2. Minerals and Partitioning of elements during mineral formation

Unit-3   Acid-Base Equilibria   (**4 hrs**)

1. Definition of Acids and Bases

2. The Dissociation of water and pH

3. Oxidation and reduction processes

Unit-4   Isotopes and Environmental Mineralogy   (**6 hrs**)

 1. Basic Principals

2. Radioactive decay and Growth

3. Radioactive Isotopes used in Environmental Studies

4. Basic Mineralogy

5. Basic Silicate Structures

6. Clay and Clay mineral structures

Unit-5   Continental and Marine Environment   (**4 hrs**)

1. Dissolution and precipitation

2. Geochemistry of surface and ground water

3. Ocean water composition and processes controlling it

Prescribed Text Books:

1. Eby G. Nelson (2004). Principals of Environmental Geochemistry**; Brooks/Cole, Thomson Learning Inc; ISBN 0-12-229061-5**

2. Mason Brain (1966). Principles of Geochemistry**; John Wiley & Sons Inc; 3rd edition; ISBN 13:** 978-0471575214

Reference Books

1. Faure G. (1998). Principles and applications of Geochemistry**. Prentice Hall; ISBN** 0023364505, 9780023364501

2. Langmuir D. (1997). Aqueous Environmental Geochemistry**. Prentice-Hall; ISBN-13:** 978-0023674129

Biodiversity and Wildlife Management

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Course Code: ENV 408

Course Name: Biodiversity and Wildlife Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Enable students to understand the role of biodiversity in ecosystem functioning.
- The students will acquire knowledge about various threats posed to biodiversity in the current scenario.
- The students will have analysis of different strategies required for the conservation of biodiversity.
- Wildlife being a natural resource and the one with which man has been ever interacting; the students will get themselves equipped with updated knowledge of current management practices used for wildlife management.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%

    d. Assignment: 10%

    e. Class Test: 5%

    f. Presentation: 10%

Course Contents:

Unit (I):   Introduction To Biodiversty   **(3 hrs)**

  Species, genetic and ecosystem diversity.

Unit (II): Biodiversty Magnitude And Distribution   **(5 hrs)**

  Biodiversity and ecosystem function, methods for biodiversity monitoring, documentation of biodiversity; Biodiversity Hot spots- concepts, distribution and importance; Biodiversity prospecting.

Unit (III): Threats To Biodiversty   **(4 hrs)**

  Threats to biodiversity: Natural and anthropogenic, species extinctions, IUCN threat categories, Red data book, Invasions- causes and effect.

Unit (IV): Wildlife and Its Management   **(5 hrs)**

  Significance of wildlife; important wildlife species in different sub regions of India; Endangered Plant species of Himalayas; causes of wildlife resource depletion in India; Important National Parks, Wildlife Sanctuaries and Biosphere reserves   in India.

Unit (V): Conservation of Biodiversty   **(3 hrs)**

   Principles and strategies; in-situ and ex-situ conservation, protected Area Network.

Textbooks Recommended

1. Ecological Diversity and its measurements – Anne E. Magurran, 2003. Blackwell Publications.

2. Global Biodiversity Assessment: WRI, IUCN & UNEP- Huntley, B. 1995., Cambridge University Press

3. Ecology, Environment & Resource Conservation- J.S. Singh, S.P. Singh and S. R. Gupta, 2008

4. Wildlife Biology: R. F. Dasman (1982), Pub. Wiley Eastern Lrd NDL.

5. Wildlife Management Techniques: R. H. Giles (ed.) (1980), Pub. Natural Publ. Dehradun.

6. Environment Concerns and Strategies: T. N. Khushoo, Ashish Pub. House, NDL.

7. Ecology and Quality of Environment: C. H. Southwick Dnon Nastrand (1976), New York.

Reference Books

1. **Agarwal, K.C. 1998.** Biodiversity. Agro Botanica, Bikaner. PP. 150.

2. **Agarwal, S.K. et.al. 1996**. Biodiversity and Environment. A.P.H. Publishing Corporation. PP.351.   ISBN: 81-7024-740-3.

3. **Biswas, S. 2007.** Biodiversity Conservation (A genetic approach). Oxford Book Company. PP. 347. ISBN : 81-89473-01-8.

4. **Chakraborty, S. 2004.** Biodiversity. Pointer Publishers. PP. 136. ISBN: 81-7132-384-7.

5. **Chaudhari, A.B. and Sarkar, D.D. 2002.** Biodiversity Endangered (India's threatened wildlife and medicinal plants). Scientific Publishers, Jodhpur, India. PP. 359. ISBN: 81-7233-312-9.

6. **Dhyani, S.N. 1994.** Wildlife Management. Rawat Publications, Jaipur (Raj.). PP. 258. ISBN: 81-7033-242-5.

7. **Ildos, A.S. and Bardelli, G.G**. The Great National Parks of the World. Om Book Service, New Delhi. PP.320. ISBN: 81-87107-06-5.

Environmental Engineering

Course Code: ENV – 537

Course Name: Environmental Engineering

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Vision

Environmental engineering encompasses the scientific assessment and development of engineering solutions to environmental problems affecting land, water, and air (the biosphere). The field embraces broad environmental concerns, including the safety of drinking water, groundwater protection and remediation, wastewater treatment, indoor and outdoor air pollution, solid and hazardous waste disposal, cleanup of contaminated sites, the prevention of pollution through product and process design, and strategies for sustainable water and energy use and production.

Objectives

An Introduction to Mass and energy transfer concepts applied to major environmental issues: safe drinking water, surface water quality, ambient air quality, global atmosphere, managing solid and hazardous wastes.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 percent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

Mid-term Examination: 25%

End-term Examination: 50%

Continuous Internal Assessment: 25%

Course Contents

Unit-I: Mass and Energy Transfer (4 hrs)

- Concentrations and other units of measure
- Material Balance
- Thermodynamics
- Chemical Equilibrium

Unit-II: Air, Water and Their Impurities (4 hrs)

- Air and the Atmosphere
- Water and the Hydrosphere
- Water Pollutants
- Air Pollutants

Unit-III: Air Quality Engineering (4 hrs)

- Air Pollutant Emissions and Controls
  - ✓ Pollutant generation by combustion
  - ✓ Motor vehicle emissions
- Treatment Technologies
  - ✓ Particle control devices
  - ✓ Absorption for gaseous pollutant

Unit-IV: Water Quality Engineering (4 hrs)

- Water Quality Regulations and Treatment Systems
- Physical Treatment Methods
- Chemical and Physicochemical Treatment Methods
- Biological Waste Water Treatment

Unit-V: Global Climate Change and Geo-engineering (4 hrs)

- Green House Effect, Radiative Forcing, Global warming Potential
- Global Energy Balance, Global Warming
- Climate Change
- Mitigation Strategies, Geo-engineering

Text Books:

1. **Gilbert M. Masters, Wendell P. Ela** (2008): Introduction to Environmental Engineering and Science, **PHI Learning,** ISBN: 978-8120336919

2. **William W Nazaroff, Lisa Alvarez-Cohen** (2001): Environmental Engineering Science, **Wiley,** ISBN: 978-8126524501

3. **P. Venugopala Rao** (2004): Textbook of Environmental Engineering, **Phi Learning**, ISBN: 978-8120319301

Additional Readings:

1. **David A. Cornwell, Mackenzie L. Davis** (2010): Introduction to Environmental Engineering, **Tata McGraw-Hill Education,** ISBN: 978-0070671171

2. **Gerard Kiely** (1997): Environmental Engineering, **Tata McGraw-Hill Education,** ISBN: 978-0070634299

3. **Arcadio P. Sincero, Gregoria A. Sincero** (2002): Environmental Engineering, **Phi Learning,** ISBN: 978-8120314740

4. **K. N. Duggal** (2008): Elements of Environmental Engineering, **S. Chand Publishing,** ISBN: 978-8121915472

5. **N. Basak** (2003): Environmental Engineering **Tata Mcgraw Hill Education,** ISBN: 978-0070494633

Energy and Environment

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Course Code: ENV 404

Course Name: **Energy and Environment**

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Vision & Objectives: Energy plays a dominant role in our modem industrial society. Rapid growth of energy consumption has had a noticeable impact on our standard of living as well as on our environment. A clear understanding of the many complex issues involved in energy extraction, conversion, and consumption must now be viewed as essential for the moderm educated person. Such an understanding cannot be limited to scientists and engineers. As consumers of energy, as citizens involved in making decisions related to energy and its effects on the environment, as economists, as journalists, and as politicians formulating public policy, we must have knowledge of the issues related to energy and the environment.

The proposed course will address the issues of sources of renewable and non-renewable energy, air pollution and other environmental effects related to energy extraction.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 percent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

Mid-term Examination: 25%

End-term Examination: 50%

Continuous Internal Assessment: 25%

Course Contents:

Unit –I: Energy Need and Fundamental Source of Energy   (**4 hrs**)

- Growing energy need, Energy use pattern and future need projection in different parts of the world and its impact on the environment.

- Sun as source of energy and nature of its radiation

- Heat budget of the Earth
- Photosynthesis, Flow of Energy in an Ecosystem

Unit –II: Energy resources and their exploitation   (2 hrs)

- Conventional and non-conventional energy sources
- Renewable and Non-renewable energy resources

Unit – III: Non-renewable Energy Resources   (3 hrs)

- Fossil fuels classification, composition.
- Physico-chemical characteristics and energy content of fossil fuels-coal, petroleum oil and nature gas
- Nuclear Energy: Nuclear-fission and fusion

Unit – IV: Renewable Energy Resources   (7 hrs)

- Hydroelectric power
- Solar Energy: Solar collectors, Photovoltaic Cells, Solar ponds
- Wind Energy
- Geothermal Energy
- Tidal Energy
- Energy from biomass and biogas
- Magnetohydrodynamic power (MHD)

Unit –V: Environmental Impacts of Energy Generation   (4 hrs)

- CO_2 emission in atmosphere, air, thermal pollution,
- Radioactivity from nuclear reactors,
- Fuel processing and radioactive waste
- Hazards related to hydropower

Text Books:

1. Roger A. Hinrichs, Merlin H. Kleinbach (2012), Energy: Its Use and the Environment [Paperback], International Edition of 5th Revised Edition, Thomson Brooks, ISBN-13: 978-1111990831

2. Robert A. Ristinen, Jack P. Kraushaar (2005), Energy and the Environment, 2nd Edition (Paperback), John Wiley & Sons, ISBN-13: 978-0471739890

3. Peter E. Hodgson (2010), Energy, the Environment and Climate Change (Hardcover), Imperial College Press, ISBN-13: 978-1848164154

Nano-techniques and Environment

Course Code: ENV 528

Course Name: **Nano-techniques and Environment**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- This course will cover fundamental principles of nanotechnology as well as its implications and applications for the environment.

- This course will be taught in an interactive, active-learning fashion, and it will be based on the textbook and primary literature in environmental nanotechnology.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

- Mid Term Examination: 25%

- End Term Examination: 50%

- Continuous Internal Assessment : 25% (Breakup is following)

   a.   Assignment/Quiz/Term Paper: 20%

   b. Presentation/Seminar/Field work: 20%

   c. Practical: 60%

Course Contents:

Unit I   **(4 hrs)**

INTRODUCTION: Background of nanotechnology, particle size and surface area, quantum dot. Converging science and technology, nanotechnology as a tool for sustainability, health, safety and environmental issues.

Unit II   **(4 hrs)**

SYNTHESIS AND FABRICATION OF NANOMATERIALS: Classes of nanomaterials, Surface physical-chemical properties, Gold and silver nano particles, microbial synthesis of gold nano structure.

Unit III   **(4 hrs)**

CHARACTERISATION OF NANOMATERIALS: AFM, STM, SEM, TEM, XRD, UV-DRS, of nanomaterials for structural & chemical nature.

Unit IV   **(4 hrs)**

ENVIRONMENTAL IMPACTS OF NANOMATERIALS: Toxic Impacts of Nanomaterials, Exposure and risk assessment, Dose-response, Mechanisms of toxicity.

Unit V   **(4 hrs)**

ENVIRONMENTAL APPLICATIONS: Environmental remediation, Nanomaterials for ground water and wastewater treatment, Adsorbents and Antimicrobial Nanomaterial, Disinfection and membrane process.

Suggested Readings:

1. Environmental Nanotechnology: Applications and Impacts of Nanomaterials. Mark R. Wiesner, Jean-Yves Bottero (editors). McGraw-Hill, New York, ©2007.

2. Environmental Applications of Nanomaterial-Synthesis, Sorbents and Sensors, edited by Glen E Fryxell and Guozhong Cao, worldscibooks, UK
3. The Chemistry of Nanomaterials, Sysnthesis, Properties and applications. Edited by C.N.R.Rao.

4. Handbook of Nanotechnology, Edi-Bharat Bhushan, Springer, 2004
5. Nanotechnology Applications for Clean Water. Mamadou Diallo, Jeremiah Duncan, Nora Savage, Anita Street, and Richard Sustich (Editors). ISBN: 978-0-8155-1578-4. William Andrew ©2008.

6. Environmental and Human Health Impacts of Nanotechnology. Jamie Lead & Emma Smith. ISBN: 978-1-4051-7634-7. John Wiley & Sons ©2009.

7. Nanobiotechnology: Concepts, Applications and Perspectives. Christof M. Niemeyer & Chad A. Mirkin (Editors). ISBN: 978-3-527-30658-9. John Wiley & Sons ©2004.

Environmental Pollution and Human Health

Course Code: ENV 501

Course Name: Environmental Pollution and Human Health

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to know kinds and causes of Environmental pollution in twenty first century.
- The students will acquire knowledge of of adverse effects of pollution on Human Health.
- Explore the concepts related to monitoring and assessment of Environmental pollution and Human Health.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

- Mid Term Examination: 25%
- End Term Examination: 50%
- Continuous Internal Assessment : 25% (Breakup is following)
  b. Assignment/Quiz/Term Paper: 20%
  b. Presentation/Seminar/Field work: 20%
  c. Practical: 60%

Course Contents:

Unit I (4 hrs)

Radiation and Human Health, different sources of exposure of Radiation to human beings, Impacts of Radiation on Human Health.

Unit II (4 hrs)

Thermal Pollution and Human Heath, Magnitude of Thermal Pollution in India, Coal based and Gas based thermal pollution.

Unit III (4 hrs)

Noise Pollution Sources and Magnitude, Noise Standards, Biomedical aspects of
Noise Pollution

Unit IV (4 hrs)

Air Pollution and Human Health, Types of Air Pollutants, Sources of emissions of Air Pollutants and impacts on Human Health

Unit V (4 hrs)

Water Pollution and Human Health, Types and Sources of Water Pollution, Water Pollution Standards, Water related and Water based diseases.

TEXTBOOKS

1. Mahajan, S.P. Pollution Control in Process industries.Tata Mc Graw Hill Pub. Co Ltd. New Delhi.
2. Rao, C.S. 2009. Environmental Pollution Control Engineering. Wiley Eastern Ltd., New Delhi

Reference Books

1. BATES, D.V. 1980.The health effects of Pollution. J Respire. Dis. 1 : 29-37
2. Benitez, J.1993.Process Engineering and Design for Air Pollution Control.Prentice Hall. New Jersy, USA
3. De Gruigle, F.R. 1997.Health Effects from solar UV mediations.Radiation Protection Dosimetry. 72:177-196.
4. Gamble, J.F. and Lewis, R.J.1996. Health and Respirable Particulate, air Pollution a casual or statistical association. Env. Health Perspective. 104:838-850.

Applications of Remote Sensing and GIS

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हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

PO Box no. 21, Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

(Temporary Academic Block, Shahpur)
</div>

Course Code: ENV 425 (Dr. Anurag Linda)

Course Name: Applications of Remote Sensing and GIS

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

1. Introduce students to the fundamental of Remote Sensing and Geographical Information System (GIS), their various components and how these tools can be used for environmental studies.
2. Introduce the use of GIS for natural resource management and conservation.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
   g.   Assignment/Quiz/Term Paper: 20%
   h.   Presentation/Seminar/Field work: 20%
   i.   Practical: 60%

Course Contents:

Unit I   **(4 hrs)**

Fundamentals: Basics physics of remote sensing (optical, thermal and microwaves) Electromagnetic Radiations, EMR spectrum, Atmospheric Windows, Physics of Remote Sensing, Spectral Signatures, Spectral Response pattern of soil, Vegetation & water. Active & passive sensors.

Unit II   **(4 hrs)**

Image Analysis: Visual interpretation, Digital processing, Preprocessing, Enhancement, Transformations, Classification, Integration

Unit III   **(4 hrs)**

Data analysis & ground Truth collection, Satellite: IRS and other satellites. Fundamentals of Image Interpretation Techniques, Image formation , Characterictis of Aerial photography and acquiation of aerial photographic data

Unit IV   **(4 hrs)**

Elements of GIS: Basic Concepts about Spatial Information, Manual vs Automated GIS, Data Structure: Raster and Vector Formats, TIN, DEM, Data Models. Various Structures and Data Formats. Data Input: Digitization and Scanning Methods.

Unit V   **(4 hrs)**

Spatial Data Analysis: Data Manipulation techniques, Overlay Operations, Buffers, GIS and Remote Sensing Integration. Introduction to GPS. Application of Remote Sensing and GIS techniques in environmental monitoring.

Suggested Readings:
1. Essentials of GPS – N.K.Agarwal, Spatial Network Pvt.
2. Geographical Information Systems-Stan Aronoff,WDL Publ.
3. Remote Sensing & Image Interpretation. Lillesand & Keifer.John Wiley & Sons.
4. Introduction to Remote Sensing –James B.Campbell – Taylor & Francis
5. Remote Sensing of the Environment: J.R.Jensen. Pearsons education Pub.
6. Fundamental of Remote Sensing: George Joseph, University Press, India

Green Technologies and Market

Course Code: ENV 534

Course Name: **Green Technologies and Market**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce green concepts for reducing environmental degradation
- Make students aware of different environmental friendly technologies that will help the nation to prosper both socio – economically in a sustainable way.
- Explore market prospect for environmental friendly products

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25% (Breakup is following)
   a. Assignment/Quiz/Term Paper: 20%
   b. Presentation/Seminar/Field work: 20%
   c. Practical: 60%

Course Contents:

Unit I   **(4 hrs)**

Introduction: Background, Green Technology Initiative, Strengths for adopting Green Technology, Challenges for Green Technology Adoptions, Public Incentives and Market Drivers for Green Technology

Unit II   **(4 hrs)**

Different Sectors of Green Technology and Market: Agriculture, Organic Agriculture, Energy Efficient Irrigation Systems; Energy: Wind Power, Solar Energy, Biomass, Geothermal, Fuel Cells, Energy Storage, Smart Grids

Unit III   **(4 hrs)**

Water and waste management: Recycling Technology, Sewage treatment and solid waste management, Water purification,

Unit IV   **(4 hrs)**

Transportation: Rail Transport, Electric Vehicle, Efficient Diesel/ Petrol Engines

Unit V   **(4 hrs)**

Green Buildings: Sustainable building material, Green Building Standards and Practices.

Suggested Readings:

1. **John Coad,** (2011): Green Technology, **Raintree**, ISBN: 9781410942814.
2. **Sage Publications,** (2011): Green Technology: An A-To-Z Guide, The Sage Reference Series on Green Society: Toward a Sustainable Future, ISBN: 9781412996921.
3. **Alexis Madrigal,** (2011): Powering the Dream: The History and Promise of Green Technology, **Da Capo Press**, ISBN: 9780306818851.
4. **Springer** 2011: Green It: Technologies and Applications, ISBN: 9783642221781.

School of Humanities & Languages

Department of English & European Languages

School of Humanities & Languages
Name of the Department: Department of English & European Languages
Name of the Programme of Study: MA (English Language & Literature)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	EEL401	History of English Language	2	NA	Dr. KBS Krishna
2.	EEL402	History of English Literature	4	NA	Hem Raj Bansal
3.	EEL404	Renaissance	4	NA	Dr. Khem Raj Sharma
4.	EEL406	Neoclassicism	4	NA	Shaweta nanda

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	EEL409	Immigrant and Diasporic Writing	2	NA	Hem Raj Bansal
2.	EEL417	Writings from the Margins	2	NA	Shaweta Nanda
3.	EEL502	Victorianism	4	NA	Dr. KBS Krishna
4.	EEL503	Modernism	4	NA	Dr. Khem Raj Sharma
5.	EEL511	Modern Literary Theory	4	NA	Dr. Roshan Lal Sharma

University Wide Courses

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Full Name of the Teacher
1.	EEL 414	Advanced Oral Communication Skills in English	2	NA	Dr. Khem Raj Sharma Hem Raj Sharma Shaweta Nanda Dr. KBS Krishna

History of English Language

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www.cuhimachal.ac.in

Course Code: EEL 401

Course Name: History of English Language

Credits Equivalent: 02 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to

- Study the growth and development of English Language from Anglo-Saxon roots to its present status as the world's dominant language.
- Explore the cultural events and linguistic forces that influenced these changes to make English as a world of Language.

Attendance Requirements:

Students are expected to attend all lectures in order to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Contents:

Unit – I: The English Language   **(3 Hours)**

- The Origins and History of English
- Modern English compared to Earlier English and Other Languages, External and Internal Change
- Old English Spelling, Sounds and Grammar

Unit – II: From Pre-historic to Old English (450-1150)   **(3 Hours)**

- The Old English Sounds, Grammar, Dialects, Lexicon, Morphology and Syntax
- Change in Sound, Morphology and Syntax from Indo-European to Germanic English

Unit – III: From Old to Middle English (1150-1500)   **(5 Hours)**

- Celtic Loans
- Latin Loans
- Scandinavian Influence
- French Influence
- Middle English Sounds, Morphology, Syntax, Word Formation, and Dialects.

Unit – IV: Early Modern (1500-1700) to Present/Modern English (1700 to present)

                                                (4 Hours)

- Early Modern English Spelling and Sounds, Morphology, Syntax, Lexicon
- Modern English Spelling and Sounds, Morphology, Syntax, Lexicon
- Attitudes towards Linguistics Differences

Unit – V: English around the World   **(5 Hours)**

- External History and Sources
- Spelling and Sounds, Grammar
- The Lexicons of the World Englishes
- English-influenced the Pidgins and Creoles
- Consequences of the Spread of English.

Prescribed Text Books:

1. Baugh, Albert C. and Thomas Cable (2003). *A History of the English Language*. Routledge, London.
2. Gelderen, Elly van (2006). *A History of the English Language.* John Benjamins Publishing Company, Amsterdam / Philadelphia.

Suggested Extra Readings:

1. Barber, Charles (2000). *The English Language: A Historical Introduction*. Cambridge University Press.
2. Cable, Thomas (2002). *A Companion to Baugh and Cable's History of the English Language*. Prentice Hall, New Jersey.
3. Fitzmaurice, Susan M. and Donka Minkova (2008).Studies *in the History of the English Language IV: Empirical and Analytical Advances in the Study of English Language Change.* Mouton de Gruyter, London/ New York.

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Course Code: EEL 402

Course Name: History of English Literature

Credits Equivalent: 04 credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective:

Making the student aware about:

- the evolution of English literary writings from the times of Chaucer onwards (in a chronological sequence);
- development of genres;
- representation of historical moments; and
- language variation and style.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   iv.   Assignment: 10%
   v.   Class participation: 10%
   vi.   Group discussion: 5%

Course Contents:

UNIT-1 English Literature in the Making   **(9 Hours)**
- Middle English Literature
- Age of Chaucer
- The English Renaissance
- Elizabethan Literature: Shakespeare, University Wits

UNIT-2 Jacobean to Restoration   **(6 Hours)**
- The Restoration
- Metaphysical Poets
- Puritan Interregnum

UNIT-3 Augustan Age- 18th century literature   **(7 Hours)**
- Augustan Age
- Emergence of Sensibility
- Periodical Literature
- Rise of the Novel

UNIT-4 Romantic & Victorian Period   **(8 Hours)**
- French Revolution
- The Romantics
- The Victorian Age
- The Triumph of the Novel

UNIT-5 Modern & Postmodern Period   **(10 Hours)**
- The Twentieth Century
- Post - World War Literature
- Modernism
- Postmodernism
- Internationalization

Prescribed Text Books:

1. Compton–Rickett**,** Arthur (2009). *History of English Literature.* UBS Publishers, New Delhi.
2. Alexander, Michael (2000). *A History of English Literature*. Macmillan, London.

Suggested Extra Readings:

1. Daiches, David (2003). *A Critical History of English Literature*,(vol.I& II).Supernova Publication, New Delhi.
2. Sanders, Andrew (2004).*The Short Oxford History of English Literature*. Oxford University Press, London.

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Course Code: EEL 404

Course Name: Renaissance

Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to:

- understanding the spirit of renaissance with reference to the cross fertilization of ideas;
- understanding the birth of the new world reflected especially in the humanistic tradition of thought and literary expression.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Contents:

UNIT – I: John Donne (Metaphysical Poetry)   **(8 Hours)**

- Introduction: Author, Genre (Poetry)
- The Cannonisation
- The Sun Rising
- The Ecstasy
- The Flea
- A Valediction: Forbidding Mourning
- Critical Analysis/Interpretation

UNIT – II: John Milton (*Paradise Lost- Book 1*)   **(8 Hours)**

- Introduction: Author, Genre (Epic)
- The Text
- Critical Analysis/Interpretation

UNIT – III: Christopher Marlowe (*The Tragic History of Dr. Faustus*)   **(8 Hours)**

- Introduction: Author, Genre (Play)
- The Text
- Critical Analysis/Interpretation

Unit – IV: Essays by Francis Bacon   **(8 Hours)**

- Introduction: Author, Genre (Essays)
- Of Truth
- Of Wisdom for a Man's Self
- Of Discourse
- Of Studies
- Of Honour and Reputation
- Of Ambition
- Critical Analysis/Interpretation

Unit – V: Sir Thomas More's *Utopia* (Novel)   **(8 Hours)**
- Introduction: Author, Genre (Fiction)
- The Text
- Critical Analysis/Interpretation

Prescribed Text Books:

1. Bacon, Francis (2009). *Essays*. J. M. Dent, University of Virginia.
2. Chambers, E.K. (1989). *Poems of John Donne*. Lawrence & Bullen, London.
3. Marlowe, Christopher (2009). *The Tragic History of Dr. Faustus*. Dover Publications, New York.
4. Milton, John (2004). *Paradise Lost-Book I*. UBS publishers, New Delhi.
5. More, Thomas (1996). *Utopia*. The Harvard Classics, New York.

Suggested Reading:

1. Bowen, Catherine Drinker, D. Balestra and Dominic J. Balestra (1993). *Francis Bacon: The Temper of a Man.* Fordham University Press, New York.
2. Guibbory, Achsah ed. (2006). *The Cambridge Companion to John Donne*. Cambridge University Press, UK.
3. Hopkins, Lisa (2008). *Christopher Marlowe, Renaissance Dramatist.* Edinburg University Press, Edinburg.
4. Keenan, Siobhan (2008). *Renaissance Literature*. Edinburg University Press, Edinburg.
5. Milton, John, Fay Weldon, and Christopher Ricks (2010). *Paradise Lost & Paradise Regained.* Signet Classics, USA.
6. Roper, William (2012). *The Life of Sir Thomas More*. Hardpress Publishing, New York.

Neo-Classicism

Course Code: EEL 406

Course Name: Neo-Classicism

Credit Equivalents: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to:

Understand the major traits of Neo-classicism with emphasis on rationalistic thought, moralistic tone and tenor of life, and refinement of expression.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid -Term Examination: 25%
2. End -Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Content:

UNIT – I: Introduction   (**4 Hours)**

Introduction to the Neoclassical Age
.Social, political, intellectual and literary background of the Age .
Important authors, genres and literary themes and issues

UNIT – II: Mock Epic

Alexander Pope: *The Rape of the Lock* (1712)   **(11 Hours)**

- Introduction: Author, Genre (Mock Epic) (1 lec)
- The Text: Alexander Pope's *The Rape of the Lock (* 8 lec)
- Critical Analysis/Interpretation(2 lec)

UNIT – III: Ballad Opera   **(11 Hours)**

John Gay: *The Beggar's Opera* (1728)

- Introduction: Author, Genre (Ballad Opera) (1 lec)
- The Text: *The Beggar's Opera* (1728) (8 lec)
- Critical Analysis/Interpretation (2 lec)

UNIT – IV: Poetry   (**6 Hours)**

a) Dr. Samuel Johnson: "The Vanity of Human Wishes: The Tenth Satire of Juvenal Imitated " (1749) (Satire**)**

- Introduction: Author, Genre (Poetry, Satire) (1 lec)
- The Text : Dr. Samuel Johnson's "The Vanity of Human Wishes: The Tenth Satire of Juvenal Imitated " (1749) (4 lec)
- Critical Analysis/Interpretation (1 lec)

Unit – V: Prose Readings   **(8 Hours)**

   a) Mary Astell: Selections from "Some Reflections on Marriage" (1700) (Pamphlet)
   b) John Dryden: "A Discourse Concerning Original and Progress of Satire"(Criticism)
   c) Joseph Addison and Richard Steele: "The Aims of The Spectator," from *The Spectator* (1711) (Periodical Essay)
   d) Jonathan Swift- "A Modest Proposal for Preventing the Children of Poor People From Being a Burden to Their Parents or Country, and for Making Them Beneficial to the Publick" (1729) (Satirical essay, Pamphlet)

- Introduction: Author, Genre, Intellectual Context
- The Text
- Critical Analysis/Interpretation

Prescribed Text Book:

- Abrams, M. H. ed. (2000). *The Norton Anthology of English Literature.* 7th ed. New York, London: W. W. Norton & Company.

Suggested Readings:

- Carter, Ronald and John McRae. (2001). The Routledge History of Literature in English: Britain and Ireland. New York: Routledge.
- Hopkins, David (1986). *John Dryden*. Cambridge: Cambridge.
- Broich, Ulrich (1990). *The Eighteenth Century Mock-Heroic Poem*. Cambridge: Cambridge.
- Clingham, Greg (1999). *The Cambridge Companion to Samuel Johnson*. Cambridge: Cambridge.

Immigrant and Diasporic Writings

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Course Code: EEL 409

Course Name: Immigrant and Diasporic Writings

Credits Equivalent: 02 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to defining and differentiating the concept of:

- immigrant- imigree, the diasporic and the expatriate with reference to individual and collective histories;
- imagined and actual journeys, home and homelessness, and reconstruction of time and space.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Contents:

UNIT – I: Introduction (2 Hours)

- Concept of Diaspora
- Indian Diaspora
- World Diaspora

UNIT – II: Jhumpa Lahiri: Unaccustomed Earth (5 Hours)

- Introduction: The Author, The Novel
- The Text
- Critical Analysis/Interpretation

UNIT – III: Dalai Lama: Freedom in Exile (5 Hours)

- Introduction: The Author, The Biography
- The Text
- Critical Analysis/Interpretation

UNIT – IV: Derek Walcott: Poems (5 Hours)

- Introduction: The Poet, The Poems
- A City's Death By Fire
- The Sea is History
- The Star- Apple Kingdom
- Love After Love
- Critical Analysis/Interpretation

UNIT – V: The Making, Development and Unmaking of Diaspora (3 Hours)
- Proliferation of Incipient Diasporas
- Impact of Globalization
- Migrants as Social Actors

Prescribed Text Books:

1. Lahiri, Jhumpa (2008).*Unaccustomed Earth*. Random House, Noida.
2. Lama, Dalai (2009). *Freedom in Exile.* Abacus, London.
3. Walcott, Derek (1986). *Collected Poems (1948-1984)*. Faber and Faber, London.
4. Cohen, Robin (2008).*Global Diasporas: An Introduction*. Routledge, London.
5. Sheffer, Gabriel (2003).*Diaspora Politics At Home Abroad.* Cambridge, UK.

Suggested Reading:

1. Said, Edward W. (2001). *Reflections on Exile and Other Literary and Cultural Essays.* Penguin, New Delhi.
2. Ashcroft, Bill (2005). *The Empire Writes Back.* Routledge, Chennai.

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Course Code: EEL 417
Course Name: Writings from the Margins

Credit Equivalents: 02 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid -Term Examination: 25%
2. End -Term Examination: 50%
3. Continuous Internal Assessment: 25%
- Library Work Assignment: 5%
- Subjective Assignment: 10%
- Group Discussion: 5%
- Presentations: 5%

Credits Equivalent: 02 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course has been designed to:

Understand the idea of the margin and the marginalized as a historically constructed identity, varieties of marginal representations, variations in language, image making and representation, rise of new literary culture and rejection of the canon.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Content:

UNIT – I: Introduction   **(2 Hours)**

       a) What constitutes voices from the margins?

       b) Why study literatures from the margins?

       c) Social, political, intellectual and literary background

UNIT – II: Novel

Alice Walker: *The Colour Purple* (1982)   **(7 Hours)**

- Introduction: Author, Genre (Novel)
- The Text: *The Colour Purple*(1982)
- Critical Analysis/Interpretation

UNIT – III: Autobiography   **(7 Hours)**

Bama: *Karukku* (1992)

- Introduction: Author, Genre (Autobiography)
- The Text: *Karukku*
- Critical Analysis/Interpretation

UNIT – IV: Poetry   **(2 Hours)**

a)Adrienne Rich : two poems from *Twenty One Love Poems* (   )

- Introduction: Author, Genre (Poetry)
- The Text
- Critical Analysis/Interpretation

Unit – V: Prose Readings   **(2 Hours)**

- e)   bell hooks : *Aint I a Woman.* "Introduction" (pages1-13)   **(1Hour)**
- f)   Adrienne Rich: Selections from "Lesbian Continuum"   **(1Hour)**

- Introduction: Author, Intellectual context
- The Text
- Critical Analysis/Interpretation

Prescribed Text Books:

1. Walker, Alice. *The Colour Purple.* New York: Harvest Books, 1982.
2. Bama. *Karukku.* New Delhi: Oxford India, 1992.
3. Gelpi, Barbara Charlesworth and Albert Gelpi (ed). *Adrienne Rich's Poetry and Prose*. New York: W. W. Norton & Company, 1993.
4. Hooks,bell. Ain' t I a Woman: Black Women and Feminism. South End Press, 1992.

Suggested Reading:

1. Gates, Henry Loius (ed). *Reading Black, Reading Feminist: A Critical Anthology.* New York: Penguin, 1990.
2. Bloom, Harold. *Modern Critical Interpretations: Alice Walker's The Colour Purple.* New York: Chelsa, 2000.
3. Mukherjee, Alok (trans.). Sharan Kumar Limbale: Towards an Aesthetic of Dalit Literature: History, Controversies and Considerations. Mumbai : Orient Longman,2004
4. Foucault, Michel. The *History of Sexuality, Volume 1(*trans. Robert Hurley). New York: Vintage, 1990.

Victorianism

Course Code: EEL 502

Course Name: Victorianism

Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to understand the development of thought, conflict between religion and science, rising Industrialism and the new social equation

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Contents

UNIT – I: Introduction to the Age   (2 hours)

- Meaning of Victorianism
- Characteristics of Victorianism

UNIT – II: Poetry of the Period   (10 hours)

- Alfred Tennyson – 'Lotos Eaters', 'Ulysses'

- Robert Browning – 'My Last Duchess', 'The Last Ride Together'
- Matthew Arnold – 'The Scholar Gipsy', 'Dover Beach'

UNIT – III: Thomas Hardy: *Tess of the d'Urbervilles* (10 hours)

- Introduction: Author
- The Text
- Critical Analysis/Interpretation

UNIT – IV: Selections (8 hours)

- Charles Darwin – 'Natural Selection and Sexual Selection' (from *The Descent of Man*)
- Walter Pater – 'Preface' (from *The Renaissance: Studies in Art and Poetry*)
- Florence Nightingale – 'Nothing to Do' (from *Cassandra*)
- Thomas Henry Huxley – 'The Values of Education in the Sciences' (from *Science and Culture*)

UNIT – V: Charles Dickens: *Hard Times* (10 hours)

- Introduction: Author
- The Text
- Critical Analysis/Interpretation

Prescribed Reading

1. Abrams, M.H. ed. (1993). *The Norton Anthology of English Literature* 6th edn. Vol. 2 W.W. Norton & Company, New York.
2. Buckley, Jerome H. (1997). *Poetry of the Victorian Period.* Longman Publishing Group, USA.
3. Dickens, Charles (2004). *Hard Times.* Penguin Classics, New Delhi.
4. Plunkett, John, et al. (2012). *Victorian Literature - A Sourcebook.* Palgrave Macmillan, UK.
5. Hardy, Thomas. (2003). *Tess of the d'Urbervilles.* Penguin Classics, New Delhi.

Suggested Reading:

1. Schofield, Sims (1996). *Victorian Age.* Schofield & Sims Ltd., London.
2. Josephine M. Guy (2001). *The Victorian Age.* Routledge, London.
3. Wulff, Antje (2008). *Problems of the Victorian Age as Reflected in the Poetry of Matthew Arnold, Elizabeth Barrett Browning, and Alfred Tennyson.* Grin Verlag, USA.
4. Willis , Martin (2008). *The Victorian Literature Handbook*. Continuum, London.
5. Abrams, M.H. ed. (2012). *The Norton Anthology of English Literature **Ninth Edition** Volume(s): E / The Victorian Age.* W.W. Norton & Company, New York.
6. Mallett, Phillip (2003). *Thomas Hardy: Texts and Contexts*. Palgrave Macmillan, London.
7. Bodenheimer, Rosemarie (2010). *Knowing Dickens*. Cornell University Press, New York.

Modernism

Course Code: EEL 503

Course Name: Modernism

Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The course is designed to understand the advent of modernism in a larger context as an international phenomenon in life, literature and thought, new modes of expression and experimentation in form

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Contents:

UNIT – I: W. B Yeats' Poetry   **(8 Hours)**

- Introduction: Author, Genre
- The Poems: The Second Coming; To the Rose Upon the Rood of Time; He Mourns for the Change That Has Come Upon Him and His Beloved, and Longs for the End of the World; Among School Children; A Prayer for My Daughter; The Indian to His Love
- Critical Analysis/Interpretation

UNIT – II: T.S. Eliot's *The Wasteland*   **(8 Hours)**

- Introduction: Author, Genre
- The Text
- Critical Analysis/Interpretation

UNIT – III: Harold Pinter's play- The Birthday Party   **(8 Hours)**

- Introduction: Author, Genre (Play)
- The Text
- Critical Analysis/Interpretation

Unit – IV: Virginia Woolf's novel- Mrs. Dalloway   **(8 Hours)**

- Introduction: Author, Genre (Novel)
- The Text
- Critical Analysis/Interpretation

Unit – V: Joseph Conrad's novel- *Heart of Darkness*   **(8 Hours)**
- Introduction: Author, Genre (Novel)
- The Text
- Critical Analysis/Interpretation

Prescribed Text Books:

1. Eliot, T. S. (2009). *The Wasteland and Other Poems*. Unique Publishers, New Delhi.
2. Conrad, Joseph (2008). *Heart of Darkness*. Atlantic, New Delhi.
3. Pinter, Harold (1991). *The Birthday party.* Faber and Faber, Delhi.
4. Woolf, Virginia (2012). *Mrs Dalloway*. Viking, New Delhi.
5. Yeats, W. B. (1995). *Poems. Random House*, Noida.

Suggested Reading:

1. Lambert, D. C. (2011). *The Shifting Points of View in Virginia Woolf's Novel Mrs. Dalloway: Rooms, Corridors, and Houses.* Edwin Mellen Press, UK.
2. Michael Scott (1986). *Harold Pinter: "the Birthday Party", "the Caretaker" and "the Homecoming"*. Palgrave Macmillan, New Delhi.
3. Patel, Rajeshwari (2007). *W B Yeats and the Ideal of Unity of Being*. Stosius Inc/advent Books Division, Chicago.
4. Ramamurthi, C T Indra Lalitha (1998).*A Joseph Conrad: An Anthology of Recent Criticism*. Pencraft International, New Delhi.
5. Reeves, Gareth (1994). *T. S. Eliot's "Wasteland".* Harvester Wheat sheaf, UK.
6. Bradbury, Malcolm and James Mcfarlane (1991). *Modernism: A Guide to European Literature 1890-1930*. Penguin India, New Delhi.

Literary Criticism from Aristotle to T. S. Eliot

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: EEL 423

Course Name: Literary Criticism from Aristotle to T. S. Eliot

Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures/ organized classroom activity/ contact hours; 5 hours of laboratory work/ practical/ field work/ Tutorial/ teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/ dissertation/ thesis; seminars, etc.)

Course Objective: The course is designed
- to make students understand meaning, nature and history of literary criticism from Aristotle to T. S. Eliot
- to make students understand the importance of literary criticism in view of how it foregrounds modern and contemporary literary theory.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course.
A minimum of 75% attendance is mandatory failing which a student may not be permitted to appear in examination.
Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Library Work Assignment: 5%
   - Subjective Assignment: 10%
   - Group Discussion: 5%
   - Presentations: 5%

Course Content:
UNIT – I: Introduction   **(7 Hours)**
- Ancient Greek Criticism [Plato & Aristotle (*Poetics*)]
- Greek and Latin Criticism during the Roman Empire [Horace, Longinus]

UNIT – II: The Early Modern Period (Background)   **(8 Hours)**
- Sir Philip Sidney (*The Defence of Poesy*)
- John Dryden (*An Essay on Dramatic Poesy*)
- Dr. Johnson (Preface to *Shakespeare*)

UNIT – III: The Earlier Nineteenth Century and Romanticism
Introduction to Modern Period   **(8 Hours)**
- William Wordsworth (Preface to *Lyrical Ballads*)
- Samuel Taylor Coleridge [*Biographia Literaria* (Excerpts)]
- Ralph Waldo Emerson ('The Poet')

Unit – IV: The Later Nineteenth Century   **(7 Hours)**
- Walter Pater ('Studies in the History of the Renaissance')
- Matthew Arnold ('The Function of Criticism at the Present Time')

Unit – V: The Twentieth Century   **(10 Hours)**

- Feminist Criticism [Virginia Woolf's *A Room of One's Own* (Excerpts)]
- Formalism (Boris Eichenbaum's 'Theory of the Formal Method')
- T.S. Eliot ('Tradition and the Individual Talent')
- Summation

Prescribed Text Books:
1. Leitch, Vincent B, et al, eds. (2010). *The Norton Anthology of Theory and Criticism*. New York: W. W. Norton.
2. Habib, M. A. R. (2008). *A History of Literary Criticism and Theory: A History*. Blackwell Publishing, Delhi.
3. Barry, Peter. (2002). *Beginning Theory.* Manchester: Manchester UP.

Suggested Reading:
1. Bennett, Andrew and Nicholas Royale (2008). *Introduction to Literature, Criticism and Theory.* Delhi: Pearson.
2. M. H. Abrams (2012). *Glossary of Literary Terms*. Boston: Wadsworth.
3. J.A. Cuddon (1999). *Dictionary of Literary Terms and Theory.* London: Penguin.

LECTURE PLAN:

Lecture	Topic	Sources
Lecture 1-7	Introduction Ancient Greek Criticism [Plato & Aristotle (*Poetics*)] Greek and Latin Criticism during the Roman Empire [Horace, Longinus]	Book 1 &2
Lecture 8-15	The Early Modern Period (Background) Sir Philip Sidney (*The Defence of Poesy*) John Dryden (*An Essay on Dramatic Poesy*) Dr. Johnson ('Preface to *Shakespeare'*)	Book 1 & 2
Lecture 16-23	The Earlier Nineteenth Century and Romanticism (Introduction to Modern Period) William Wordsworth (*The Preface to Lyrical Ballads*) Samuel Taylor Coleridge [*Biographia Literaria* (Excerpts)] Ralph Waldo Emerson ('The Poet')	Book 1 & 2

Lecture 24-30	The Later Nineteenth Century Walter Pater ('Studies in the History of the Renaissance') Matthew Arnold ('The Function of Criticism at the Present Time')	Book 1
Lecture 31-39	The Twentieth Century Feminist Criticism [Virginia Woolf's *A Room of One's Own* (Excerpts)] Formalism (Boris Eichenbaum's 'Theory of the Formal Method') T.S. Eliot ('Tradition and the Individual Talent')	Book 1
Lecture 40	Summation	Book 1, 2 &3

Advanced Oral Communication Skills in English

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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www.cuhimachal.ac.in

Course Code: EEL 414
Course Name: Advanced Oral Communication Skills in English

Credit Equivalents: 02 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective:
The course is designed to focus on making the students practice various English language activities to create greater opportunity and motivation for them to speak so that they develop accuracy and fluency in using the language in spontaneous communication to meet their career requirements.

Attendance Requirements:
Students are expected to attend all the lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is mandatory failing which a student will not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid-Term Examination--25%
2. End-Term Examination--50%
3. Counseling, Activities and Tutorials (CAT)--25%
   I.   Role Playing--5%
   II. Reading Passages (Fluency, Pronunciation and Confidence) --5%
   III. Declamations, Impromptu Speaking & Presentations--5%
   IV. Library Work--5%
   V.   Home Assignments--5%

Course Contents:

UNIT-I The Sounds of English   **(4 hours)**
   - Speech Sounds (Vowels and Consonants)
   - Transcription of Commonplace English Words
   - General Guidelines for Correct Pronunciation and Words Often Mispronounced
   - Homophones, Homographs, and Homonyms

UNIT-II Basics of English Grammar   **(4 hours)**

- Parts of Speech
- Tenses
- Word Formation (Roots, Prefixes, Infixes and Suffixes)
- Most Often Wrongly Spelt Words

UNIT-III Developing Reading and Listening Skills **(4 hours)**
- Skimming, Scanning and Speed Reading
- Fixed Reading: Finding Certain Words
- Types of Listening
- Traits of Good Listening

UNIT-IV Argument Development **(4 hours)**
- Debate
- Interview
- Public Speaking
- Group Discussion

UNIT-V Language Games **(4 hours)**
- Dialogue Speaking
- Flash Cards
- Pictorial Description
- Vocabulary Brainstorming

Prescribed Text Books:
1) Konar, Nira (2010). *Communication Skills for Professionals*. PHI, New Delhi.
2) Sethi, J., et al. (2008). *A Practical Course in English Pronunciation*. PHI, New Delhi.
3) Sharma, Sangeeta, et al. (2010). *Communication Skills for Engineers and Scientists*. PHI, New Delhi.

Suggested Extra Readings:
1) Bansal, R. K., et al. (2009). *Spoken English*. Orient Black Swan, Hyderabad.
2) Dixson, Robert J. (1987). *Complete Course in English*. PHI, New Delhi.
3) Gangal, J.K. (2010). *A Practical Course in Spoken English*. PHI, New Delhi.
4) Kennedy, Graeme (2011). *Structure and Meaning in English*. Pearson, Noida.
5) Lata, Pushp, et al. (2010). *Communicate to Conquer: A Handbook of Group Discussions and Job Interviews*. PHI, New Delhi.
6) McCarthy, M., et al. (1999). *English Vocabulary in Use: Upper-Intermediate & Advanced*. Cambridge UP, Cambridge.
7) Oxford Advanced Learner's Dictionary, 8th ed., OUP, Oxford.

Department of Hindi & Indian Languages

School of Humanities & Languages
Name of the Department: Department of Hindi & Indian Languages
Name of the Programme of Study: MA (Hindi)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	HIL 432	साहित्य इतिहास , दृष्टि और प्रविधि : प्रतिमानीकरण	4	NA	डॉ. साएमा बानो
2	HIL 408	हिन्दी की उत्पत्ति, विकास और बोलियाँ : पुरानी हिन्दी, दक्खिनी, भाषा परिचय	4	NA	डॉ. साएमा बानो
3	HIL 410	कहानी	4	NA	चन्द्रकांत सिंह
4	HIL 510	आदिकालीन साहित्य	4	NA	चन्द्रकांत सिंह

University Wide Courses

Sr. No.	Course Code	Course Name	Credit	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	HIL 434	उर्दू भाषा और साहित्य का परिचयात्मक अध्ययन	2	HIL 435	डॉ. साएमा बानो
2	HIL 423	हिन्दी और जनसंचार माध्यम [न्यू मिडिया सहित]	4	NA	चन्द्रकांत सिंह

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

मानविकी एवं भाषा स्कूल

हिन्दी एवं भारतीय भाषा विभाग

एम. ए. हिन्दी प्रथम सेमेस्टर

प्रथम प्रश्न पत्र

पाठ्यक्रम कूट-संकेत : एच.आई.एल. 432 [HIL 432]

पाठ्यक्रम शीर्षक : साहित्य इतिहास, दृष्टि और प्रविधि : प्रतिमानीकरण

क्रेडिट : 04 [एक क्रेडिट व्याख्यान , संगठित कक्षा गतिविधि और व्यक्तिगत सम्पर्क के 10 घंटे के बराबर, प्रयोगशाला / व्यावहारिक कार्य / ट्युटोरियल / शिक्षक नियंत्रित गतिविधियाँ के 5 घंटे और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य , सामूहिक कार्य , निर्धारित अनिवार्य / वैकल्पिक कार्य , साहित्य समीक्षा , पुस्तकालय कार्य , तथ्य संग्रह , शोध-पत्र लेखन , सेमीनार, प्रबंध लेखन इत्यादि के 15 घंटे के समान हैं]

पाठ्यक्रम उद्देश्य : पाठ्यक्रम का लक्ष्य छात्रों को साहित्य इतिहास के जीवंत तथा शाश्वत तत्त्वों के संग्रहण की क्षमता से पूर्ण करना है, साथ ही छात्रों को हिन्दी साहित्य की बहु विस्तृत विरासत से परिचित कराते हुए एक विशेष साहित्यिक परंपरा के गहन अध्ययन और विश्लेषण का अवसर देना है |

उपस्थिति अनिवार्यता : पूर्ण एवं सुनिश्चित लाभ हेतु छात्र का सभी कक्षाओं में उपस्थित होना अनिवार्य है | न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज न होने पर छात्र को परीक्षा में बैठने से वंचित किया जा सकता है |

मूल्यांकन मापदंड :   क.| मिड टर्म परीक्षा -   25%

                             ख.| एंड टर्म परीक्षा -   50%

                             ग.| सतत आतंरिक मूल्यांकन - 25%

                                  ∗ पुस्तकालय कार्य -   5%

                                  ∗ गृह कार्य -   5%

                                  ∗ कक्षा परीक्षा –   10%

                                  ∗ कक्षा प्रस्तुतियां -   5%

पाठ्यक्रम विवरण -

यूनिट -1 साहित्येतिहास लेखन तथा प्रतिमानीकरण 9 घंटे

- साहित्येतिहास का महत्त्व, हिन्दी साहित्य के इतिहास लेखन की पद्धतियाँ , आधारभूत सामग्री , हिन्दी के प्रमुख साहित्यिक केंद्र, संस्थाएं, पत्र- पत्रिकाएँ, साहित्येतिहास का प्रतिमानीकरण |
- हिन्दी साहित्य का इतिहास : काल विभाजन ,सीमा निर्धारण और नामकरण |

यूनिट - 2 आदिकाल 4 घंटे

- हिन्दी साहित्य का आरम्भ , आदिकाल की पृष्ठभूमि |
- सिद्ध, नाथ, जैन और रासो साहित्य, लौकिक साहित्य |

यूनिट -3 पूर्व मध्यकाल 8 घंटे

- भक्ति आन्दोलन के उदय की सामाजिक - सांस्कृतिक पृष्ठभूमि, प्रमुख निर्गुण और सगुण सम्प्रदाय |
- भक्तिकाल की विभिन्न काव्यधाराएं और उनका वैशिष्ट्य
- भक्ति काल की उपलब्धियां एवं पतन के कारण |

यूनिट - 4 उत्तर मध्यकाल 5 घंटे

- रीति काल की सामाजिक- सांस्कृतिक पृष्ठभूमि , दरबारी संस्कृति और रीतिकाव्य |
- रीतिबद्ध, रीतिसिद्ध तथा रीतिमुक्त काव्यधाराएं और उनकी प्रवृत्तियां |
- रीति साहित्य में लोकजीवन |

यूनिट - 5 आधुनिककाल 14 घंटे

- आधुनिकता का तात्पर्य , आधुनिककाल की सामाजिक, आर्थिक, राजनीतिक और सांस्कृतिक पृष्ठभूमि , हिन्दी नवजागरण |
- भारतेंदु युग : प्रमुख प्रवृत्तियां |
- द्विवेदी युग : प्रमुख प्रवृत्तियां |
- छायावाद , स्वच्छंदतावाद : प्रमुख प्रवृत्तियां
- प्रगतिवाद, प्रयोगवाद, नयी कविता : प्रमुख प्रवृत्तियां
- समकालीन कविता , नवगीत और हिन्दी ग़ज़ल |

सन्दर्भ ग्रन्थ :

1. हिन्दी साहित्य का इतिहास : रामचंद्र शुक्ल
2. हिन्दी साहित्य का इतिहास : डॉ.नगेन्द्र
3. हिन्दी साहित्य का आदिकाल : हजारी प्रसाद द्विवेदी
4. हिन्दी साहित्य: उद्भव और विकास : हजारी प्रसाद द्विवेदी
5. हिन्दी साहित्य की भूमिका : हजारी प्रसाद द्विवेदी
6. साहित्य और इतिहास दृष्टि : मैनेजर पाण्डेय
7. महावीर प्रसाद द्विवेदी और हिन्दी नवजागरण : रामविलास शर्मा
8. हिन्दी साहित्य का अतीत : विश्वनाथ प्रसाद मिश्र

व्याख्यान योजना -

व्याख्यान सं.	व्याख्यान विषय	निर्धारित पुस्तकें
3-2-1	साहित्येतिहास का महत्त्व ,हिन्दी साहित्य के आधारभूत सामग्री , इतिहास लेखन की पद्धतियाँ	पाठ्य पुस्तकें -1,3
6-5-4	हिन्दी के प्रमुख साहित्यिक केंद्र -पत्र ,संस्थाएं , साहित्येतिहास का प्रतिमानीकरण ,पत्रिकाएँ	पाठ्य पुस्तकें - 2
9-8-7	हिन्दी साहित्य का इतिहास सीमा , काल विभाजन : निर्धारण और नामकरण	पाठ्य पुस्तकें - 3,4
10	हिन्दी साहित्य का आरम्भ , आदिकाल की पृष्ठभूमि	पाठ्य पुस्तकें - 3,4
13-12-11	सिद्ध लौकिक साहित्य ,जैन और रासो साहित्य ,नाथ ,	पाठ्य पुस्तकें - 3,4
14	भक्ति आन्दोलन के उदय की सामाजिक- सांस्कृतिक पृष्ठभूमि	पाठ्य पुस्तकें -1,6
16-15	प्रमुख निर्गुण और सगुण संप्रदाय	पाठ्य पुस्तकें - 1,6
17-18 -19-20	भक्तिकाल की विभिन्न काव्यधाराएं और उनका वैशिष्ट्य	पाठ्य पुस्तकें -1,2,6
21	भक्ति काल की उपलब्धियां एवं पतन के कारण	पाठ्य पुस्तकें - 2
22	रीति काल की सामाजिक , सांस्कृतिक पृष्ठभूमि - दरबारी संस्कृति और रीतिकाव्य	पाठ्य पुस्तकें - 2,5,6
25- 24-23	रीतिबद्ध ,रीतिसिद्ध तथा रीतिमुक्त काव्यधाराएं और उनकी प्रवृत्तियां	पाठ्य पुस्तकें -1,2,8
26	रीति साहित्य में लोकजीवन	पाठ्य पुस्तकें - 2

28-27	आधुनिकता का तात्पर्य ,आधुनिककाल की सामाजिक, , राजनीतिक और सांस्कृतिक पृष्ठभूमि ,आर्थिक हिन्दी नवजागरण	पाठ्य पुस्तकें -1,7
30-29	भारतेंदु युग प्रमुख प्रवृत्तियां :	पाठ्य पुस्तकें - 3,4,7
32-31	द्विवेदी युग	प्रमुख प्रवृत्तियां :	पाठ्य पुस्तकें - 7
35- 34-33	छायावाद प्रमुख प्रवृत्तियां : स्वच्छंदतावाद ,	पाठ्य पुस्तकें - 1,2,4
37-36	प्रगतिवाद प्रमुख प्रवृत्तियां : नयी कविता ,प्रयोगवाद ,	पाठ्य पुस्तकें -1, 2,6
40-39-38	समकालीन कविता नवगीत और हिन्दी ग़ज़ल ,	पाठ्य पुस्तकें - 2

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय

Central University of Himachal Pradesh

(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

मानविकी एवं भाषा स्कूल

हिन्दी एवं भारतीय भाषा विभाग

एम.ए. हिन्दी प्रथम सेमेस्टर

पाठ्यक्रम कूट-संकेत : एच.आई.एल. 408 [HIL 408]

पाठ्यक्रम शीर्षक : हिन्दी की उत्पत्ति , विकास और बोलियाँ ,हिन्दी पुरानी, दक्खिनी भाषा ,परिचय

क्रेडिट : 04   [एक क्रेडिट व्याख्यान , संगठित कक्षा गतिविधि और व्यक्तिगत सम्पर्क के 10 घंटे के बराबर, प्रयोगशाला / व्यावहारिक कार्य / ट्युटोरियल / शिक्षक नियंत्रित गतिविधियाँ के 5 घंटे और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य, सामूहिक कार्य, निर्धारित अनिवार्य / वैकल्पिक कार्य, साहित्य समीक्षा, पुस्तकालय कार्य, तथ्य संग्रह, शोध-पत्र लेखन, सेमीनार, प्रबंध लेखन इत्यादि के 15 घंटे के समान हैं]

पाठ्यक्रम उद्देश्य :   पाठ्यक्रम का लक्ष्य छात्रों को भाषा के महत्त्व और उपयोगिता के साथ हिन्दी भाषा की विशेष स्थिति से परिचित कराना है | हिन्दी के क्षेत्र ,विस्तार तथा संभावनाओं का अध्ययन करते हुए उसकी सीमाओं का मूल्यांकन करना भी पाठ्यक्रम का उद्देश्य है जिससे छात्रों में एक विशेष भाषा-परंपरा के विश्लेषण की क्षमता विकसित हो सके|

उपस्थिति अनिवार्यता : पूर्ण एवं सुनिश्चित लाभ हेतु छात्र का सभी कक्षाओं में उपस्थित होना अनिवार्य है | न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज न होने पर छात्र को परीक्षा में बैठने से वंचित किया जासकता है |

मूल्यांकन मापदंड :   **क.| मिड टर्म परीक्षा -**   **25%**

                                        ख.| एंड टर्म परीक्षा -   **50%**

                                        ग.| सतत आंतरिक मूल्यांकन -   **25%**

                                          ✳ **पुस्तकालय कार्य -**   **5%**

                                          ✳ **गृह कार्य -**   **5%**

                                          ✳ **कक्षा परीक्षा –**   **10%**

                                          ✳ **कक्षा प्रस्तुतियां -**   **5%**

कोर्स कोड - **HIL 408**   क्रेडिट - 4

इकाई -1 भाषा परिचय   6 घंटे

- भाषा अर्थ,परिभाषा और स्वरूप
- भाषा की विशेषताएँ
- भाषा के विविध रूप तथा भाषा और बोली में सम्बन्ध

इकाई - 2 हिन्दी की ऐतिहासिक पृष्ठभूमि   8 घंटे

- संसार के भाषा-परिवार और हिन्दी तथा भारतीय भाषाएँ
- प्राचीन भारतीय आर्य भाषाएँ
- मध्यकालीन भारतीय आर्य भाषाएँ
- आधुनिक भारतीय आर्य भाषाएँ

इकाई - 3   हिन्दी की उत्पत्ति तथा विकास   8 घंटे

- हिन्दी -अर्थ और स्वरूप
- हिन्दी की विकास-यात्रा
- उर्दू- अर्थ, स्वरूप और विकास तथा दक्खिनी

इकाई - 4   हिन्दी की उपभाषाएँ और बोलियाँ   8 घंटे

- हिन्दी की प्रमुख बोलियों का परिचय
- काव्य भाषा के रूप में ब्रज और अवधी का विकास
- खड़ी बोली हिन्दी का उद्भव एवं विकास |
- हिन्दी - उर्दू सम्बन्ध |

इकाई - 5   हिन्दी की संवैधानिक स्थिति   10 घंटे

- राजभाषा और राष्ट्र भाषा के रूप में हिन्दी
- हिन्दी का मानक स्वरूप
- हिन्दी प्रसार के प्रमुख आन्दोलन तथा प्रमुख संस्थान
- देवनागरी लिपि ,विशेषताएँ तथा मानकीकरण

सन्दर्भ ग्रन्थ :
1. भाषा और समाज : रामविलास शर्मा
2. भारतीय आर्य भाषा और हिन्दी : सुनीति कुमार चटर्जी
3. हिन्दी भाषा का इतिहास : धीरेन्द्र वर्मा
4. हिन्दी भाषा का संक्षिप्त इतिहास : भोलानाथ तिवारी

5. भारत के प्राचीन भाषा परिवार और हिन्दी : रामविलास शर्मा

6. भारतेंदु युग और हिन्दी भाषा की विकास परंपरा : रामविलास शर्मा

7. हिन्दी साहित्य और संवेदना का विकास : रामस्वरूप चतुर्वेदी

8. हिन्दी भाषा संरचना के विविध आयाम : रवीन्द्रनाथ श्रीवास्तव

9. हिन्दी भाषा : हरदेव बाहरी

10. भाषा विज्ञान : भोलानाथ तिवारी

11. उर्दू का आरंभिक युग : शम्सुर्रहमान फ़ारूकी

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
मानविकी एवं भाषा स्कूल
हिन्दी एवं भारतीय भाषा विभाग
सेमेस्टर-1,प्रश्नपत्र -3

पाठ्यक्रम कूट-संकेत: एच.आई.एल. 410 (HIL 410)

पाठ्यक्रम शीर्षक- कहानी

श्रेय तुल्यमान: 4 श्रेय (1 श्रेय व्याख्यान,संगठित कक्षा गतिविधि और व्यक्तिगत संपर्क के 10 घंटे; प्रयोगशाला या / व्यावहारिक कार्य,ट्यूटोरियल,शिक्षक नियंत्रित गतिविधियों /कार्य के 5 घंटे;और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य ,सामूहिक कार्य,निर्धारित अनिवार्य /वैकल्पिक कार्य,साहित्य समीक्षा,पुस्तकालय कार्य,तथ्य संग्रह,शोधपत्र लेखन,सेमिनार,प्रबंध लेखन,इत्यादि के 15 घंटे के समान है |

पाठ्यक्रम का उद्देश्य: पाठ्यक्रम का लक्ष्य विद्यार्थियों को कहानी विधा से अवगत करना है | हिन्दी साहित्य की कहानी विधा,विधा के तौर पर कब प्रकाश में आई ? उसकी सशक्त परम्परा का निर्माण कब और किन साहित्यिक व्यक्तियों के द्वारा हुआ? आज के समकालीन दौर में हिन्दी कहानी किसा तरह जन्मूल्यों को उठाती है? उसकी रचना-प्रक्रिया और उसका नयापन क्या है ? इन तमाम जिज्ञासाओं के आलोक में एम.ए.(हिन्दी) के विद्यार्थियों के भीतर गंभीर साहित्यिक विवेक पैदा करना है,जिससे कि उनके भीतर रचनात्मक विवेक पैदा किया जा सके|

उपस्थिति अनिवार्यता: पूर्ण एवं सुनिश्चित लाभ हेतु विद्यार्थी का सभी कक्षाओं में भागीदार होना अनिवार्य है |न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज ना होने पर विद्यार्थी को परीक्षा में बैठने से वंचित किया जा सकता है |

मूल्यांकन मापदंड :

क) मध्यावधि परीक्षा -	25%
ख) सत्रांत परीक्षा -	50%
ग) सतत आतंरिक मूल्यांकन -	25%
*पुस्तकालय कार्य -	5%
*प्रायोगिक कार्य -	5%
*गृह-कार्य -	5%
* कक्षा परीक्षा -	5%
*कक्षा-प्रस्तुतियां -	5%

पाठ्यक्रम विषयवस्तु –

इकाई-1 हिन्दी कहानी का उद्भव और विकास (7 घंटे)

क)   कहानी विधा: परिचय

ख)   हिन्दी की पहली कहानी : बहस और सम्भावनाएं

इकाई-2 प्रेमचंद युग : प्रवृत्ति और प्रभाव (8 घंटे)

क) गांधीवादी आदर्श

ख) स्वाधीनता आन्दोलन और प्रतिबंधित कहानियां

इकाई-3 प्रेमचंदोत्तर युग : प्रवृत्ति और प्रभाव (9 घंटे)

क) यथार्थवाद और हिन्दी कहानी

ख) मनोविश्लेषणवाद और हिन्दी कहानी

ग) हिन्दी कहानी: साम्प्रदायिकता और विभाजन की त्रासदी

इकाई-4 समकालीन कहानी: दशा और दिशा (8 घंटे)

क) नई कहानी: नये प्रश्न

ख) नई कहानी: यथार्थ और संत्रास

ग) दलित प्रश्न और समकालीन कहानी

इकाई-5 हिन्दी के प्रमुख कहानीकार और उनकी कहानियां (8 घंटे)

क) प्रेमचंद

ख) प्रसाद

ग) फणीश्वर नाथ रेणु

घ) भगवती चरण वर्मा

ङ) अज्ञेय

च) मोहन राकेश

छ) मन्नू भंडारी

ज) अलका सरावगी

झ) ओमप्रकाश वाल्मीकि

ञ) डॉ सुशीला टाकभौरे

निर्धारित पाठ्यपुस्तकें –

1	सं- विभूति नारायण राय	कथा-साहित्य के सौ बरस,शिल्पायन,शाहदरा,दिल्ली,2012
2	विश्वनाथ त्रिपाठी	कुछ कहानियां: कुछ विचार,राजकमल,दिल्ली,1998
3	परमानन्द श्रीवास्तव	कहानी की रचना-प्रक्रिया,लोक भारती प्रकाशन,इलाहाबाद,2012
4	राजेन्द्र यादव	कहानी: अनुभव और अभिव्यक्ति,वाणी प्रकाशन,दिल्ली,1996
5	देवी शंकर अवस्थी	नयी कहानी: सन्दर्भ और प्रकृति,राजकमल,दिल्ली,1973
6	नामवर सिंह	कहानी: नयी कहानी,लोक भारती,इलाहाबाद,2012
7	गोपाल राय	हिन्दी कहानी का इतिहास,भाग-2, राजकमल,दिल्ली,2011
8	अलका सरावगी	कहानी की तलाश में,राजकमल,दिल्ली,1996
9	भारत यायावर (सं)	फणीश्वर नाथ रेणु चुनी हुई रचनाएं,वाणी प्रकाशन,1993
10	नामवर सिंह	प्रेमचंद और भारतीय समाज,राजकमल,दिल्ली,2010
11	विजयमोहन सिंह	कथा समय,राधाकृष्ण,दिल्ली,1993
12	डॉ. हरदयाल	हिन्दी कहानी परम्परा और प्रगति,वाणी प्रकाशन,दिल्ली,2005
13	राजमणि शर्मा	प्रसाद का गद्य साहित्य,वाणी प्रकाशन,दिल्ली
14	फणीश्वर नाथ रेणु	फणीश्वर नाथ रेणु प्रतिनिधि कहानियां,राजकमल, दिल्ली,1994
15	भगवती चरण वर्मा	प्रतिनिधि कहानियां: भगवती चरण वर्मा,राजकमल, दिल्ली,1994
16	भीष्म साहनी	प्रतिनिधि कहानियां: भीष्म साहनी,राजकमल, दिल्ली,1988
17	मोहन राकेश	प्रतिनिधि कहानियां: मोहन राकेश,राजकमल, दिल्ली,2004
18	राजेन्द्र यादव (श्रृंखला संपादक)	पच्चीस बरस पच्चीस बरस कहानियां ,राजकमल, दिल्ली,2011
19	प्रेमचंद	प्रेमचंद की सर्वश्रेष्ठ कहानियां,प्रकाशन संस्थान,नई-दिल्ली,2011
20	श्रीमती मृदुला प्रसाद	अज्ञेय की कहानियों का वस्तु-शिल्प,प्रिय साहित्य सदन,सोनिया विहार,दिल्ली,2010
21	गीतांजलि श्री (सं)	अज्ञेय कहानी संचयन, राजकमल,दिल्ली,2012

प्रमुख पत्रिकाएँ :

पहल : कहानी पर केन्द्रित ख़ास अंक,27-28 सितम्बर,1985

वर्तमान साहित्य: शताब्दी कथा विशेषांक,जनवरी-फरवरी,2000

व्याख्यान योजना -

व्याख्यान सं.	व्याख्यान विषय	निर्धारित स्रोत
1	इकाई एक प्रारम्भपरिचय :कहानी विधा ,	पाठ्यपुस्तक 12+1
3-2	हिन्दी की पहली कहानी बहस और सम्भावनाएं :	पाठ्यपुस्तक 7+1

5-4	इकाई दो प्रारम्भप्रेमचंद युग विशेषताएं ,	पाठ्यपुस्तक 10+5
7-6	गांधीवादी आदर्श	पाठ्यपुस्तक 10+5
8	स्वाधीनता आन्दोलन और तत्कालीन परिवेश	पाठ्यपुस्तक 10+1
10-9	स्वाधीनता आन्दोलन और प्रतिबंधित कहानियां	पाठ्यपुस्तक 10+1
11	इकाई तीन प्रारम्भ प्रेमचंदोत्तर , युग विशेषताएं	पाठ्यपुस्तक 7
13-12	यथार्थवाद और हिन्दी कहानी	पाठ्यपुस्तक 12
15-14	मनोविश्लेषणवाद और हिन्दी कहानी	पाठ्यपुस्तक 12
17-16	हिन्दी कहानी साम्प्रदायिकता और विभाजन की त्रासदी :	पाठ्यपुस्तक 7+1
18	इकाई चार प्रारम्भसमकालीनता की अवधारणा ,	पाठ्यपुस्तक 12+1+5
19	नई कहानी नये प्रश्न :	पाठ्यपुस्तक 12+5
20	नई कहानी यथार्थ और संत्रास :	पाठ्यपुस्तक 12+5
21	दलित प्रश्न और समकालीन कहानी	पाठ्यपुस्तक 1
22	इकाई पांच प्रारम्भ हिन्दी के प्रमुख कहानीकारों का एक परिचय ,	पाठ्यपुस्तक 2
25-23	प्रेमचंद और उनकी कहानियां	पाठ्यपुस्तक 19+10
27-26	प्रसाद और उनकी कहानियां	पाठ्यपुस्तक 13+11
29-28	फणीश्वर नाथ रेणु और उनकी कहानियां	पाठ्यपुस्तक 14+2+9
30	भगवती चरण वर्मा और उनकी कहानियां	पाठ्यपुस्तक 15
32-31	अज्ञेय और उनकी कहानियां	पाठ्यपुस्तक 21+20
34-33	मोहन राकेश और उनकी कहानियां	पाठ्यपुस्तक 17+2
35	स्त्री रचनाकार और उनकी कहानियां	पाठ्यपुस्तक 8
38-36	दलित रचनाकार और उनकी कहानियां	पाठ्यपुस्तक 18+12
40-39	हिन्दी के अन्य प्रमुख कहानीकार	पाठ्यपुस्तक 16

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
मानविकी एवं भाषा स्कूल
हिन्दी एवं भारतीय भाषा विभाग
सेमेस्टर-1, प्रश्नपत्र - 4

पाठ्यक्रम कूट-संकेत: एच.आई.एल. 510 (HIL 510)

पाठ्यक्रम शीर्षक- आदिकालीन साहित्य

श्रेय तुल्यमान: 4 श्रेय (1 श्रेय व्याख्यान,संगठित कक्षा गतिविधि और व्यक्तिगत संपर्क के 10 घंटे; प्रयोगशाला या / व्यावहारिक कार्य,ट्यूटोरियल,शिक्षक नियंत्रित गतिविधियों /कार्य के 5 घंटे;और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य, सामूहिक कार्य,निर्धारित अनिवार्य /वैकल्पिक कार्य,साहित्य समीक्षा,पुस्तकालय कार्य,तथ्य संग्रह,शोधपत्र लेखन,सेमिनार,प्रबंध लेखन,इत्यादि के 15 घंटे के समान है |

पाठ्यक्रम का उद्देश्य: पाठ्यक्रम का लक्ष्य विद्यार्थियों को हिन्दी साहित्य के उद्भव से परिचित कराना है | हिन्दी साहित्य की शुरुआत के समय मौजूद विभिन्न चिन्ताधाराओं के विषय में जानकारी प्रदान करना है, जिससे कि साहित्यिक समझ को विकसित किया जा सके | यही नहीं हिन्दी साहित्य के उद्गम और उसकी गौरवशाली परम्परा के दाय से एम.ए.(हिन्दी) के विद्यार्थियों को परिचित कराया जा सके|

उपस्थिति अनिवार्यता: पूर्ण एवं सुनिश्चित लाभ हेतु विद्यार्थी का सभी कक्षाओं में भागीदार होना अनिवार्य है|न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज ना होने पर विद्यार्थी को परीक्षा में बैठने से वंचित किया जा सकता है|

मूल्यांकन मापदंड :		
	क) मध्यावधि परीक्षा -	25%
	ख) सत्रांत परीक्षा -	50%
	ग) सतत आतंरिक मूल्यांकन -	25%
	∗पुस्तकालय कार्य -	5%
	∗प्रायोगिक कार्य -	5%
	∗गृह-कार्य -	5%
	∗ कक्षा परीक्षा -	5%
	∗कक्षा-प्रस्तुतियां -	5%

पाठ्यक्रम विषयवस्तु –

इकाई-1 हिन्दी साहित्य का आदिकाल : काल-विभाजन एवं नामकरण (8 घंटे)

क) हिन्दी साहित्य का इतिहास: एक परिचय

ख) आदिकाल के नामकरण की समस्या

ग) हिन्दी साहित्य के आदिकाल की समय-सीमा

इकाई-2 आदिकालीन पृष्ठभूमि एवं परिस्थितियाँ (9 घंटे)

क) सामाजिक परिस्थितियाँ

ख) राजनैतिक परिस्थितियाँ

ग) आर्थिक परिस्थितियाँ

इकाई-3 आदिकालीन काव्यधाराएं: 1 (8 घंटे)

क) सिद्ध साहित्य : प्रवृत्तियाँ,विशेषताएं

ख) नाथ साहित्य : प्रवृत्तियाँ,विशेषताएं

ग) जैन साहित्य : चरित काव्य,विशेषताएं

इकाई-4 आदिकालीन काव्यधाराएं: 2 (7 घंटे)

क) रासो काव्य : प्रवृत्तियाँ,विशेषताएं

ख) श्रृंगार काव्य : प्रवृत्तियाँ,विशेषताएं

इकाई-5 आदिकाल के प्रमुख कवि और उनका काव्य (8 घंटे)

क) चंद वरदाई - पृथ्वीराज रासो

ख) अमीर खुसरो - अमीर खुसरो और उनका हिन्दी साहित्य (संकलन भोलानाथ तिवारी)

ग) विद्यापति - विद्यापति पदावली (सं रामवृक्ष बेनीपुरी)

निर्धारित पाठ्यपुस्तकें –

1 आचार्य रामचंद्र शुक्ल   हिन्दी साहित्य का इतिहास,काशी नागरी प्रचारिणी सभा काशी,1969

2 हजारी प्रसाद द्विवेदी   हिन्दी साहित्य: उदभव और विकास, राजकमल प्रकाशन,दिल्ली 1986

3 हजारी प्रसाद द्विवेदी   हिन्दी साहित्य की भूमिका, राजकमल प्रकाशन,दिल्ली,1988

4 हजारी प्रसाद द्विवेदी   हिन्दी साहित्य का आदिकाल,पटना,1961

5 विद्यापति   शिवप्रसाद सिंह,इलाहाबाद,1976

6 हजारी प्रसाद द्विवेदी   पृथ्वीराज रासो (भूमिका), इलाहाबाद

7 बच्चन सिंह   हिन्दी साहित्य का दूसरा इतिहास, राधाकृष्ण प्रकाशन,1996

8 नामवर सिंह   हिन्दी के विकास में अपभ्रंश का योग,लोकभारती,इलाहाबाद,1982

9 योगेन्द्र प्रताप सिंह   हिन्दी साहित्य का इतिहास और उसकी समस्याएँ,खंड-1,वाणी,2011

10	डॉ रामकुमार वर्मा	हिन्दी साहित्य का आलोचनात्मक इतिहास,लोकभारती,इलाहाबाद,2010
11	चंद वरदाई	पृथ्वीराज रासो
12	अमीर खुसरो	अमीर खुसरो और उनका हिन्दी साहित्य (संकलन भोलानाथ तिवारी)
13	विद्यापति	विद्यापति पदावली (सं रामवृक्ष बेनीपुरी)
14	मैनेजर पाण्डेय	साहित्य और इतिहास,पीपुल्स लिटरेसी,दिल्ली,1981
15	विजयेन्द्र स्नातक	हिन्दी साहित्य का इतिहास,साहित्य अकादमी,दिल्ली, 1996
16	शिवकुमार मिश्र	हिन्दी साहित्य संक्षिप्त इतिवृत्त,वाणी, दिल्ली,2009
17	डॉ. भागीरथ मिश्र	हिन्दी साहित्य का परिचयात्मक इतिहास,राधाकृष्ण,दिल्ली,2010
18	रामस्वरूप चतुर्वेदी	हिन्दी साहित्य और संवेदना का विकास,लोकभारती, इलाहाबाद,1986

व्याख्यान योजना -

व्याख्यान सं.	व्याख्यान विषय	निर्धारित स्रोत
1	इकाई एक प्रारम्भ एक परिचय :हिन्दी साहित्य का इतिहास,	पाठ्यपुस्तक 18+17+15+10+7+1
4-2	आदिकाल के नामकरण की समस्या	पाठ्यपुस्तक 10+4+3+2+1
6-5	आदिकाल की समय सीमा-	पाठ्यपुस्तक 15+10+7+1
8-7	इकाई दो प्रारम्भ आदिकालीन पृष्ठभूमि ,	पाठ्यपुस्तक 15+4+3+2+1
11-9	आदिकालीन परिस्थितियाँआर्थिक,राजनीतिक,सामाजिक :	पाठ्यपुस्तक 15+4+3+2+1
12	इकाई 3-आदिकालीन काव्यधाराएं विशेषताएं :	पाठ्यपुस्तक 7+4+3+2+1
15-13	सिद्ध साहित्य विशेषताएं,प्रवृत्तियाँ :	पाठ्यपुस्तक 8+7+4+3+2+1
18-16	नाथ साहित्य विशेषताएं,प्रवृत्तियाँ :	पाठ्यपुस्तक 8+7+4+3+2+1
21-19	जैन साहित्य विशेषताएं,चरित काव्य :	पाठ्यपुस्तक 8+7+1
22	इकाई चार प्रारम्भ आदिकालीन लौकिक साहित्य ,	पाठ्यपुस्तक 10+7+1
24-23	रासो काव्य विशेषताएं,प्रवृत्तियाँ :	पाठ्यपुस्तक 11+10+8+1

26-25	श्रृंगार काव्य विशेषताएं,प्रवृत्तियाँ :	पाठ्यपुस्तक 8+1
27	इकाई पांच प्रारम्भआदिकाल के प्रमुख कवि और उनका काव्य ,	पाठ्यपुस्तक 8+7
32-28	चंद वरदाई पृथ्वीराज -रासो	पाठ्यपुस्तक 11
35-32	अमीर खुसरो अमीर खुसरो और उनका हिन्दी साहित्य -	पाठ्यपुस्तक 12
40-36	विद्यापति पदावली	पाठ्यपुस्तक 13

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हिन्दी एवं भारतीय भाषा विभाग
युनिवर्सिटी वाइड कोर्स

पाठ्यक्रम कूट-संकेत : एच.आई.एल. 434 [HIL 434]

पाठ्यक्रम शीर्षक : उर्दू भाषा और साहित्य का परिचयात्मक अध्ययन

क्रेडिट : 2 [एक क्रेडिट व्याख्यान , संगठित कक्षा गतिविधि और व्यक्तिगत सम्पर्क के 10 घंटे के बराबर, प्रयोगशाला / व्यावहारिक कार्य / ट्युटोरियल / शिक्षक नियंत्रित गतिविधियाँ के 5 घंटे और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य , सामूहिक कार्य , निर्धारित अनिवार्य / वैकल्पिक कार्य , साहित्य समीक्षा , पुस्तकालय कार्य , तथ्य संग्रह , शोध-पत्र लेखन , सेमीनार, प्रबंध लेखन इत्यादि के 15 घंटे के समान हैं]

पाठ्यक्रम उद्देश्य : पाठ्यक्रम का उद्देश्य छात्रों को अपनी भाषा और विषय के साथ-साथ उर्दू भाषा और साहित्य के सौंदर्य से परिचित कराना है, साथ ही उनमें एक विशेष साहित्यिक परम्परा के अध्ययन से उत्पन्न जागरूकता और समझ विकसित करनी है | उन्हें भाषाओं की पारस्परिक निर्भरता तथा तुलनात्मक स्वरूप की पहचान कराकर विकास की बहुआयामी परिभाषाओं तक ले जाना है|

उपस्थिति अनिवार्यता : पूर्ण एवं सुनिश्चित लाभ हेतु छात्र का सभी कक्षाओं में उपस्थित होना अनिवार्य है| न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज न होने पर छात्र को परीक्षा में बैठने से वंचित किया जासकता है|

मूल्यांकन मापदंड : क.] मिड टर्म परीक्षा - 25%
ख.] एंड टर्म परीक्षा - 50%
ग.] सतत आंतरिक मूल्यांकन - 25%
* पुस्तकालय कार्य - 5%
* गृह कार्य - 5%
* कक्षा परीक्षा - 10%
* कक्षा प्रस्तुतियां - 5%

पाठ्यक्रम विवरण -

यूनिट - 1   उर्दू भाषा का परिचय   6 घंटे

- उर्दू भाषा की ऐतिहासिक पृष्ठभूमि, खड़ी बोली का विकास क्रम और उर्दू |

- 'उर्दू' , अर्थ, परिभाषा, स्वरूप और विस्तार |

- उर्दू और हिन्दी का पारस्परिक सम्बन्ध |

- उर्दू वर्णमाला और लिपि का प्रारंभिक ज्ञान |

यूनिट -2 उर्दू साहित्य का परिचय   3 घंटे

- उर्दू साहित्य का इतिहास - आरंभिक काल, मध्यकाल और आधुनिक काल

- उर्दू के विविध काव्य रूप - ग़ज़ल, नज़्म, कसीदा, मसनवी, मर्सिया, रुबाई |

- उर्दू के साहित्यिक आन्दोलन , तरक्कीपसंद तहरीक |

- समकालीन उर्दू साहित्य : दशा और दिशा |

यूनिट - 3 उर्दू के प्रमुख शाइर और उनकी रचनाएं   11 घंटे

- मीर तक़ी मीर [तीन ग़ज़लें]

- ग़ालिब [तीन रचनाएँ]

- इक़बाल [तीन रचनाएँ]

- फैज़ अहमद फैज़ [तीन रचनाएं]

- फिराक़ गोरखपुरी [तीन रचनाएं]

सन्दर्भ ग्रन्थ :

1. उर्दू भाषा और साहित्य : फ़िराक गोरखपुरी

2. उर्दू का आरंभिक युग : शम्सुर्रहमान फ़ारूकी

3. उर्दू कविता : फीराक़ गोरखपुरी

4. दीवान-ए-मीर : सं. अली सरदार जाफरी

5. उर्दू साहित्य का आलोचनात्मक इतिहास : एहतेशाम हुसैन

6. उर्दू हिन्दी की प्रगतिशील कविता : असग़र वजाहत

7. दीवान-ए-ग़ालिब : सं. अली सरदार जाफ़री

8. उर्दू साहित्य की परंपरा : जानकी प्रसाद शर्मा

9. उर्दू पर खुलता दरीचा : गोपी चंद नारंग

10. उर्दू कविता और छंदशास्त्र : नरेश नदीम

व्याख्यान योजना -

व्याख्यान सं .	व्याख्यान विषय	निर्धारित पुस्तकें
1-2	उर्दू भाषा की ऐतिहासिक पृष्ठभूमि	पाठ्य पुस्तक 1
3	खड़ी बोली का विकास क्रम और उर्दू	पाठ्य पुस्तक - 9, 1
4	उर्दू, परिभाषा, स्वरूप और विस्तार	पाठ्य पुस्तक - 1, 2
5	उर्दू और हिन्दी का पारस्परिक सम्बन्ध	पाठ्य पुस्तक - 8
6	उर्दू वर्णमाला और लिपि का प्रारंभिक ज्ञान	पाठ्य पुस्तक - 10
7	उर्दू साहित्य का इतिहास - आरंभिक काल, मध्यकाल और आधुनिक काल	पाठ्य पुस्तक - 8,1,5
8	उर्दू के विविध काव्य रूप - ग़ज़ल, नज़्म, रुबाई, मर्सिया, मसनवी, कसीदा,	पाठ्य पुस्तक - 1
9	समकालीन उर्दू साहित्य: दशा और दिशा	पाठ्य पुस्तक - 6,9
10	उर्दू के साहित्यिक आन्दोलन, तरक्कीपसंद तहरीक	पाठ्य पुस्तक - 1,6,8
11	मीर तक़ी मीर	पाठ्य पुस्तक - 4,9
12	मीर की तीन ग़ज़लें	पाठ्य पुस्तक - 4
13	ग़ालिब	पाठ्य पुस्तक - 7,8,9
14	ग़ालिब की तीन रचनाएँ	पाठ्य पुस्तक - 7
15	इक़बाल	पाठ्य पुस्तक - 1,6
16	इक़बाल की तीन रचनाएँ	पाठ्य पुस्तक - 1,6
17	फैज़ अहमद फैज़	पाठ्य पुस्तक - 6, 8
18	फैज़ अहमद फैज़ की तीन रचनाएँ	पाठ्य पुस्तक - 1, 6
19	फिराक़ गोरखपुरी	पाठ्य पुस्तक - 8, 9
20	फिराक़ गोरखपुरी की तीन रचनाएं	पाठ्य पुस्तक - 1, 8

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय
Central University of Himachal Pradesh
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मानविकी एवं भाषा स्कूल
हिन्दी एवं भारतीय भाषा विभाग

पाठ्यक्रम कूट-संकेत : एच.आई.एल. 423 (HIL 423)

पाठ्यक्रम शीर्षक : हिन्दी और जनसंचार माध्यम ('न्यू मीडिया सहित')

क्रेडिट- 4

श्रेय तुल्यमान: 4 श्रेय (1 श्रेय व्याख्यान,संगठित कक्षा गतिविधि और व्यक्तिगत संपर्क के 10 घंटे; प्रयोगशाला या / व्यावहारिक कार्य,ट्यूटोरियल,शिक्षक नियंत्रित गतिविधियों /कार्य के 5 घंटे;और अन्य कार्य जैसे स्वतन्त्र व्यक्तिपरक कार्य ,सामूहिक कार्य,निर्धारित अनिवार्य /वैकल्पिक कार्य,साहित्य समीक्षा,पुस्तकालय कार्य,तथ्य संग्रह, शोधपत्र लेखन,सेमिनार,प्रबंध लेखन,इत्यादि के 15 घंटे के समान है |

पाठ्यक्रम का उद्देश्य: पाठ्यक्रम का लक्ष्य विद्यार्थियों को जनसंचार माध्यमों मसलन प्रिन्ट मीडिया,इलेक्ट्रानिक मीडिया,न्यू मीडिया आदि के स्वरूप और संरचनाओं से वाकिफ कराना है | हिन्दी पत्रकारिता की क्रियाविधि के साथ दूरदर्शन,रेडियो आदि की पत्रकारिता से अवगत कराना है जिससे कि विद्यार्थियों का समकालीन दौर में ज्ञान एवं समझ के लिहाज से विकास किया जा सके,साथ ही उनकी तकनीक कुशलता एवं सृजनात्मक विवेक को प्रखर बनाया जा सके|

उपस्थिति अनिवार्यता: पूर्ण एवं सुनिश्चित लाभ हेतु विद्यार्थी का सभी कक्षाओं में भागीदार होना अनिवार्य है|न्यूनतम 75% कक्षाओं में उपस्थिति दर्ज ना होने पर विद्यार्थी को परीक्षा में बैठने से वंचित किया जा सकता है|

मूल्यांकन मापदंड :		
	क) मध्यावधि परीक्षा -	25%
	ख) सत्रांत परीक्षा -	50%
	ग) सतत आंतरिक मूल्यांकन -	25%
	∗पुस्तकालय कार्य -	5%
	∗प्रायोगिक कार्य -	5%
	∗गृह-कार्य -	5%
	∗ कक्षा परीक्षा -	5%
	∗कक्षा-प्रस्तुतियां	5%

पाठ्यक्रम विषयवस्तु -

इकाई-1   जनसंचार माध्यम: अर्थ,परिभाषा एवं महत्व   (7 घंटे)

क)   जनसंचार: अर्थ,परिभाषा एवं महत्व

ख)   हिन्दी में जनसंचार माध्यमों की आवश्यकता एवं महत्व

ग)   परम्परागत जनसंचार माध्यमों लोकसंगीत,लोकनाट्य,मेले,प्रदर्शनी आदि द्वारा प्रसारित
      जनसंचार का स्वरूप

घ)   आधुनिक जनसंचार माध्यमों का स्वरूप और हिन्दी

इकाई-2   प्रिन्ट मीडिया: स्वरूप और संरचना   (8 घंटे)

क) समाचार पत्रों का स्वरूप, पत्रिकाओं का स्वरूप

ख) रिपोर्टिंग एवं सम्पादकीय लेखन

ग) संवाद समिति और प्रेस संगठनों की स्वरूप-संरचना

घ) प्रायोगिक कार्य: दो समाचार पत्रों या पत्रिकाओं का तुलनात्मक अध्ययन

इकाई-3   इलेक्ट्रानिक मीडिया: स्वरूप और संरचना   (8 घंटे)

क)   टेलीविजन की विकास यात्रा, टेलीविजन के लिए समाचार लेखन, टेलीविजन के लिए फीचर
      लेखन, टेलीविजन बाज़ार, दूरदर्शन पत्रकारिता

ख)   रेडियो की विकास यात्रा, रेडियो के लिए समाचार लेखन, रेडियो के लिए फीचर लेखन, रेडियो की
      प्रसारण तकनीक, रेडियो पत्रकारिता

ग) रेडियो एवं टेलीविजन के समाचार संपादन के सिद्धांत, दूरदर्शन और निजी चैनलों की संरचना और
      संगठन का अध्ययन|

इकाई-4   न्यू मीडिया: स्वरूप और संरचना   (9 घंटे)

क) ई-पेपर, ई-मैगजीन,इंटरनेट, वेब-पोर्टल, सोशल नेटवर्किंग साइट्स

ख) सूचना प्रौद्योगिकी एवं मास मीडिया

ग) नवीनतम सूचना तकनीक एवं समाज

इकाई-5 जनसंचार माध्यमों का वर्तमान स्वरूप और हिन्दी भाषा   (8 घंटे)

क)   भूमंडलीकरण और जनसंचार माध्यम

ख)   सामाजिक परिवर्तन में जनसंचार माध्यमों की भूमिका

ग) हिन्दी भाषा के प्रसार में जनसंचार माध्यमों की भूमिका

निर्धारित पाठ्यपुस्तकें -

1 डॉ. अर्जुन चहवाण   मीडियाकालीन हिन्दी स्वरूप एवं संभावनाएं, राधाकृष्ण,दिल्ली,2005

2 डॉ.वशिष्ठ नारायण त्रिपाठी   भारतीय लोकनाट्य,वाणी प्रकाशन,दिल्ली

3 जगदीश चन्द्र माथुर   परंपराशील नाट्य,राजकमल,दिल्ली,2006

4 डॉ. एस. के. दुबे   पत्रकारिता के नए आयाम,लोकभारती,इलाहाबाद,2006

5 विष्णु राजगढ़िया   जनसंचार सिद्धांत और अनुप्रयोग, राधाकृष्ण,दिल्ली,2008

6 रामशरण जोशी (सं)   समाचार संपादन,राधाकृष्ण,दिल्ली,1991

7 गुलाब कोठारी   समाचार-पत्र प्रबंधन,राधाकृष्ण,दिल्ली,1992

8 पूरन चन्द्र जोशी   अवधारणाओं का संकट, राजकमल,दिल्ली

9 पी.के आर्य   इलेक्ट्रानिक मीडिया,प्रतिभा प्रतिष्ठान, नई दिल्ली,2007

10 संजय कुमार (सं)   आकाशवाणी समाचार की दुनिया, प्रभातप्रकाशन, नई दिल्ली,2010

11 रवींद्र शुक्ला   सूचना प्रौद्योगिकी और समाचार-पत्र,राधाकृष्ण, नई दिल्ली,2008

12 जगदीश्वर चतुर्वेदी   जनमाध्यम प्रौद्योगिकी और विचारधारा,अनामिका पब्लिशर्स एंड डिस्ट्रीब्यूटर्स, नई दिल्ली

13 डॉ. ठाकुरदत्त शर्मा 'आलोक'   हिन्दी पत्रकारिता एवं जनसंचार,वाणी,दिल्ली,2000

14 जवरीमल्ल पारख   जनसंचार माध्यमों का राजनीतिक चरित्र, अनामिका पब्लिशर्स नई-दिल्ली,2006

15 जगदीश्वर चतुर्वेदी,सुधा सिंह   मीडिया प्राच्यवाद और वर्चुअल यथार्थ,अनामिका पब्लिशर्स एंड डिस्ट्रीब्यूटर्स,नई-दिल्ली,2008

16 डॉ. पवन अग्रवाल   समाचार संरचना और प्रस्तुति,आलेख प्रकाशन, नवीन शाहदरा,दिल्ली, 2004

17 नीरज कुमार राय   सूचना प्रौद्योगिकी और सामाजिक संरचना,ज्ञान पब्लिशिंग हाउस,दिल्ली,2011

व्याख्यान योजना-

व्याख्यान सं.	व्याख्यान विषय	निर्धारित स्रोत
1	इकाई एक प्रारम्भपरिभाषा,अर्थ :जनसंचार ,	पाठ्यपुस्तक +5
3-2	जनसंचार माध्यम महत्व :	पाठ्यपुस्तक 1
5-4	हिन्दी में जनसंचार माध्यमों की आवश्यकता एवं महत्व	पाठ्यपुस्तक
8-6	लोकसंगीतप्रदर्शनी आदि द्वारा प्रसारित ,मेले,लोकनाट्य, जनसंचार का स्वरूप	पाठ्यपुस्तक 3+2+1
9	आधुनिक जनसंचार माध्यमों का स्वरूप	पाठ्यपुस्तक 1
10	आधुनिक जनसंचार माध्यम और हिन्दी	पाठ्यपुस्तक 1
12-11	इकाई दो प्रारम्भपत्रिकाओं का ,समाचार पत्रों का स्वरूप , स्वरूप	पाठ्यपुस्तक 13+4
13	रिपोर्टिंग और सम्पादकीय लेखन	पाठ्यपुस्तक 13+7+6+4
15-14	संवाद समिति और प्रेस संगठनों की स्वरूपसंरचना-	पाठ्यपुस्तक 16+7+6
16	दो समाचार पत्रों या पत्रिकाओं का तुलनात्मक अध्ययन	प्रायोगिक कार्य
17	इकाई तीन प्रारम्भटेलीविजन की विकास यात्रा ,	पाठ्यपुस्तक 13+12+9+8+4
18	टेलीविजन के लिए समाचार लेखन टेलीविजन के लिए फीचर लेखन	पाठ्यपुस्तक 13+12+9+8+4
19	टेलीविजन बाज़ार	पाठ्यपुस्तक 13+12+9+8+4
20	दूरदर्शन पत्रकारिता	पाठ्यपुस्तक 13+12+9+8+4
21	रेडियो की विकास यात्रा	पाठ्यपुस्तक 13+12+10+9+4
24-22	रेडियो के लिए समाचार लेखनरेडियो के लिए फीचर लेखन,	पाठ्यपुस्तक

		13+12+10+9+4
25	रेडियो की प्रसारण तकनीक	पाठ्यपुस्तक 13+12+10+9+4
26	रेडियो पत्रकारिता	पाठ्यपुस्तक 13+12+10+9+4
27	रेडियो एवं टेलीविजन के समाचार संपादन के सिद्धांत	पाठ्यपुस्तक 12+10
28	दूरदर्शन और निजी चैनलों की संरचना और संगठन का अध्ययन		पाठ्यपुस्तक 12+10
30-29	इकाई चार प्रारम्भइंटरनेट,मैगजीन-ई ,पेपर-ई ,	पाठ्यपुस्तक 16+15+11
31	वेबसोशल नेटवर्किंग साइट्स ,पोर्टल-	पाठ्यपुस्तक 16+15+11
33-32	सूचना प्रौद्योगिकी एवं मास मीडिया	पाठ्यपुस्तक 15+11
35-34	नवीनतम सूचना तकनीक एवं समाज	पाठ्यपुस्तक 17+14
37-36	इकाई पांच प्रारम्भभूमंडलीकरण और जनसंचार माध्यम ,	पाठ्यपुस्तक 15
39-38	सामाजिक परिवर्तन में जनसंचार माध्यमों की भूमिका	पाठ्यपुस्तक 15+14
40	हिन्दी भाषा के प्रसार में जनसंचार माध्यमों की भूमिका	पाठ्यपुस्तक 17

School of Journalism Mass Communication & New Media

Department of Journalism & Creative Writing

School of Journalism, Mass Communication & New Media
Name of the Department: Department of Journalism & Creative Writing
Name of the Programme of Study: MA (Journalism & Creative Writing)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisite/ Co-requisites if any	Teacher
1.	JCW 412	Designing and Editing in Print Media	4	NA	Dr.Manukonda Rabindranth
2.	JCW 402	Development Communication	4	NA	Dr. Archna Katoch
3.	JCW 407	Media Management and Newspaper Production	4	NA	Dr. Archna Katoch
4.	JCW 405	Computer Applications for Journalism	4	NA	Harikrishnan B.
5.	JCW 507	Film Appreciation	2	NA	Harikrishnan B.
6.	JCW 403	Evolution of Communication and Journalism	4	NA	Harsh Mishra
7.	JCW 519	Sports Journalism	4	NA	Harsh Mishra

Courses for Semester 3:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	JCW 521	Media Laws and Ethics of Journalism	4	NA	Dr.Manukonda Rabindranath
2.	JCW 406	Feature and Creative Writing	2	NA	Dr. Archna Katoch
3.	JCW 529	Editorial Writing	2	NA	Dr. Archna Katoch
4.	JCW 511	Legal Journalism	4	NA	Dr. Archna Katoch
5.	JCW 502	Photo Journalism	4	NA	Harikrishnan B.
6.	JCW 524	Education Journalism	2	NA	Harikrishnan B.
7.	JCW 515	Art and Culture Journalism	4	NA	Harikrishnan B.
8.	JCW 513	Business Journalism	4	NA	Harsh Mishra
9.	MCE 405	Corporate Communications	4	NA	Harsh Mishra

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	JCW 407	Media Management and Newspaper Production	4	NA	Dr. Archna Katoch
2.	JCW 402	Development Communication	4	NA	Dr. Archna Katoch
3.	JCW 529	Editorial Writing	2	NA	Dr. Archna Katoch
4.	JCW 406	Feature and Creative Writing	2	NA	Dr. Archna Katoch
5.	JCW 511	Legal Journalism	4	NA	Dr. Archna Katoch
6.	JCW 412	Designing and Editing in Print Media	4	NA	Dr.Manukonda Rabindranth
7.	MCE 405	Corporate Communications	4	NA	Harsh Mishra
8.	JCW 523	Media and Social Issues	2	NA	Harsh Mishra
9.	JCW 519	Sports Journalism	4	NA	Harsh Mishra
10.	JCW 507	Film Appreciation	2	NA	Harikrishnan B.
11.	JCW 524	Education Journalism	2	NA	Harikrishnan B.
12.	JCW 515	Art and Culture Journalism	4	NA	Harikrishnan B.
13.	JCW 502	Photo Journalism	4	NA	Harikrishnan B.

Designing and Editing in Print Media

Department of Journalism and Creative Writing
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Course Code: JCW 412
Course Name: Designing and Editing in Print Media
Credits Equivalent: 4 Credits
(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity; 15 hours of other workload such as independent individual/ group work; editing of news items; proof reading / re-writing / writing editorials; making dummy news papers; designing page makeup; paper presentations/ seminars, etc.)

Course Objectives:

This course aims at

1. To equip the learners an in depth understanding of how to edit a report and developing basic skills in editing for print media.
2. Enabling the students to know the various functions of editorial staff.
3. To equip the learners with information on compiling, cropping of pictures, and rewriting.
4. To develop the learners in writing different styles and forms of headlines, types of leads and their functions.
5. Exposing the students to analyse the principles of newspaper design, layout, and discusses about different types of page make-up.
6. The students will get insights into the legal and ethical issues involved with editorializing and the principles involved in good writing.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
    i.   Preparing Dummy News Papers: 10 %
    ii.   Presentations / Seminar Paper: 15%

Course Content:

I. (8 Hours)

Definition of Editing & Aims and Objectives
Functions of Editing
Editorial Executives and their roles
Editorial Department
Qualities and Responsibilities of Editor
Copy Editor
Practices of Copy Editing
Tips for Good Writing & Editing Wire copies

II. (8 Hours)

Writing Headlines
Functions of headlines
Headline Styles and Forms
Headline Variants
Typographical Patterns of Headline writing
Principles for Writing News Headlines
Definitions, Functions & Classification of Editorials
Tips for Writing Editorials

III (8 Hours)

Sources of Pictures
Writing Captions/ Cut lines
Picture Composition
Cropping Pictures
Types of News Photographs
Importance of Re-Writing
Principles for writing the news
Copy editing Symbols

1V (8Hours)

Design Vs Layout
Elements in Designing
Functions of design
Principles of Design
Types of Page Makeup
Text Breakers
Purpose and Types of Letters
Kinds of News Paper Columns

V **(8 Hours)**

What is Video Editing
The goals of Editing
Different Types of Video Editing
Video Editing Terminology
Legal Issues and Defamation
Contempt of Court
Libel and Slander
Journalistic Ethics

Prescribed Textbooks:

Manukonda. R. (2013) Editing-Principles and Practices. Delhi: Regal *Publications.*

Shamsi, N (2008). *Encyclopaedia of Editing.* New Delhi: Anmol Publication Ltd.

Suggested Extra Readings:

Barbara, E & Barbara G. E. (2001) *The Copy Editing and Headline Handbook*. Cambridge: Perseus Pub., co.

Dorothy A. B. & Diane, B (1996). *Creative Editing for Print Media* (Wadsworth series in mass communication & journalism).

Carl, S. S.(2008). *Editing for Today's Newsroom: A Guide for Success in a Changing Profession.* (Routledge Communication Series)

Shamsi, N (2007). *Journalism: Editing*. New Delhi: Anmol Publication Ltd.

Srivastav, K.M. (2009) News Reporting and Editing. New Delhi: Jain Publishers.

Computer Applications for Journalism

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: JCW 405

Course Name: Computer Applications for Journalism

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To enable students to handle different computer applications needed for journalists
- To develop computer and project management skills necessary to be successful in whatever aspect of the journalism industry.
- To enable students to design newsletters, tabloids and web pages with the help of different software applications
- To develop special skills needed for computer assisted reporting

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

<u>UNIT- I</u>: Page make up applications   **(10 Hours)**

- Introduction to page make up applications
- Quark Express, Indesign, Adobe Pagemaker
- Designing a newsletter on a page make up software
- Inserting columns, headings and pictures
- Working with text
- Graphics and Drawings
- Formating Techniques
- Managing multiple page documents
- Printing
- Graphics Editors

<u>UNIT - II</u>: Introduction to Corel Draw/ Adobe Illustrator   **(9 Hours)**

- Working Environment and interface
- Working with Objects,
- Outing
- Clipart and Symbols
- Control of Object Outlines
- Text Creation and Alignment
- Bitmap Graphics
- Conversions
- Graphs

<u>UNIT - III:</u> Photo editing applications   **(7 Hours)**

- Basics of photo editing
- Photo editing for the print media
- Introduction to photo editing applications
- Photoshop/Picasa/ Gimp
- Cropping an image
- Adjusting brightness and contrast of an image
- Other photo editing

<u>UNIT- IV</u>: Computer Assisted Reporting   **(7 Hours)**

- What is Computer assisted reporting
- Internet sources for CAR in India
- Using search engines effectively as a journalist
- Locating relevant info on web
- Deep searching using Google or other meta search engines
- Social Media as a news source
- Finding out and keeping in touch with sources on web

UNIT- V: Blogging Platforms   (7 Hours)

- Blog as a platform of journalistic expression
- Different blogging platforms
- Starting a blog
- Managing a blog
- Finding readers
- Monitoring the traffic
- Monetizing

Students have to bring out a two page tabloid-size newspaper as a group assignment. Students have to design a magazine cover, start a blog as part of the course activities.

Prescribed Text Books:

1. Harrower, Tim (2007). The Newspaper Designers Handbook, Sixth Edition, McGraw-Hill Education

2. Blanter, David. (2007). Real World QuarkXPress 7, Peachpit Press

3. Houston, Brant(2003) Computer Assisted Reporting: A Practical Guide, Bedford/St. Martin's Publishers

Suggested Additional Readings:
1. Stefanac, Suzanne (2006). Dispatches from Blogistan: A travel guide for the modern blogger, New Riders

Film Appreciation

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code:　　　　JCW507

Course Name:　　　　 Film Appreciation

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To prepare students to understand Film as an art form and mass media
- To impart visual literacy to the students so that they are able to appreciate, analyse and interpret visual messages produced in the format of film.
- To help students to understand the social, cultural as well as economic aspects of film as an influential mass medium.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation:　　　　5%
    - Group Discussion:　　　　　10%
    - Home Assignments:　　　　5%
    - Role Play:　　　　　　　　5%

Course Contents:

UNIT- I: Film Basics   **(5 Hours)**
- Film as a text and art
- The language of film
- Signs – denotative and connotative meanings
- Syntax of the film language
- Decoding the language of the film

UNIT - II: History of film and film movements   **(5 Hours)**
- Film evolution and History
- Realism, Expressionism and Auteur
- French New Wave
- Neo-realism and after
- Film in the digital era

UNIT - III: Indian Cinema   **(4 Hours)**
- History of Indian films
- Parallel film movement in India
- Regional language films in India
- Major film makers and their works

UNIT- IV: Appreciating film   **(3 Hours)**
- Appreciating film as a reviewer
- Viewing skills
- Writing on film

UNIT- V: Film and culture   **(3 Hours)**
- Film as part of popular culture
- Film during globalisation
- Present trends

Film Screenings are a part of the course. All students should attend the film screenings compulsorily.

Prescribed Text Books:

4. Monaco, James. (2000). *How to Read a Film: The world of movies, media, and multimedia*, NY: Oxford University Press.
5. LoBrutto, Vincent.(2005). *Becoming film literate: the art and craft of motion pictures*. CT: Praeger Publishers
6. Hogan, Patrick Colm.(2008) *Understanding Indian movies : Culture, cognition, and cinematic imagination*. Austin, University of Texas Press.
7. Doughty, Routh., Shaw, Deborah. (Eds).(2009). *Film: The Essential Study Guide*, London: Routledge
8. Dwyer, Rachel.(2006). *Filming the gods: religion and Indian cinema*, NY: Routledge

Suggested Additional Readings:

2. Ray, Satyajit (1994), Our Films, Their Films, Hyperion Books
3. Pramaggiore, Maria., Wallis, Tom.(2008).*Film: A critical Introduction (Second Edition),* Boston: Pearsons

Media Laws and Ethics of Journalism

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Course Code: JCW 521
Course Name: Media Laws and Ethics of Journalism
Credits Equivalent: 4 Credits
(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of / practical / Tutorial / teacher-led activity; 15 hours of other workload such as independent individual / group work; analysing of case studies; reading the judgments / discussion on various media acts and amendments / sharing of views on cyber crimes / discussion on recent media related cases and social networking sites / new media / paper presentations/ seminars, etc.)

Course Objectives:

This course aims at
1. To equip the learners an in depth information about Constitution of India in general with special reference to Articles with regard to Mass Communication.
2. The students will know the decisions of the Judiciary in Land mark cases of Freedom of Speech and Expression.
3. To make aware of the guidelines of Press Council of India and Rights of the Working Journalists.
4. The students will learn about the Law of Defamation, Contempt of court, Official Secrets Act, Censorship, Film censorship and Cinematographic Act.
5. They will know about the Cyber space crimes, Laws related to cable, Satellite communication and government regulations, IT Act 2000 and Cyber Laws.
6. The students will also know Regulations in Advertising, Intellectual Property Rights and Acts which are related to media.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
   iii. Recent cases: 10 %
   iv. Presentation/Seminar Paper: 15%

Course Content:

I. (8 Hours)

Indian Constitution

Article 19 (1) A

The Official Secrets Act

The Press and Registration of Books Act

II (8 Hours)

Press and Publication (Parliamentary Proceedings) Act, 1976

The Working Journalists Act 1955

Press Council Act-1978

The Cinematography Act, 1952

III (8 Hours)

Law of Defamation

Contempt of Court Act, 1971

Censorship

Internet Law and Cyber crimes

1V (8Hours)

Laws Relating to Cable and Satellite Television

Information Technology Act-2000

Regulations on Advertising

Intellectual Property Rights (IPR)

V **(8 Hours)**

The Indecent Representation of Women (Prohibition) Act, 1986

The Children Act, 1960

The Young Persons (Harmful Publications) Act 1956

Mass Communication Ethics

Prescribed Textbooks:

Manukonda. R. (2013). *Mass Communication Laws and Ethics.* Delhi: D.P.S. Publications.

Neelambar. M. (2010). *Media laws and Ethics.* New Delhi: PHI Learning, Pvt. Ltd.

Suggested Extra Readings:

Basu, D.D. (1993). *Introduction to the Constitution of India.* New Delhi: Prentice-Hall of India, Pvt.Ltd.

Basu, D.D. (1996). *Law of the Press Third Edition.* New Delhi: Prentice Hall of India, Pvt.Ltd.

Rayudu, C.S. & Nageswara, R (2010). *Mass Media Laws and Regulations.* New Delhi: Himalaya Publishing House.

Feature and Creative Writing

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code: JCW 406

Course Name: Feature and Creative Writing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Provide an opportunity to develop writing skills in the gathering and creation of in-depth features.
- The students will be given practical assignments to drill the skills needed for writing different types of features.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%

   - Class Participation: 5%
   - Writing skills: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

<u>**UNIT- I**</u>**: General Principles of Writing**   **(4 Hours)**

- Importance of writing, Types of writing: creative and non-creative, The substance of writing, Some tips to an aspiring writer
- Qualities of creative writing, Most important norms of creative writing
- Authorial Voice, Structure of material
- Dramatization of ideas, Preparing a press copy

<u>**UNIT- II**</u>**: Feature Writing**   **(4 Hours)**

- Definition and characteristics of a feature
- Classifications of features, Qualities of a feature writer.
- Definition and presentations: some do's and don'ts
- Difference between features, articles and news

<u>**UNIT - III**</u>**: Process of Writings Features**   **(4Hours)**

- Identifying significant topic, Collection of material
- Writing the feature, Types of feature leads
- Editing and organization
- Use of appropriate style and language

<u>**UNIT - IV**</u>**: Interview and Feature Writing**   **(4 Hours)**

- Tools and techniques of writing
- Importance and uses of Interview in feature writing
- Profiles of personalities
- Writing reviews of books and films

<u>**UNIT- V**</u>**: Writing Feature for other Media**   **(4 Hours)**

- Magazine feature writing
- Online Features
- Benefits of feature writing
- Varieties of the feature stories and examples

Text Books:

1. Garrison, Bruce (2010). Professional Feature Writing. Routledge publisher.
2. Kamath, M. V. (1992). Journalist's Handbook. Vikas Publishing House, New Delhi.

Additional Readings:

1. Aggarwal, VirBala (2006). Essentials of Practical Journalism. Concept Publishing Company, New Delhi.
2. Friedlander, Edward Jay & Lee, John (2010). Feature Writing: The pursuit of Excellence. Allyn& Bacon Publisher.
3. Wheeler, Sharon (2009). Feature Writing For Journalists. Taylor & Francis Group.
4. Johanson, Carla (2004). 21st Century Feature Writing. Allyn & Bacon.
5. IGNOU Notes.

Editorial Writing

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code:	JCW 529
Course Name:	Editorial Writing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: This course is designed to

- Introduce the students to the field of editorial writing, audience understanding and persuasion.
- The students will be given practical assignments to drill the skills needed for writing and it will help them develop new skills as a critical thinker.
- Discuss the skills and judgment needed for writing and selection of opinion pieces.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Writing skills: 5%
   - Home Assignments: 10%
   - Role Play: 5%

Course Contents:

UNIT- I: Concept of Editorial Writing   **(4 Hours)**

- The editorial page
- Defining editorial
- Qualities and responsibilities of the editor
- Deputy editor, assistant editor and editorial staff

UNIT- II: Editorial Writing Rules and Tools   **(4 Hours)**

- Rules for editorial writing
- Concept of op-ed page, Editorial policy
- The editorial board, Editorial conference
- Tools: Reading, library, clippings and research

UNIT – III: Writing the Editorials   **(4 Hours)**

- Kinds of editorial writing: Leaders' opinion articles, analytical articles, current topics, importance of letters to editor.
- Structure of editorials
- Types of editorials
- Planning of editorial page, Editing the opinion articles: do's and don'ts

UNIT - IV: Writing Columns and Middles   **(4 Hours)**

- Planning and writing columns
- Series of Articles
- Middles
- Editorial cartoons

UNIT - V: Editorials and other Forms of Writing   **(4 Hours)**

- Letter to editor, Selecting and editing letters to the editor
- Comparative study of edit page of local and national dailies
- Magazine Editorials
- Reading and analysing editorials, opinion articles on a particular issue by various newspapers

Text Book:

1. Aggarwal, VirBala (2006). Essentials of Practical Journalism. Concept Publishing Company, New Delhi.
2. Kamath, M. V. (2009). Professional Journalism. Vikas Publishing House, New Delhi.
3. Stonecipher, Harry (1990). Editorial and Persuasive Writing: Opinion functions of the News media. Hastings House, New York.

Additional Readings:

1. Clark, Roy Peter (2006). Writing Tools: 50 essential strategies for every writer. Little, Brown and Company, New York.
2. Nicholls, Brian (1972). Features with Flair. Vikas Publications, Delhi.
3. Rystrom, Kenneth (1983). The why, who and how of the Editorial Page. Random House, New York.

Photojournalism

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Course Code: JCW 502

Course Name: Photojournalism

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To prepare students for a professional career as photojournalists and photo-editors in the media organizations.
- To develop an understanding about how visuals play a major role in the communication process and how to create potent visuals.
- Enable them to understand and acquire skills needed for producing and fine tuning visuals for different media platforms like Print media and Web.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

UNIT- I: Basics of Photography   **(6 Hours)**
- What is photography? – Nature and scope of photography
- Evolution of photography and photo journalism
- photography as an art form
- Pictorialism and realism
- language of the visual
- Branches of photography

UNIT - II: Equipment and technology   **(10 Hours)**
- Functioning of a camera
- Types of cameras
- Types of lenses
- Flashes
- Camera controls
- Controlling aperture and shutter speed
- Creative usage of exposure
- depth of field
- Lighting techniques
- Three-point lighting

UNIT - III: Techniques of photography   **(8 Hours)**
- Composing pictures
- principles of composition
- Elements of composition
- Basics of photo editing
- introduction to photo editing software
- Photo editing for photojournalists
- Displaying output
- Printing or displaying

UNIT- IV: Basics of Photojournalism   **(11Hours)**
- Photojournalism- scope and evolution
- Equipment used by photojournalists
- Skills of photojournalism
- Covering different beats
- Covering Sports
- Wildlife Photography
- language of a photojournalist
- Photo-series and photo-essays
- Writing captions
- Photojournalism in the convergence era
- Using images on the web

UNIT- V: Photojournalism and ethical issues   **(5 Hours)**

- Ethics in photo journalism
- Code of Conduct for Photojournalists
- Stereotyping and news photographs
- Intellectual Property Rights
- Creative Commons

Prescribed Text Books:

9. Sontag, Susan.(1973), *On Photography*, Rosetta Books, LLC
10. Kobre, Kenneth (2010), *Photojournalism: The professionals' Approach*, Sixth Edition. Focal Press
11. Peterson, Bryan F.(2003).Learning to see creatively: design, color & composition in photography, Amphoto books

Suggested Additional Readings:

1. Krause, Jim. Photo Idea Index. New York, NY: How, 2009
2. Ang, Tom. Fundamentals of Photography: The Essential Handbook for Both Digital and Film Cameras. New York, NY: Knopf, 2008.

Education Journalism

Course Code: JCW 524

Course Name: Education Journalism

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed

- To create an awareness in the students regarding the professional practices and standards used by educational journalists

- To develop the skills needed to be an educational journalist

- To help students to understand about the different issues and present trends in the education sector

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

Course Contents

UNIT I : Education Journalism: The Basics   **(4 Hours)**
- What is Education Journalism
- Evolution and History of Education Journalism
- Significance of Education Journalism
- Education Journalism in India

UNIT II : Covering Education Beat   **(4 Hours)**

- Reporting basics
- Reporting education news
- Sources of Education news
- Writing education columns

UNIT III: Education Scenario in India   **(5 Hours)**

- State of education in India
- Authorities of Higher Education
- Major education institutes in India
- Special education
- Right to Education Act and other legislations

UNIT IV: Present Trends in Education   **(4 Hours)**

- Education in the era of globalization
- Course Booms
- Growth of the private sector
- Fake coins in the trade

UNIT V: Standards and Ethics of Education Journalists   **(3 Hours)**

- Skills of Education journalism
- Ethical standards of education journalism
- Future of Education Journalism

Text Books:

1. Carr, Sarah.(2013). *Reporters Guide*. Education Writers Association
2. Ryan, Carson W. (1923). *Recent Developments in Educational Journalism*, Washington: Dept of the Interior Bureau of Education, Government Printing Office
3. Rich, Carole (2010), Writing and Reporting News: A Coaching Method, Sixth Edition, Boston: Wadsworth, Cengage Learning
4. Rao, R. K.(2000). Education in India, Gyan Books

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Course Code: JCW 515

Course Name: Art and Culture Journalism

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To develop skills in arts reporting, reviewing & profile / feature construction through attending cultural events, consuming cultural products, meeting cultural workers, in a variety of milieu
- To encourage students to develop a range of different approaches in review features, and to reflect critically on them
- To explore critically the various genres of journalistic coverage of the arts and popular culture, from fine arts to television
- To acquaint students with the key concepts and debates concerning the principal forms of artistic expression

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1.   Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

UNIT- I: **Art Journalism Basics**   **(7 Hours)**
- What is Art Journalism
- Overview of functions of Art Journalism
- Cultural functions of Art Journalism
- History of Art Journalism
- Art Journalism in India
- Eminent Art Journalists and their works
- Role of critical review in society

UNIT - II: **Art as a beat**   **(11Hours)**
- Covering Art as a beat
- Sources of the Art beat
- Covering Art Festivals
- Major art institutions and artists
- Skills needed for an Art Journalist
- Interview skills of an Art Journalist
- Interviewing for Print
- The Broadcast interview
- Specialisation within Art Beat
- Reporting Art in a wider context
- Genres in art journalism

UNIT - III: **Reviewing Art**   **(8 Hours)**
- Structure of Review
- Key Components of a Review
- Putting the review in a point of view
- Reporting Art in context
- Reportage Vs. Reviewing
- Reviewing different Art forms
- Promotional Vs. Critical Reviewing
- Writing promotional reviews

UNIT- IV: **Writing Reviews**   **(9 Hours)**
- Writing film reviews
- Types of film reviews
- Reviewing live performances
- Reviewing exhibitions
- Writing Book Reviews
- Constructing Effective Book Reviews
- Narrative Techniques in Book reviews
- Pace, Tone and structure of Book reviews
- Writing Profiles

UNIT- V: Culture and Nation   (5 Hours)

- Importance of Cultural Production
- The concept of Cultural industries
- Economics of the Cultural industries
- Importance of entertainment industries in national economies
- Media and Cultural industries

Prescribed Text Books:

1. Keeble, Richard(ed.),(2010). *Print Journalism: a critical introduction*, Abingdon: Routledge.

2. Titchener, Campbell B. (1998) Reviewing the Arts, Mahweh, NJ: Lawrence Erlbaum

3. Barber, Lynn (1992) Mostly Men, London: Penguin

Suggested Additional Readings:

1. Kael, Pauline (1990) Hooked: Film Writings 1985-88, London: Marion Boyars
2. Remnick, David ed. (2001) Life Stories. Profiles from the New Yorker, London: Pavilion Book

Business Journalism

COURSE CODE: JCW 513

COURSE NAME: BUSINESS JOURNALISM

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of journalistic writing work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work/ house journals; obligatory/ optional work placement; literature survey/ library work; writing of papers/ presentations/ seminars, etc.)

Course Objectives: The Course is designed to:

- Enable the students to learn to research and write on economy and business.
- Assist the students in understanding the basic concepts related with business and economy.
- Equip students with the knowledge and skills required to cover economy, businesses, financial markets as well as relatedsocio-economic issues such as poverty, unemployment, sustainable development, and consumer affairs.
- Inculcate explanatory writing skills in the students.
- Enable the students to appreciate the role of Business Journalism in growth and advancement of developing economies.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 Marks out of 100
   - Surprise Progress Review Tests (Two) : 10 marks (The tests may be oral or written)
   - Presentation: 5 marks
   - Assignments: 10

Course Contents:

UNIT I: Business Journalism: An Introduction   **(08 hours)**

- An introduction to journalism.
- Business Journalism: Concept, Significance and Scope.
- Origin, Growth and Development of Business Journalism.
- Objectives of Business Journalism.
- Key attributes of a Business Journalist.
- Role and Responsibilities of a Business Journalist.
- Sources for Business News.
- Business Journalism in Emerging Economies.
- Business Journalism Ethics.

UNIT II: Important Business Concepts   **(12 hours)**

- Economics: Concept and Definitions.
- Market: Meaning and Types.
- National Income: Meaning and Concepts.
- Money, Banking and Inflation.
- Budgeting: Monetary Policy and Fiscal Policy& Deficit Financing.
- Capitalism, Socialism and Mixed Economy.
- Globalization, Liberalization, International Trade and Balance of Payments.
- Economic Planning – Meaning and Types. 12th Five Year Plan.
- Public Sector Enterprises vs. Private Sector Enterprises.
- Large, Medium, Small and Micro Sector Enterprises.
- Understanding Company Balance Sheets
- Privatization, FII and FDI.
- Infrastructure and its Relevance.

UNIT III: Indian Business Environment   **(04 hours)**

- Key Industries in India.
- Government Policies & Legislations and their Impact on Businesses.
- Key Industry Associations in India: CII, ASSOCHAM and FICCI.
- Major Challenges faced by the Indian Industries.
- Role of Indian Industries in Growth and Development of the Country.
- Corporate Governance Practices in India: A Critical Appraisal.

UNIT IV: Financial Markets   **(08 hours)**

- Fundamentals of Stock Markets.
- Indian and International Stock Markets: An Overview
- Initial Public Offerings. (IPO)
- Mergers and Acquisitions.

- Mutual Funds.
- Securities and Exchange Board of India.

UNIT V: Writing Business News Stories   **(08 hours)**

- Basic Skills Required for Writing Business News Stories.
- Language of Business Journalism.
- Sources for Gathering Business News.
- Reporting the Performance of a Business Entity.
- Covering Financial Markets.
- Major Challenges confronting a Business Journalist.

Prescribed Text Books:

- Roush, C. 2004. Show me the money. Writing business and economics stories formass communication. Mahwah, N.J. & London: Lawrence Erlbaum Associates.
- K.K. Dewett, Modern Economic Theory, (Edition 2010), S. Chand & Company Ltd.

Suggested Additional Reading:

- Stiglitz, J.E. 2006. Making globalization work. London: Allen Lane.
- Vaitilingham, R. 2001. The Financial Times guide to using the financial pages, London: Prentice Hall.
- Jay Taparia, (2004), Understanding Financial Statements: A Journalist's Guide, Marion Street Press, 2004.

Corporate communications

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in; Phone: 01892 237285-2237289, 229330; Fax: 01892 237286

COURSE CODE: MCE 405

COURSE NAME: CORPORATE COMMUNICATIONS

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of CC writing work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work/ house journals; obligatory/ optional work placement; literature survey/ library work; writing of papers/ presentations/ seminars, etc.)

Course Objectives: The Course is designed to:

- Enable the learners to understand the basic concepts associated with the theory and practice of Corporate Communications.
- Develop basic skills for practice of Corporate Communications.
- Expose the students to multifarious Corporate Communications activities.
- Enable the students to appreciate the role of Corporate Communications in growth and advancement of corporate entities.
- Equip the learners with the skills required to plan and execute Corporate Communications activities in different types of organisations.
- Apprise the learners of the emerging challenges in the field of Corporate Communications.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 Marks out of 100
    - Surprise Progress Review Tests (Two) : 10 marks (The tests may be oral or written)
    - Presentation: 5 marks
    - Assignments: 10

Course Contents:

UNIT I: Corporate Communications: An Introduction   (12 hours)

- Basics of Communication.
- Corporate Communications: Definitions and Key Concepts.
- Origin, Evolution and Growth of Corporate Communications.
- Tools of Corporate Communications.
- Key functions of Corporate Communications.
- Scope and Significance of Corporate Communications.

UNIT II: The Corporate Communications Universe   (12 hours)

- An Introduction to Public Relations.
- Public Relations and Corporate Communications.
- An Introduction to Advertising.
- Advertising and Corporate Communications.
- Introduction to Integrated Marketing Communications (IMC)
- IMC and Corporate Communications.

UNIT III:Corporate Branding &Identity   (04 hours)

- An Introduction to Corporate Brands and Corporate Identity.
- Corporate Branding vs. Product Branding.
- Role of Corporate Communications in Creating and Managing Corporate Brands.
- Conflict between Internal and External Corporate Brand Perceptions.

UNIT IV: Corporate Communications Strategies   (06 hours)

- Corporate Communications: Perpetual Strategic Function.
- An Introduction to Corporate Communications Strategies.
- The Communications Strategy Model.
- Models for Managing Corporate Communications.

UNIT V: Corporate Communications: Trends and Issues   (06 hours)

- Corporate Communications in the Digital Era
- Ethics in Corporate Communications.
- Crisis Communications.
- Corporate Social Responsibility.

Prescribed Text Books:

- Joseph Fernandez, (2004), Corporate Communications-A 21st Century Primer, Sage Publications.
- Sandra M. Oliver, (2004), Handbook of Corporate Communications and Public Relations, Routledge.
- JoepCornelissen, (2004), Corporate Communications: Theory and Practice, Sage Publications.

Suggested Additional Reading:

- Balan K.R., Corporate Public Relations, Sterling Publishers Private Limited, New Delhi.
- Frazier Moore and Frank B.Kalupa (2002), Public Relations: Principles, Cases and Problems, Surjeet Publications, New Delhi.
- Narasimha Reddy C.V. (2009), Effective Public Relations and Media Strategy, PHI Learning Private Limited, New Delhi.
- Sam Black, (2008), Practical Public Relations, Universal Book Stall, New Delhi.
- Lars Thøger Christensen, MetteMorsing and George Cheney (2008), Corporate Communications: Convention, Complexity, and Critique, Sage Publications.

Mass Communication & Electronic Media

School of Journalism, Mass Communications & New Media
Name of the Department: Department of Mass Communication & Electronic Media
Name of the Programme of Study: MA (New Media Communication)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MCE 401	Mass Communication Theories and Processes	04	NA	Dr. R.P. Rai
2	MCE 402 A	Origin and Growth of Electronic and New Media	02	NA	Dr. R.P. Rai
3	MCE 408	Writing for New Media	04	NA	Kuldeep Singh
4	MCE 409	Critical Issues in New Media	04	NA	Dr. R. P. Rai
5	MCE 414	ICT in Governance	02	NA	Dr. Pradeep Nair
6	MCE 417	Digital Technology Divide and Social Inclusion	02	NA	Dr. Pradeep Nair
7	MCE 418	Exposure to New Media Industries	02	NA	Dr. Pradeep Nair
8	MCE 421	Community Media	02	NA	Dr. Pradeep Nair
9	MCE 425	Audio and Video Fundamentals	04	NA	Dr. R. P. Rai

Courses for Semester 3:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MCE 405	Corporate Communication	04	NA	Harsh Mishra
2	MCE 408	Writing for New Media	04	NA	Kuldeep Singh
3	MCE 410	Social Networking	04	NA	Dr. R.P. Rai
4	MCE 511	Media Production Techniques	04	MCE 425	Dr. Pradeep Nair
5	MCE 513	Radio Production	04	MCE 425	Dr. Pradeep Nair

6	MCE 514	Television Production	04	MCE 425, MCE 513	Kuldeep Singh
7	MCE 517	Production Management	02	MCE 418, MCE 511	Kuldeep Singh

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MCE 401	Mass Communication Theories and Processes	04	NA	Dr. R.P. Rai
2	MCE 402 A	Origin and Growth of Electronic and New Media	02	NA	Dr. R.P. Rai
3	MCE 408	Writing for New Media	04	NA	Kuldeep Singh
4	MCE 409	Critical Issues in New Media	04	NA	Dr. R. P. Rai
5	MCE 414	ICT in Governance	02	NA	Dr. Pradeep Nair
6	MCE 417	Digital Technology Divide and Social Inclusion	02	NA	Dr. Pradeep Nair
7	MCE 418	Exposure to New Media Industries	02	NA	Dr. Pradeep Nair
8	MCE 421	Community Media	02	NA	Dr. Pradeep Nair
9	MCE 425	Audio and Video Fundamentals	04	NA	Dr. R. P. Rai
10	MCE 405	Corporate Communication	04	NA	Harsh Mishra
11	MCE 408	Writing for New Media	04	NA	Kuldeep Singh
12	MCE 410	Social Networking	04	NA	Dr. R.P. Rai

Mass Communication Theory and Processes

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in
Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 401 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 401

Course Name: Mass Communication Theory and Processes

Faculty: Dr. R. P. Rai

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Introduce the students to the basic concepts of communication, its importance and dynamics.
- Construct a model to conceptualize, organize and thereby understand the process of communication.
- Familiarize the students with some important theoretical issues that seek to explain how the audience uses media and the effects of mass media in society.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Project: 10%

Course Contents:

UNIT- I: Communication   (8 Hours)
- Meaning, Definition and process of Communication
- Characteristics of Communication
- Stages, Growth and Development of Communication
- Elements of Communication
- Kinds of Communication

UNIT- II: Functions and Barriers of Communication   (8 Hours)
- Functions of Communication- Information, Instruction, Entertainment
- Persuasion, Debate and Discussion, Culture Promotion
- Interpretation, Linkage, Transmission of Values
- Communication Barriers-

UNIT - III: Models of Communication   (8Hours)
- Meaning, Definition, Developing Communication Models
- Harold D. Lasswell's Model
- Shannon and Weaver's Model
- Newcomb's Model
- Charles E. Osgood's Model
- George Gerbner's Model
- Westley and Mclean Model
- Wilbur Schramm's Model

UNIT - IV: Theories of Mass Communication   (8 Hours)

- Aristotle Theory
- Bullet Theory
- Agenda Setting Theory
- The uses and Gratification Theory
- Dependency Theory, Play Theory

UNIT - V: Four Press and Impact Theories   (8 Hours)

- Normative Theories of mass communication- Authoritarian Theory
- Libertarian Theory
- Social Responsibility theory
- Soviet Communist Theory
- Development Media Theory
- Democratic- Participant Media Theory
- Wilbar Schramm
- Lucian Pye
- Marshal McLuhan

Prescribed Text Books:

1. Baran, Stanley J. & Davis, Dennis K (2011), Mass Communication Theory: Foundations, Ferment and Future, Cengage Learning.
2. McQuail, Denis (2010) Mass Communication Theory, Sage Publications.
3. Stone, Gerald et al., Blackwell (2004), Clarifying Communication Theories– A Hands-on Approach, Reprinted in India by Surjeet Publication, New Delhi.

Suggested Additional Readings:

1. DeFleur, Melvin L. (2009), Mass Communication Theories: Explaining Origins, Processes, and Effects, Allyn& Bacon Publications.
2. Raymond S. Ross, Persuasion: Communication & Interpersonal Relations, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1974

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 402 A proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 402 A
Course Name: Origin and Growth of Electronic and New Media
Faculty: Dr. R. P. Rai

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Introduce the students about the origin and growth of electronic and new media while emphasizing references from India.
- Make the students understand the expansion of electronic media from conventional to digital.
- Familiarize the students with the issues of convergence and how the convergence of technology is helping to introduce the new distribution systems of new media.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Presentation: 5%

Course Contents:

Unit -I: History of Electronic Media   **(4 Hours)**

- Brief History of Broadcasting in India
- Cinema , Radio, Television and Internet

UNIT- II: Cinema   **(4 Hours)**

- Commercial Cinema
- Parallel Cinema
- Documentaries and Short Films
- Digital Cinema

UNIT- III: Radio   **(4Hours)**

- Public and Private Radio Systems
- FM Radio
- Internet Radio
- Community Radio

UNIT - IV: Television   **(4 Hours)**
- Satellite and Cable Television
- Educational Television: SITE, STV
- Internet Protocol Television
- High Definition Television

UNIT - V: Internet   **(4 Hours)**

- Online Newspapers
- E-mail and Social Networking
- ICT and Information Revolution
- Web Broadcasting

Prescribed Essential Readings:

1. Electronic Media Then, Now and Later by Norman Medoff, Focal Press (2011)
2. Mass Communication in India by Keval J. Kumar, Jaico Publications (2010)
3. Broadcasting, Cable, the Internet and Beyond: An Introduction to Modern Electronic Media by Joseph R. Dominick, McGraw Hill (2011)

Suggested Additional Readings:

1. FICCI-KPMG Media and Entertainment Industry 2010 by KPMG, FICCI
2. Modern Electronic Communication by Gary M. Miller, Prentice Hall, 9th Edition (2007).

Writing for New Media

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 408 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 408

Course Name: Writing for New Media

Faculty: Kuldeep Singh

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To acquaint students with the fundamental techniques of news writing.
- To make the students understand how to write various news stories for electronic media especially for television and internet.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

Unit -I: Introduction to New Writing (8 Hours)

- Concept of News Writing

- Media Laws: Defamation, Contempt of Court, Official Secret Act, Parliamentary Proceedings (Protection of Publication) Act, 1956

- Ethics: Press Commission of India

- International Code of Ethics and Principles

    Guidelines for writing news stories about HIV patients, Rape Victims

UNIT- II: News and News Writing (8 Hours)

- News and its types
- Sources of News
- Importance of news writing on input desk
- News Desks: Hub of Writing News Stories
- Basic Principles of News Writing
- Anchor intro and body part
- News value and its role

UNIT - III: News formats for Television (8Hours)

- Different formats of news stories
- Breaking news and Scroll news
- Slugs, header and Astons/supers
- Writing for Promos, Bangs/Stings
- Graphics: A value addition to Scripts
- Preparation of rundown
- Headline and coming-up

UNIT - IV: Types of Stories (8 Hours)

- Writing for Crime and Court Stories

- Political, Parliamentary Affairs and State Assembly stories

- Human interest and entertainment stories

- Writing for Sports and Business news

- News writing during riots, conflicts and wars
- Follow-up of news stories

UNIT - V: Vital Events and News Writing (8 Hours)

- Rewriting a copy of news agency
- Making of news from interviews and press conferences
- Union and Rail budget stories
- News Writing exercises (Practicals)

ESSENTIAL READINGS:

S.No.	Name of the Book	Author	Year of Publication	Publisher
1	Broadcast News Writing, Reporting and Producing (6th Edition)	Ted White	2013	Focal Press
2	Writing and Reporting News: A Coaching Methods (7th Edition)	Carole Rich	2012	Cengage Learning
3	Broadcast Journalism: Techniques of News Writing, Reporting and Production	Rajesh K. Singh	2010	Manglam Publishers and Distributors

SUGGESTED READINGS:

S.No.	Title of the Book/ Research Manuscript	Author	Year of Publication	Publisher/Journal & Volume, Page No.
1	Media and Journalism Ethics	S.P. Phadke	2008	Abd Publisher
2	Art of Editing	Manohar Puri	2006	Jain Book
3	News Value	Paul Brighton and Dennis Foy	2007	Sage

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Department of Mass Communication and Electronic Media

Course Objectives and Focus Area for the Course MCE 409 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 409

Course Name: Critical Issues in New Media

Faculty: Dr. R. P. Rai

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To acquaint students with the critical issues in new media.
- To make the students understand the new media environment, the intricacies and competitive landscape of the new media industry.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Project: 10%

Course Contents:

Unit -I: Digital Technology Divide   **(8 Hours)**

- Technology and Infrastructure
- ICT Tools and Content
- Knowledge and Skills
- Existence of the Divide - Reasons
- The Socio-Economic Perspective of the Divide

UNIT- II: Digital Revolution   **(8 Hours)**

- Utopian and Dystopian Approach
- Alternative Media Forms
- Web 2.0
- Globalization of Communication Technology
- Cultural Imperialism

UNIT - III: Issues in New Media   **(8Hours)**

- Technological Determinist Argument
- Technology Controversies
- Censorship
- Social Media Strategies
- Big Five of New Media

UNIT - IV: Convergence   **(8 Hours)**

- Convergence of Media Ownership
- Convergence of Media Technologies
- Convergence of Media Contents
- Convergence of Media Industries
- Convergence of Media Institutions

UNIT - V: New Media and Governance   **(8 Hours)**

- E-governance
- Models of E-Governance
- Aspects of E-Governance
- Issues in Implementation
- Practices of E-Governance

ESSENTIAL READINGS:

S.No.	Name of the Book	Author	Year of Publication	Publisher
1	Principles of Mobile Communication	JGordon L. Stüber	2001	Springer
2	Mobile Communications	Jochen H. Schiller	2003	Addison-Wesley
3	The Reconstruction of Space and Time: Mobile Communication Practices	Richard Seyler and Ling, Scott W. Campbell	2009	Transaction Publishers

SUGGESTED READINGS:

S.No.	Title of the Book/ Research Manuscript	Author	Year of Publication	Publisher/Journal & Volume, Page No.
1	The Mobile Communication Handbook	Jerry D. Gibson	1999	Taylor & Francis
2	Wireless Communications	Andrea Goldsmith	2005	Cambridge University Press
3	Mobile Information Communication Technologies Adoption in Developing Countries: Effects and Implications	Ahmed Gad Abdel-Wahab and Ahmed Ahmed A. El-Masry	2011	IGI Global
4	Multimedia Communications: applications, Networks, Protocols and standards	Halsall F. Addision	2008	Wesley
5	Handbook of Mobile Communication Studies	James E. Katz	2008	MIT Press

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 414 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 414
Course Name: ICT in Governance
Faculty: Dr. Pradeep Nair

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Introduce the students about the concept and issues of ICT based governance.
- To make the students understand *the promotion of increased use of information and communication technologies in governance systems to improve efficiency, access and accountability of public services in India*.
- Familiarize the students with the *policies at both national and regional level to shed light on the potential of e-governance in improvising the delivery of government services at domestic level.*

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Project: 10%

Course Contents:

Unit -I: ICT and Governance   (4 Hours)

- ICT and Governance: An Overview
- Major Aspects of E-governance
- Concepts and Applications

UNIT- II: Architecture of ICT based Governance   (4 Hours)

- Application Architecture
- Integration Architecture
- Network and Security Architecture

UNIT- III: Issues in E-governance   (4Hours)

- Infrastructural Issues
- Social and Cultural Issues
- Administrative and Security Issues

UNIT - IV: Framework of E-governance   (4 Hours)
- Policy Framework
- Legal Framework

UNIT - V: E-Health   (4 Hours)

- E-Health in 12th Five Year Plan
- Content and Application Development Issues
- ICT based Electronic Medical Records, Hospital Automation and E-Learning

Prescribed Essential Readings:

1. Enabling E-Government in Developing Countries: From Vision to Implementation by Subhash Bhatnagar, Sage, New Delhi (2000).
2. A Collaborative Platform for Developing E-Governance Applications by Parul A. Mittal, Prasan Roy and Anupam Saronwala, Tata McGraw Hill, New Delhi (2004).
3. Towards E-Governance, Management and Challenges by M.P. Gupta, Tata McGraw Hill (2004).

Suggested Additional Readings:

1. Policy Reform Options Database by Indian Central Bureau of Health Intelligence (2007).
2. Towards E-Governance in the Cloud: Framework, Technologies and Best Practices by Chandana Unnithan and Bardo Fraunholz, Proceedings of ICEG 2012.
3. Growing up Digital: The Rise of the Net Generations by D. Tapscott, McGraw Hill (1998).

Digital Technology Divide and Social Inclusion

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 417 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 417
Course Name: Digital Technology Divide and Social Inclusion
Faculty: Dr. Pradeep Nair

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objectives: The course is designed to

- Introduce the students about the concept and issues of digital divide from socio-economic perspectives while emphasizing references from India.
- To make the students understand the real domestic communication technology disparities taking place in India which is rising a social conflict between haves and have nots.
- Familiarize the students with the issues and problems of people without access to new communication technologies and how they are being excluded from education, healthcare, good governance and the means to improve their livelihoods
- **Attendance Requirement:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation: 5%
    - Group Discussion: 10%
    - Home Assignments: 5%

- Role Play: 5%

Course Contents:

Unit -I: Digital Technology Divide   **(4 Hours)**

- Technology and Infrastructure

- ICT Tools and Content

- Knowledge and Skills

- Existence of the Divide - Reasons

- The Socio-Economic Perspective of the Divide

UNIT- II: Digital Revolution   **(4 Hours)**

- Utopian and Dystopian Approach

- Alternative Media Forms

- Web 2.0, 3.0 and Politics 2.0

- Globalization of Communication Technology

- Cultural Imperialism

UNIT- III: Issues in Communication Technology   **(4Hours)**

- Technological Determinist Arguments

- Technology Controversies

- Issue of Censorship

- Social Media

- Policy Interventions

UNIT - IV: Dimensions of Social Inclusion   **(4 Hours)**
- Social Exclusion and its measurement

- Indicators and Key Issues

- Approaches for resource mobilization

- Capacity Building

- Strategies for Social Inclusion

UNIT - V: Participatory Communication Practices for Digital Inclusion   **(4 Hours)**

- Participatory Communication

- Strategic Framework for Participatory Development Communication

- Agenda and Policies

- Community Involvement

- Participatory Rural Appraisal (PRA) and related techniques

Prescribed Essential Readings:

1. Subhash Bhatnagar and Rober Schware (Eds). 2003. Information and Communication Technology in Rural Development. New Delhi: Sage Publications
2. Norris, Pippa. 2001. Digital Divide: Civic Engagement, Information Poverty and the Internet World Wide. Cambridge: Cambridge University Press.
3. Kenneth Keniston and Deepak Kumar (Eds). 2004. IT Experiences in India: Bridging the Digital Divide. New Delhi: Sage Publications.

Suggested Additional Readings:
   1. Emile G. McAnany (Eds) 1984. Communication in Rural Third World. New York: Praeger Publications.
   2. Uma Narual and W. Barnett Pearce. 1986. Development Communication: A Perspective on India. Carbondale Illinois: Southern Illinois University Press.
   3. William Wresch. 1996. Disconnected: Have and Have –Nots in the Information Age. New Jersey: Rutgers University Press.

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 418 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code:	MCE 418
Course Name:	Exposure to New Media Industries
Faculty:	Dr. Pradeep Nair

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Introduce the students about the concept and issues of new media industries.
- Make the students understand various business structures for various media industries.
- Familiarize the students with the issues and problems of third wave of capitalism transforming the global market place into an exciting place to do innovative media business.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Project: 10%

Course Contents:

Unit -I: Media Business and Industry   **(4 Hours)**

- Entertainment and Media Industry Overview
- Media Segments, Growth Drivers, Issues and Challenges
- Ownership and Politics of Convergence

UNIT- II: Broadcast Media Business   **(4 Hours)**

- Forms and Structures
- Content Sourcing and Production Management
- Media Business Shifts into Hyperdrive

UNIT- III: Digital Capitalism and New Media Industries   **(4Hours)**

- Digital Capitalism and New Digital Media Industries
- Technology Convergence and Transition to Digital Broadcasting

UNIT - IV: Film and Music Business   **(4 Hours)**
- Business Structures for Film and Music Industry
- Issues of Production and Distribution of Film and Music
- Digital Cinema and Digital Music

UNIT - V: New Business Media Opportunities   **(4 Hours)**

- Introduction to Animation and Gaming Industry
- Mobile and Internet Media Business Opportunities
- New Communication Policy and Regulatory Frameworks

Prescribed Essential Readings:

4. The Business of Media: Corporate Media and the Public Interest by David R. Croteau, Routledge (2005)
5. Broadcasting, Cable, the Internet and Beyond: An Introduction to Modern Electronic Media by Joseph R. Dominick, McGraw Hill (2011)
6. HDTV and Transition to Digital Broadcasting by Phillip J. Cianci, Focal Press (2007).

Suggested Additional Readings:
4. FICCI-KPMG Media and Entertainment Industry 2010 by KPMG, FICCI
5. Media Economics: Understanding Markets, Industries and Concepts by Alan B. Albarran, Lowa State University Press (2002)

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Department of Mass Communication and Electronic Media
Course Objectives and Focus Area for the Course MCE 421 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 421
Course Name: Community Media
Faculty: Kuldeep Singh

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed:

- To help the students to develop their understanding about community media.
- To make the students familiarize with community media production and distribution strategies
- To create awareness among the students about the use of community media as a participatory communication tool to involve and engage the community in various developmental activities.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Community Project: 10%
   - Group Discussion: 5%
   - Content Creation: 10%

Course Contents:

Unit –I Defining the Community Media   (4 Hours)

- Serving the community
- An alternative to mainstream
- Principles and Dentitions

Unit-II History and Forms of Community media   (4 Hours)

- Growth and development of community media
- Forms of community media: radio, films, traditional media and internet

Unit-III Community Radio in India   (4 Hours)

- Process of establishing CRS
- Technical Knowhow
- Geners of CR programmes

Unit-IV Educational and developmental Potential of Community Media (4 Hours)

- Learning through Traditional Cultural Forms
- Various issues of Community
- Community participation in content generation
- Access, Participation and Role of Community

Unit-V Regulation and Market Statistics   (4 Hours)

- Community Media, Market and State
- Policy Framework for Community Media
- Recent Statistics of Indian Community Media

Prescribed Essential Readings:

1. Dagron, A.G. (2001). Making Waves: Stories of Participatory Communication for Social Change. New York: The Rockfeller Foundation.

2. Girard, B. (Ed.) (1992). A Passion for Radio: Radio Waves and Community. Canada: Black Rose Books

3. Thompson, J.B. (1995). The Media and Modernity: A Social Theory of the Media. California: Stanford University Press

Suggested Additional Readings:

1. Fraser, C. & Sonia, R.E. (2002). 'Community Radio for Change and Development', <u>Development</u> 4: 69—73.
2. Pavarala, V. & Kanchan K. (2004). 'Enabling Community Radio: Case Studies in National Broadcasting Policy', <u>MICA Communication Review</u> 1 (3):6—22.
3. Sen, Ashish. (2004). 'Media Reform in India: Legitimizing Community Media', <u>Media Development</u> 1 (Feb): 18—22.

Audio and Video Fundamentals

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Course Objectives and Focus Area for the Course MCE 425 proposed for the First Semester of M.A. Programme in New Media Communication

Course Code: MCE 425

Course Name: Audio and Video Fundamentals

Faculty: Dr. R.P. Rai

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- Demonstrate proficiency in audio and video (A/V) image planning and acquisition.
- Demonstrate proficiency in A/V manipulation and editing.
- Demonstrate proficiency in A/V output and dissemination.
- Explain the mechanics and electronics of the digital video camera.
- Apply basic aesthetic values in the production of A/V media.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Assignments: 10%
   - Class Participation: 5%
   - Presentation: 10%

COURSE CONTENTS:

AUDIO FUNDAMENTALS:

UNIT I: Audio Basics (8 hours)
- Analog and digital signals
- Digitalization of signals, sampling, quantization, encoding
- RF spectrum and propagation methods
- Optical communication basics
- Modulation of signals, Analog and Digital modulation basics

UNIT II: Audio and Sound Control. (8 hours)

- Sound pickup principle: Microphones.
- Sound control: manual volume control, audio mixer, audio console, cables and patch panels
- Sound recording: digital audio production equipment,
- Analog recording equipment
- Audio post production, synthesized sound, sound aesthetics.

VIDEO FUDAMENTALS:

UNIT III: Image Creation: Digital Video and Camera (8 hours)

- Video Basics: introduction.
- Basic image formation.
- Digital process: analog and digital signals, digital system, downloading and streaming.
- Video camera: function, elements and types.
- Operating the camera: Camera Mounts and Operational features.
- Light: types, intensity, Lighting instruments and Techniques.
- Shadows, Color and Contrast.
- Graphics and effects: Principles of graphics, standard electronic video effects, digital effects.

UNIT IV: Image Control: Switching, Recording, and Editing. (8 hours)

- Switcher and switching: Switcher layout, operation, automated production control.
- Video recording: systems, process and use of video recording.
- Non linear & linear editing.
- Off-line and On-line Editing.
- Editing principles, purpose and functions.

UNIT V: Production Environment and Control. (8 hours)

- Video production studio.
- Studio control room, master control.
- Electronic news gathering (ENG).
- Electronic field production (EFP).

- Talent, Clothing, and makeup.
- Script formats, visualization.
- Preparing for multi camera studio production: Single-camera directing, control room directing.

ESSENTIAL READINGS:

S.No.	Title of the Book/ Research Manuscript	Author	Year of Publication	Publisher/Journal & Volume, Page No.
1	Video Basics	Herbert Zettl	2011	Wordsworth
2	HDTV and Transition to Digital Broadcasting	Philip J Cianci	2010	Focal Press
3	Television Production	Gerald Millerson	2010	Focal Press

Suggested Additional Reading:

1.	Fundamentals of Digital Television Transmission	Gerald W Collins, John Willey	2008	Artech House
2.	Electronic Media Then, Now and Later	Norman Medoff	2011	Focal Press

Corporate communications

Course Objectives and Focus Area for the Course MCE 405 proposed for the First Semester of M.A. Programme in New Media Communication

COURSE CODE: MCE 405

COURSE NAME: CORPORATE COMMUNICATIONS

FACULTY: HARSH MISHRA

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of CC writing work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work/ house journals; obligatory/ optional work placement; literature survey/ library work; writing of papers/ presentations/ seminars, etc.)

Course Objectives: The Course is designed to:

- Enable the learners to understand the basic concepts associated with the theory and practice of Corporate Communications.
- Develop basic skills for practice of Corporate Communications.
- Expose the students to multifarious Corporate Communications activities.
- Enable the students to appreciate the role of Corporate Communications in growth and advancement of corporate entities.
- Equip the learners with the skills required to plan and execute Corporate Communications activities in different types of organisations.
- Apprise the learners of the emerging challenges in the field of Corporate Communications.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25% i.e. 25 Marks out of 100
   - Surprise Progress Review Tests (Two) : 10 marks (The tests may be oral or written)
   - Presentation: 5 marks
   - Assignments: 10

Course Contents:

UNIT I: Corporate Communications: An Introduction (12 hours)

- Basics of Communication.
- Corporate Communications: Definitions and Key Concepts.
- Origin, Evolution and Growth of Corporate Communications.
- Tools of Corporate Communications.
- Key functions of Corporate Communications.
- Scope and Significance of Corporate Communications.

UNIT II: The Corporate Communications Universe (12 hours)

- An Introduction to Public Relations.
- Public Relations and Corporate Communications.
- An Introduction to Advertising.
- Advertising and Corporate Communications.
- Introduction to Integrated Marketing Communications (IMC)
- IMC and Corporate Communications.

UNIT III:Corporate Branding &Identity (04 hours)

- An Introduction to Corporate Brands and Corporate Identity.
- Corporate Branding vs. Product Branding.
- Role of Corporate Communications in Creating and Managing Corporate Brands.
- Conflict between Internal and External Corporate Brand Perceptions.

UNIT IV: Corporate Communications Strategies (06 hours)

- Corporate Communications: Perpetual Strategic Function.
- An Introduction to Corporate Communications Strategies.
- The Communications Strategy Model.
- Models for Managing Corporate Communications.

UNIT V: Corporate Communications: Trends and Issues (06 hours)

- Corporate Communications in the Digital Era
- Ethics in Corporate Communications.
- Crisis Communications.
- Corporate Social Responsibility.

Prescribed Text Books:

- Joseph Fernandez, (2004), Corporate Communications-A 21st Century Primer, Sage Publications.
- Sandra M. Oliver, (2004), Handbook of Corporate Communications and Public Relations, Routledge.
- JoepCornelissen, (2004), Corporate Communications: Theory and Practice, Sage Publications.

Suggested Additional Reading:

- Balan K.R., Corporate Public Relations, Sterling Publishers Private Limited, New Delhi.
- Frazier Moore and Frank B.Kalupa (2002), Public Relations: Principles, Cases and Problems, Surjeet Publications, New Delhi.
- Narasimha Reddy C.V. (2009), Effective Public Relations and Media Strategy, PHI Learning Private Limited, New Delhi.
- Sam Black, (2008), Practical Public Relations, Universal Book Stall, New Delhi.
- Lars Thøger Christensen, MetteMorsing and George Cheney (2008), Corporate Communications: Convention, Complexity, and Critique, Sage Publications.

Social Networking

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Department of Mass Communication and Electronic Media

Course Objectives and Focus Area for the Course MCE 410 proposed for the Third Semester of M.A. Programme in New Media Communication

Course Code:　　　MCE 410

Course Name:　　　Social Networking

Faculty:　　　Dr. R. P. Rai

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To acquaint students with the fundamental technologies of the mobile communications.
- To make the students understand the mobile communication environment, the intricacies and competitive landscape of the new media industry.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation:　　　5%
   - Group Discussion:　　　10%
   - Home Assignments:　　　5%
   - Role Play:　　　5%

Course Contents:

Unit -I: Social Network   **(8 Hours)**

- Introduction to Social Network
- Social Network and Knowledge Management System
- Social Network Analysis
- Application of Social Network Analysis
- Social Media Technology – Web 2.0, Cloud Computing, Smart phones

UNIT- II: Social Networking   **(8 Hours)**

- Social Networking
- Social Media
- Social Networking Platforms
- Pros and Cons of Social Networking
- Future of Social Networking

UNIT - III: Policy and Strategic Framework   **(8Hours)**

- Social Media Policy
- Communication Strategies for Social Media
- Social Media Measurement
- Return on Investment (ROI)
- Blogging, Facebook, LinkedIn, Twitter

UNIT - IV: Story Telling for the Web   **(8 Hours)**

- Technique
- Style and Presentation
- Layering of Information
- Impact and Context
- Human Dimension

UNIT - V: Social Media Practices   **(8 Hours)**

- Communication
- Advocacy
- Health
- Business
- Crisis Management

ESSENTIAL READINGS:

S.No.	Name of the Book	Author	Year of Publication	Publisher
1	The New Community Rules	Tamar Weinberg	2009	O'Reilly Media
2	Social Media Strategist	Christopher Barger	2011	Pinterest
3	Six Pixels of Separation: Everyone is Connected	Mitch Joel	2009	Business Plus

SUGGESTED READINGS:

S.No.	Title of the Book/ Research Manuscript	Author	Year of Publication	Publisher/Journal & Volume, Page No.
1	The Facebook Effect	David Kirkpatrick	2010	Simon & Schuster
2	Connected: The Surprising Power of our Social Networks and How They Shape our Lives	Christakis and James H. Flower	2009	Little Brown & Co.
3	Socialnomics: How Social Media transforms the way we live and do business	Erik Qualman	2009	John Wiley & Sons

Media Production Techniques

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Department of Mass Communication and Electronic Media

Course Objectives and Focus Area for the Course MCE 511 proposed for the Third Semester of M.A. Programme in New Media Communication

Course Code: MCE 511

Course Name: Media Production Techniques

Faculty: Dr. Pradeep Nair

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make the student aware about the relationships between different communication formats and the emerging technologies
- The focus of this course is to expose students to different media production techniques that will allow them to work in the field of high definition broadcasting and digital media. The emphasis here is on exploring the ways in which technology and media industries are co-related.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - Class Participation: 5%
    - Group Discussion: 10%
    - Project :   10%

Course Contents:

Unit -I: Techniques of Audio Production   (6 Hours)

- Perception of sound, sound propagation, frequency, sound spectrum, timbre, harmonics
- Sound units decibel, sound power/sound pressure & PMPO
- Acoustic design for studio, acoustic materials, noise elimination, reverberation time (RT)
- Digitalization of audio signals, digital audio formats

UNIT- II: Techniques of Video Production   (10 Hours)

- Video capture, scanning, interlacing
- Introduction to color TV, chromaticity diagram, gamma, color temperature
- Composite color video signal and TV transmission formats
- Digitalization of video signal
- Sampling formats and bit rates
- SD, HD formats, Video and Film

UNIT - III: Audio/video compression basics   (8 Hours)

- Human audio and visual sensory system
- Time and frequency domain representation of signals
- Video compression principles, predictive, transform and temporal coding
- Source coding for video signal, DCT, Quantization, Entropy coding
- MPEG compression standards

UNIT - IV: Compression Standards for broadcasting   (8 Hours)

- MPEG1/ MPEG2 : Transport Stream and structure
- DVB- SI, Service Information, synchronization and access
- Introduction to MPEG-4 standards
- Introduction to H.264 standards

UNIT - V: Standards & formats for TV & Radio Broadcasting   (8 Hours)

- Standardization and international standards organization
- ITU–R, SMPTE, EBU Standards for TV & Sound Broadcasting
- Sampling & Interfacing standards

ESSENTIAL READINGS:

S.No.	Name of the Book	Author	Year of Publication	Publisher
1	Broadcasting, Cable, the Internet and Beyond: An Introduction to Modern Electronic Media	Joseph R Dominick	2010	McGraw Hill
2	Electronic Media Then, Now and Later	Norman Medoff	2011	Focal Press
3	Fundamentals of Digital Television Transmission	Gerald W Collins, John Willey	2008	Artech House

SUGGESTED READINGS:

S.No.	Title of the Book/ Research Manuscript	Author	Year of Publication	Publisher/Journal & Volume, Page No.
1	Video Basics	Herbert Zettl	2011	Wordsworth
2	HDTV and Transition to Digital Broadcasting	Philip J Cianci	2010	Focal Press
3	Television Production	Gerald Millerson	2010	Focal Press
4	Multimedia Communications: applications, Networks, Protocols and standards	Halsall F. Addision	2008	Wesley
5	Fundamentals of Digital Television Transmission	Gerald W Collins, John Willey	2008	Artech House

Radio Production

Course Objectives and Focus Area for the Course MCE 513 proposed for the Third Semester of M.A. Programme in New Media Communication

Course Code: MCE 513
Course Name: Radio Production
Faculty: Dr. Pradeep Nair

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

1. The focus of this course is to expose students to different production techniques of radio that will allow them to work in the field of commercial broadcasting and digital media.

2. The emphasis here is on exploring the ways in which radio production technology and broadcast industry is co-related.

3. Sensitize students to the development of concepts for radio features and radio programmes, scripting, directing, microphone handling, programming, editing etc.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Class test: 5%
   - Assignments: 10%
   - Class Participation: 5%
   - Presentation: 5%

COURSE CONTENTS:

PAPER: **RADIO PRODUCTION**

Objective:

The paper provides basic concept of sound production for radio. The students will study basic techniques used for sound acquisition, production, and recording. The students will also be trained on operation and maintenance of sound equipment used in studio & outdoor shooting/ recordings.

UNIT – I: Introduction to radio production

- Radio production basics
- Understanding of equipment used in radio studio and outdoor production
- Microphone principles, classification, polar pattern, placement of microphones, stereo, RF microphones, microphone parameters and accessories

UNIT – II: Audio Production

- Analog audio production basics
- Digital audio production, Audio work station, advantages of digital production
- Digital audio formats

UNIT – III: Audio Consoles

- Audio mixing principles, transitions, mixer specifications, features and controls
- Digital mixers, channel grouping, integrated mixers with workstation controls, digital audio mixers, phone in consoles in live recordings

UNIT-IV: Audio editing, recording and playback

- Audio tape editing basics, digital audio editing, audio effects, and multi track recording
- Protool and Nuendo editing system features
- Basic recording principles, Tape, CD, Hard disk based recording, audio archiving
- CD /DVD audio player, DAT recorder, Flash recorders, audio synchronization and time code

UNIT-V: Audio processors, cables, connectors and accessories

- Audio processors, Equalizers, Filters, Limiters, compressors, expanders and noise reduction
- Audio connectors, cables, audio distribution and patching, balanced and unbalanced lines, jack-fields
- Loudspeakers, monitoring amplifiers, headphones, classification and performance

Prescribed Text Books:

1. Radio Handbook by Orr, William I., Howard W. Sams & Company (1987).
2. Radio Production Worktext: Studio and Equipment by David E. Reese, Lynne S. Gross and Brian Gross, Taylor and Francis (2006).
3. Audio in Media by Stanley R. Alten, Cengage Learning. 9th Edition, (2010).

Suggested Additional Reading:

- Master Handbook of Audio Production by Jerry C. Whitaker, McGraw Hill (2001).
- Acoustic Design and Practice by R.L. Suri, Asia Publishing House (1966).
- Principals of Digital Audio by Ken C. Pohlmann, McGraw Hill (2010).

Television Production

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Course Code: MCE 514

Course Name: Television Production

Faculty: Kuldeep Singh

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

1. The focus of this course is to expose students to different production techniques of television that will allow them to work in the field of high definition broadcasting and digital media.

2. The emphasis here is on exploring the ways in which television production technology and television industry is co-related.

3. Sensitize students to the development of concepts for documentaries and television programmes, scripting, directing, camera handling, programming, editing etc.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
    *   Class test: 5%
    *   Assignments: 10%
    *   Class Participation: 5%
    *   Presentation: 5%

COURSE CONTENTS:

UNIT I: Television Production: Processes and people   (8 hours)

- Production process: introduction
- Pre production: generating idea, idea to script, and script to production.
- Production team: Who Does What When?
- Introduction to television news production.
- Functioning of News channel.
- Television News formats.

UNIT II: Image Creation: Digital Video and Camera   (8 hours)

- Basic image formation.
- Digital process: analog and digital signals, digital system, downloading and streaming.
- Video camera: Basic camera function and elements.
- Types of camera.
- Operating the camera: Movements, Mounts and Operational Features.
- Looking through the viewfinder: framing a shot, controlling camera and object motion.

UNIT III: Image Creation: Sound, Light, Graphics, and Effects.   (8 hours)

- Audio and sound control: Sound pickup principle.
- Microphones and types, sound control, sound recording and aesthetics.
- Light: types, intensity, Lighting instruments and Techniques.
- Shadows, Color and Contrast.
- Graphics and effects: Principles of graphics, standard electronic video effects, digital effects.

UNIT IV: Image Control: Switching, Recording and Editing.   (8 hours)
- Switcher and Switching: Switcher layout, operation, automated production control.
- Video recording: systems, process and use of video recording.
- Non linear editing: phase1- capture, 2- editing, 3-export to video tape or disc.
- Linear editing.
- Offline and Online editing.
- Editing principles: purpose, functions, continuity editing, complexity editing.

UNIT V: Production Environment and Control: Studio, Field, Talent and Directing.

      (8 hours)

- Production environment: studio-
- Video production studio.
- Studio control room, Master control.
- Electronic news gathering (ENG).
- Electronic field production (EFP).
- Talent, clothing and makeup.
- Script formats, Visualization.
- Preparing for multi camera studio production: Single-camera directing, control room directing.

Prescribed Text Books:

- Gerald millerson, jim owens. TV production 15th edition. focal press
- Video basics. Herbert zettl.
- Chatterji,P.C. , (1991), *Broadcasting in India*. SAGE, New Delhi.

Suggested Additional Reading:

- Fulding, Ken, (1990), Introduction *to Television Production*, Longman, New York.
- Machin, David & Niblock, Sarah, (2006), *News production: Theory and Practice,* Routledge, New York.
- Carrel fleming, Radio handbook, 2002, Routledge (London new York)

Production Management

Department of Mass Communication and Electronic Media

Course Objectives and Focus Area for the Course MCE 517 proposed for the Third Semester of M.A. Programme in New Media Communication

Course Code: MCE 517

Course Name: Production Management

Faculty: Kuldeep Singh

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To guide the students about the most important updates in electronic media management.
- To acquaint the students about the recent changes taking place in broadcast industry due to internet and convergence.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Class Participation: 5%
   - Group Discussion: 10%
   - Home Assignments: 5%
   - Role Play: 5%

Course Contents:

Unit -I: Television Broadcasting (4 Hours)

- Programme Production System Work Flow
- Studio, PCR, MSR
- News Production Systems
- Playout and Distribution of TV programmes

UNIT- II: Radio Broadcasting (4 Hours)

- Programme Production System Work Flow
- Studio, PCR, MSR
- Playout and Distribution of Radio programmes

UNIT- III: Electronic Media Business Structures (4 Hours)

- TV Channel
- Radio Station
- Cable and Satellite Television Broadcasting Structure

UNIT - IV: Content Sourcing and Production Management (4 Hours)

- Content Sourcing and Creation
- Content Management
- Customization and Distribution of contents over multiple platforms

UNIT - V: Regulatory Framework (4 Hours)

- Licensing for Broadcast Media Business
- IPR and Rights Management

Prescribed Essential Readings:

7. Management of Electronic Media by Alan B. Albarran, Cengage Learning (2009).
8. Electronic Media Management by Peter Pringle and Michael F Starr, Focal Press (2011).

Suggested Additional Readings:

6. The Business of Media: Corporate Media and the Public Interest by David R. Croteau, Routledge (2005)
7. FICCI-KPMG Media and Entertainment Industry 2010 by KPMG, FICCI
8. Media Economics: Understanding Markets, Industries and Concepts by Alan B. Albarran, Lowa State University Press (2002)

School of Life Sciences

Centre for Computational Biology & Informatics

School of Life Sciences
Name of the Department: Centre for Computational Biology & Informatics
Name of the Programme of Study: MSc (Computational Biology/Informatics)

Courses for Semester 1

S. No.	Course Code	Course Title	Credits	Pre-requisite/ Co-requisites if any	Teacher
1.	CBB 402	Modern Biology	2	NA	Dr. Yusuf Akhter
2.	CBB 417	Structure Biology	2	NA	Dr. Yusuf Akhter
3.	CBB 418	Biomolecules	2	NA	Dr. Yusuf Akhter
4.	CBB 401	Mathematics in Biology	2	NA	Dr. Vikram Singh
5.	CBB 411	Introduction to PERL Programming	2	NA	Dr. Vikram Singh
6.	CBB 413	Practical course on PERL	2	NA	Dr. Vikram Singh
7.	CBB 403	Introduction to Statistics and Probability	2	NA	Dr. P. Aparoy
8.	CBB 405	Basics of Bioinformatics	2	NA	Dr. P. Aparoy
9.	CBB 419	Concepts in Molecular Biology	2	NA	Mr. Shailender Kumar Verma
10.	CBB 425	Basics of Plant Biotechnology	2	NA	Mr. Shailender Kumar Verma

Courses for Semester 3:

S. No.	Course Code	Course Title	Credits	Pre-requisite/ Co-requisites if any	Teacher
1.	CBB 525	Enzyme Kinetics	2	NA	Dr. Yusuf Akhter
2.	CBB 516	Molecular Evolution and Biodiversity	4	NA	Dr. Yusuf Akhter
3.	CBB 431	Bioanalytical techniques	2	NA	Dr. Yusuf Akhter
4.	CBB 522	Elements of Synthetic Biology	2	NA	Dr. Vikram Singh
5.	CBB 529	Introduction to Dynamical Systems: From Cells to Societies	2	NA	Dr. Vikram Singh
6.	CBB 518	Elements of Systems Biology	4	NA	Dr. Vikram Singh
7.	CBB 423	Numerical Methods for	2	NA	Dr. Vikram Singh

		Computational Biologists			
8.	CBB 515	Computer aided Drug Discovery	4	NA	Dr. Aparoy
9.	CBB 422	Basics of Microbiology and Immunology	2	NA	Dr. Aparoy
10.	CBB 527	Plant Bioinformatics	4	NA	Mr. Shailender Kumar Verma
11.	CBB 420	Cell Biology and Genetics	4	NA	Mr. Shailender Kumar Verma

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	CBB 402	Modern Biology	2		Dr. Yusuf Akhter
2.	CBB 418	Biomolecules	2		Dr. Yusuf Akhter
3.	CBB 525	Enzyme Kinetics	2		Dr. Yusuf Akhter
4.	CBB 516	Molecular Evolution and Biodiversity	4		Dr. Yusuf Akhter
5.	CBB 431	Bioanalytical techniques	2		Dr. Yusuf Akhter
6.	CBB 401	Mathematics in Biology	2		Dr. Vikram Singh
7.	CBB 529	Introduction to Dynamical Systems: From Cells to Societies	2		Dr. Vikram Singh
8.	CBB 411	Introduction to PERL Programming	2		Dr. Vikram Singh
9.	CBB 413	Practical course on PERL	2		Dr. Vikram Singh
10.	CBB 422	Basics of Microbiology and Immunology	2		Dr. Aparoy
11.	CBB 403	Introduction to Statistics and Probability	2		Dr. P. Aparoy
12.	CBB 419	Concepts in Molecular Biology	2		Mr. Shailender Kumar Verma
13.	CBB 425	Basics of Plant Biotechnology	2		Mr. Shailender Kumar Verma
14.	CBB 420	Cell Biology and Genetics	4		Mr. Shailender Kumar Verma

Modern Biology

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www.cuhimachal.ac.in

Course Code: CBB 402

Course Name: Modern Biology

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to the basic principles of modern biology
- Acquaint the students about the structure & function of biomolecules
- To understand the molecular mechanisms of key biological processes and their regulation
- Explore the current methodologies and technologies used for analysis of biological processes and to see the current challenges and opportunities for improving the existing technologies or to develop new technologies

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a)   Presentation 10%

   b)   Class Participation 10%

   c)   Attendance 5%

Course Contents:

UNIT -I: **Cellular and** M**olecular Basis of Life**   **(4 Hours)**

- Cell structure and function
- Molecular composition and organization of cell
- Interactions/ Bonds important in biological systems
- Genetic basis of heredity and variations

UNIT -II: **Structure and Function of Proteins**   **(4 Hours)**

- Importance of proteins in biological system
- Structure of amino acids and their classification
- Structure of proteins
- Enzymes, their classification and kinetics

UNIT -III: **Structure and Function of Nucleic Acids**   **(4 Hours)**

- Structures of DNA
- Structure of RNA
- Organization of the nucleic acids
- Organelle genomes

UNIT -IV: **Central Dogma of Biology**   **(4 Hours)**

- DNA replication in prokaryotes
- DNA replication in eukaryotes
- Transcription
- Translation

UNIT -V   **Gene Regulation and Developmental Biology**   **(4 Hours)**

- Gene regulation in prokaryotes
- Gene regulation in Eukaryotes
- Introduction to Developmental biology
- Gametogenesis, Fertilization, Organogenesis and Cell differentiation

Prescribed Text Books:

4. Voet & Voet. (2011). Biochemistry, (4th edition), Wiley
5. Scott F. Gilbert. (2010). Developmental Biology, (9th edition), Sinauer Associates Inc Publisher, USA.
6. Banjamin Lewin. (2011). Genes-X (10th Edition), Oxford University Press.
7. Watson et al. (2008). Molecular Biology of the Gene (6th edition), Pearson Publications.
8. Lodish H, Berk A, Kaiser C, Krieger M, Scott M, Bretscher A, Ploegh H & MatsudairaP, (2008). Molecular Cell Biology (6th edition), W. H. Freeman Publications.
9. Nelson & Cox, Lehninger. (2008). Principles of Biochemistry 5th edition, W. H. Freeman Publications.
10. Gardner, Simmons and Snustad. (2006). Principles of Genetics, 8th Ed. Wiley Publications.

Suggested Additional Readings:

1. Reece, RJ. (2003). Analysis of Genes and Genomes, John Wiley and Sons Ltd
2. Brown, TA. (2006). Genomes. 3rd Edition, Garland Science
3. Griffiths, Wessler, Carroll, Doebley. (2011). Introduction to Genetic Analysis, Freeman,
4. Price & Nairn. (2009). Exploring Proteins, Oxford University Press

Structural Biology

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[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 417

Course Name: Structural Biology

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: at the end of this course students would be able to:

1.   Analyze and evaluate the basic building blocks of biological macromolecules
2.   Consider how structure leads to function
3.   Discuss the evolution of biological structure and function
4.   Understand the architecture and building blocks of proteins
5.   Evaluate protein folds and the nature of the protein universe
6.   Understand protein folding and misfolding
7.   Understand the architecture and building blocks of nucleic acids
8.   Understand the architecture and building blocks of carbohydrates
9.   Understand the architecture and building blocks of lipids
10. Construct homology models of proteins
11. Build models of proteins and nucleic acids
12. Understand protein-nucleic acid interactions
13. Understand the structure and function of membrane proteins
14. Understand the structure of some molecular machines

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Assignment: 10%
   b. Class Test: 5%
   c. Presentation: 10%

Course Contents:

UNIT -I: INTRODUCTION   (4 Hours)

Overview of Structural Biology: Basic structural principles, conformational principles, Ramachandran diagram, forces involved in macromolecular interaction, building blocks of proteins, Proteins-Primary Structure, Chemistry And Covalent Modifications, motifs of protein structures: Protein Secondary and Supersecondary Structure , alpha domain structures, alpha/beta structures, Macromolecular crystallography-concepts

UNIT -II: (4 Hours)

Structural Classification of Proteins, Profiles and Protein Families, DNA structures, DNA recognition in prokaryotes and eukaryotes, specific transcription factors, enzyme catalysis and structure. Membrane proteins, signal transduction, proteins of the immune system. Structure of Spherical viruses, DNA – Protein Interactions, RNA – Protein Interactions

UNIT -III: (4 Hours)

Protein Folding and flexibility, Protein Misfolding, Disease, in vivo Folding and

Degradation, Prediction, Engineering and design of protein structures. Methods to identify secondary structural elements, Macromolecular Machines in Protein Folding and Unfolding.

UNIT-IV   (4 Hours)

Determination of protein structures by X-ray and NMR methods. Prediction of secondary

structure- PHD and PSI-PRED methods. Tertiary Structure : homology and comparative modelling, fold recognition and ab-initio approaches. Structures of oligomeric proteins and study of interaction interfaces.

UNIT- V   (4 Hours)

Introduction to Molecular Graphics, *In silico* study of biological structures. Structural genomics-concepts and significance, Structural databases**,** Protein Quaternary Structure and Cooperativity, Metalloenzymes – Structure & Mechanism, Carbohydrate Binding Proteins: Structure and

Function

Prescribed Text Books:

1. Voet & Voet. (2011). Biochemistry, (4th edition), Wiley
2. Scott F. Gilbert. (2010). Developmental Biology, (9th edition), Sinauer Associates Inc Publisher, USA.
3. Banjamin Lewin. (2011). Genes-X (10th Edition), Oxford University Press.
4. Watson et al. (2008). Molecular Biology of the Gene (6th edition), Pearson Publications.
5. Lodish H, Berk A, Kaiser C, Krieger M, Scott M, Bretscher A, Ploegh H & MatsudairaP, (2008). Molecular Cell Biology (6th edition), W. H. Freeman Publications.
6. Nelson & Cox, Lehninger. (2008). Principles of Biochemistry 5th edition, W. H. Freeman Publications.
7. Gardner, Simmons and Snustad. (2006). Principles Of Genetics, 8th Ed. Wiley Publications.

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1. Reece, RJ. (2003). Analysis of Genes and Genomes, John Wiley and Sons Ltd
2. Brown, TA. (2006). Genomes. 3rd Edition, Garland Science
3. Griffiths, Wessler, Carroll, Doebley. (2011). Introduction to Genetic Analysis, Freeman,
4. Price & Nairn. (2009). Exploring Proteins, Oxford University Press

Biomolecules

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Course Code: CBB 418

Course Name: Biomolecules

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to the various biomolecules
- Understand primary, secondary and tertiary structure of biomolecules.
- To be familiar with the function of various biomolecules.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Assignment: 10%
   b. Class Test: 5%
   c. Presentation: 10%

Course Contents:

UNIT -I: INTRODUCTION   (4 Hours)

Structure of atoms, molecules and chemical bonds Molecular Interactions/ Bonds important in biological systems, laws of thermodynamics, free energy, physical and chemical properties of water, pH scale, acid, bases and buffers, relationship between pH and pKa (Henderson-Hasselbach equation)

UNIT -II: CARBOHYDRATES   (4 Hours)

Definition, empirical formulae & biological functions; Classification into monosaccharides (aldoses and ketoses), oligosaccharides & polysaccharides; Optical isomerism, open chain and ring structure of carbohydrates, mutarotation, structure of biologically important carbohydrates (D-glucose, D-galactose, D-mannose, D-fructose, D-ribose, D-2, deoxyribose, D-maltose, D-lactose, D-sucrose), polysaccharides, starch, cellulose, glycogen and mucopolysaccharides, suitability of polysaccharides as storage material in plants, glycoproteins

UNIT -III: LIPIDS   (4 Hours)

Definition, biological function, general formulae of fatty acids, essential and nonessential fatty acids, nomenclature and properties, classification of lipids into simple, complex and derived lipids, the general structure and function of major lipid subclasses: acyalglycerols, phosphoglycerides, sphingolipids, waxes, terpenes, steriods, and prostaglandins; suitability of triglycerides as storage lipids; analytical characterization of fats and oils - saponification number and iodine number.

UNIT-IV   PROTEINS   (4 Hours)

Definition, elemental composition, biological function of proteins; structure of twenty alpha-amino acids commonly found in proteins, Non standard amino acid, Zwitterion nature of amino acid in aqueous solutions, abbreviations and classification of 20 amino acids, essential amino acids nutritive value of proteins; peptide bond formation, nomenclature of peptides backbone structure of protein/polypeptide, definition of N-terminal and C-terminal amino acids, properties of amino acids/proteins arising from their dipolar nature; basic understanding of primary, secondary, tertiary, quaternary and domain structure of proteins/peptides, classification of proteins based on solubility and shape; elementary ideas on protein denaturation and loss of biological activity.

UNIT- V   NUCLEIC ACIDS   (4 Hours)

Nature of genetic material; evidence that DNA is the genetic material, generalized structural plan of nucleic acid, Nomenclature used in writing structure of nucleotides and nucleic acids, features of DNA double helix; Size of DNA in prokaryotic and eukaryotic cells, central dogma of molecular biology; Gene, genome, chromosome, basic ideas of DNA replication, transcription and protein biosynthesis, role of DNA as genetic material, genetic code, codons, deciphering the genetic code, molecular basis of mutation.

Prescribed Text and Reference Books:

1. Voet & Voet. (2011). Biochemistry, (4th edition), Wiley
2. Banjamin Lewin. (2011). Genes-X (10th Edition), Oxford University Press.
3. Watson et al. (2008). Molecular Biology of the Gene (6th edition), Pearson Publications.
4. Nelson & Cox, Lehninger. (2008). Principles of Biochemistry 5th edition, W. H. Freeman Publications.

Mathematics in Biology

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: CBB 401

Course Name: Mathematics in Biology

Credits Equivalent: 2 Credits

(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to acquaint students with selected fundamental concepts of mathematics and their applications in the study of Biological systems. In this course more emphasis will be given to those parts of calculus that are of prime concern to the life scientists for modeling the Biological systems and Ecosystems amongst others.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Attendance – 5%,
   - Class Participation 5%,
   - Class test – 5%,
   - Assignment – 10%

Course Contents

UNIT I: Numbers and Functions (4 Hours)

- Number System: Natural numbers, Real numbers and Real line
- Understanding slopes and shifting graphs of
    - Linear and Trigonometric functions
    - Transcendental functions, log-log and semi-log plots
- 2D and 3D coordinate geometry

UNIT II: Derivatives and Integrals (4 hours)

- Rates of change, limits and continuity
- Derivative of a function and differentiation rules
- Maxima and minima, Partial derivatives
- Indefinite integrals
- Definite integrals

UNIT III: Differential and Difference Equations (5 Hours)

- Separable equations
- First and second order differential equations
- Systems of differential equations and Initial Value Problems
- Discrete time models
- First and second order difference equations

UNIT IV: Discrete Mathematics (3 Hours)

- Sequences and Series
- Permutations
- Combinations

UNIT V: Vectors and Matrices (4 Hours)

- Addition, Subtraction and multiplication of Vectors and Matrices
- Finding inverse of a matrix, Solving a set of Linear equations
- Eigen values and Eigen vectors
- Orthogonality and Singular value decomposition

Text Books:

1. Thomas and Finney (2005). Calculus. Pearson, New Delhi.
2. David C. Lay (2007). Linear Algebra, Pearson education, New Delhi
3. Lipschutz and Lipson (2009). Schaum's Outline of Discrete Mathematicss, TMH, New Delhi

Additional Readings:

1. David J Hunter (2010). Essentials of Discrete Mathematics. Jones and Bartlett, New Delhi.
2. Hall and Knight (2001). Higher Algebra, Adament Media Publishers.
3. Earl A. Coddington (2012). An introduction to Ordinary Differential Equations. PHI, New Delhi
4. Richard Bronson (2011). Schaum's Outlines: Differential Equations, TMH, New Delhi.

Introduction to PERL Programming

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Course Code: CBB 411

Course Name: Introduction to PERL Programming

Credits Equivalent: 2 Credits

(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: Programming skills constitute the core part of the MSc curriculum on Computational Biology and Bioinformatics.

This course is designed to

- help students in developing logical skills.
- introduce them the basic syntax of PERL programming.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Class participation 5%
   - Attendance 5%
   - Class test 10%
   - Assignments 5%

Course Contents

Unit 1: Introduction to programming and PERL data types (5 hours)

Introduction to programming languages, Machine level v/s high level languages.

Introduction to PERL, #!, Basic input/output variables. Use of use strict and use warning pragma.

Scalar variables, Numeric and String operators.

Single and double quoted strings, backslash interpolation. substr function.

Lists and Arrays, Accessing elements of an array, Special array indices, Scalar and List context.

Array functions – push, pop, shift, unshift, join, split, splice. sort.

Hashes, Accessing elements of a hash.

Hash functions: keys, values, exists, defined, delete, each.

Unit 2: Control structures (4 hours)

Decision Making (Branching) Structures – If Statement, If-Else Statement, Nested If-Else Statement, Else-If Ladder.

Looping Structures – For Statement, Foreach statement, While Statement, Do-While Statement, Until statement, Do-until statement.

next, last, continue, exit, redo statements.

Unit 3: Input methods, File Operations and Randomization (3 hours)

Input from standard input, Input from the diamond operator. Chop and chomp operators.

Read, write, append, open and close files. Using Pathnames and Filenames. Usage of die function.

Generating random numbers and their applications in Biology.

Unit 4: Regular Expressions (4 hours)

Matching with regular expressions. Matching with m//. Binding operator =~

Pattern matching, substitution operator, transliteration operator.

Regexp basics, Modifiers, quantifiers, metacharacters.

Unit 5: References, Subroutines and Introduction to BioPERL   **(4 hours)**

References, Two dimensional arrays in PERL.

Global and Local variables. Subroutines – (i) Pass by Value, (ii) Pass by reference.

Writing Modules, Creating BioPERL Objects.

Text Books:

1. Schwartz *et al.*(2011), Learning PERL. O'Reilly
2. James Tisdall(2001), Beginning PERL for Bioinformatics. O'Reilly
3. James Tisdall(2007), Mastering PERL for Bioinformatics. O'Reilly

Additional Readings:

1. Christiansen*et al.*(2012), Programming PERL. O'Reilly

Practical course on PERL

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 413

Course Name: Practical course on PERL

Credits Equivalent: 2 Credits

(One credit is equivalent to 20 hours of lectures / organised classroom activity / contact hours; 10 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 30 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: This course is designed to give students an opportunity for implementing the theoretical understanding of PERL programming (learned in the course CBB 411) into the PERL scripts.

Upon successful completion of this course students will be able to apply the knowledge of PERL programming to develop the applications in Computational Biology and Bioinformatics.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Class Test 10%
   - Assignments 5%
   - Home work 10%

Course Contents

Unit 1: Understanding PERL data types (Scalar, Array, Hash) and usage of mathematical and string operators. (8 hours)

1. Using Mathematical operators (Addition, Subtraction, Multiplication, Division, Modulus operators)
2. Using String operators (Concatenation, Repetition operators)
3. To calculate Area and Volume of basic objects (circle, sphere, parallelogram cube etc.).
4. Finding 'reverse complement' of a DNA sequence.
5. Transcription, Reverse Transcription.

Unit 2: Learning Control Structures (10 hours)

1. Counting nucleotides in the given DNA sequence.
2. Translating a DNA sequence into an amino acid sequence in all six reading frames.
3. To check if a given number is even, odd or prime.To generate first n terms of Fibonacci series.
4. To calculate the factorial of a given number.
5. Finding sum of first n terms of a given algebraic series.
6. To check if the given number or string is palindrome.

Unit 3: Input Methods, File Operations and Randomization (6 hours)

1. Reading and writing DNA and/or protein data from/into a file.
2. Generating random DNA, random protein sequence.
3. Simulating DNA mutation.
4. Finding % identity between two random DNA sequences.

Unit 4: Regular Expressions (8 hours)

1. Finding motifs in DNA or protein sequences.
2. Parsing FASTA, Genbank and PDB files.
3. Parsing BLAST output.

Unit 5: References, Subroutines and introduction to BioPERL (8 hours)

1. Reading and writing a 2-dimensionl matrix in PERL
2. Writing subroutines for the programs of units 1 and 2.
3. Writing PERL modules
4. Usage of CPAN
5. Creating simple BioPERL objects.

Text Books:

1. Schwartz *et al.*(2011), Learning PERL. O'Reilly
2. James Tisdall(2001), Beginning PERL for Bioinformatics. O'Reilly
3. James Tisdall (2007), Mastering PERL for Bioinformatics. O'Reilly

Additional Readings:

1. Christiansen*et al.*(2012), Programming PERL. O'Reilly

Introduction to Statistics and Probability

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 403

Course Name: Introduction to Statistics and Probability

Credits Equivalent: 2
2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
CBB-403 will introduce the students to the concepts and methods of statistics, covering topics such as data organization, data presentation, data analysis, probability, estimation and hypothesis testing.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - Assignment: 10%
   - Class room participation: 10%
   - Attendance: 5%

Course Contents:

Unit-I: Frequency Distributions and Graphs   (3 Hrs)

Introduction to Statistics; Frequency Distributions; Dot Plots; Bar Charts or Bar Graphs; Histograms; Frequency Polygons; Stem-and-Leaf Displays or Plots; Time Series Graphs; Pie Graphs or Pie Charts; Pareto Charts

Unit-II: Numerical Measures   (4 Hrs)

Measures of Central tendency:

Mean, Median, Mode - Notation and Formulae, Mean, Median and Mode for grouped data, relative merits of Mean, Median and Mode

Measures of Dispersion:

Range, Semi-interquartile range, Standard Deviation and Variance; Empirical Rule: The normal curve, Percentile and Quartile, Detecting Outliers

Unit-III: Correlation and Regression (3 Hrs)

Introduction to correlation; A numerical Index to Correlation; Pearson Product-Moment Correlation Coefficient; Interpretation of Correlation Coefficient: Explained and Unexplained Variation; Spearman Rank Correlation

Introduction to Regression; Criterion for the Line of Best Fit; Another Measure of Ability to Predict: The Standard Error of Estimate

Unit-IV: Probability (5 Hrs)

Introduction and Basic Concepts of Probability; Probability of Simple and Combined Events; Various Laws of Probability; Bayes' Theorem; Random Variables and their Distribution; Binomial Distribution; Normal Distribution; Interpreting Scores in Terms of z Score; Sampling Distribution; Central Limit Theorem

Unit-V: Statistical Inference (5 Hrs)

Principles of Hypothesis Testing; One and Two tailed tests; Type I and Type II errors; Significance; One Sample z-test; One Sample t-test; Two Sample z-test, Two Sample t-test; Chi-Square test; ANOVA

Reference Books

- Roger E. Kirk (2007) Statistics: An Introduction, Cengage Learning; 5th edition (ISBN-13: 978-0534564780)
- Neil A. Weiss (2012) Introductory Statistics , 9th edition (ISBN-13: 9780321691224)
- Charles Henry Brase and Corrinne Pellillo Brase Understandable Statistics: Concepts and Methods (2011) ISBN-10: 0840048386

Basic Bioinformatics

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: CBB 405

Course Name: Basic Bioinformatics

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: Recent developments of the sciences have produced a wealth of experimental data of sequences and three-dimensional structures of biological macromolecules. With the advances of computer and information science, these data are available to the public from a variety of databases on the Internet. This course will provide an introduction to bioinformatics to interpret the rapidly expanding amount of biological information. It will discuss the basic concepts of bioinformatics and focus how to identify, obtain, establish, maintain and exchange research information in biology. Students will learn basic concepts in bioinformatics that are essential for further specialized courses.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Assignment: 10 %
   b. Presentation/Class room participation: 10 %
   c. Attendance: 5 %

Course Contents:

UNIT - I: **Introduction and Historical Background**   **(2 Hours)**

- What is Bioinformatics, introduction.
- Historical developments and evolution of Bioinformatics.
- Importance of Bioinformatics in Life Sciences

UNIT - II: **Biological Databases**   **(5 Hours)**

- Introduction
- Primary and Secondary Databases
- Nucleotide Sequence Databases
- Protein Sequence Databases
- Mapping Databases
- Information retrieval from databases

UNIT - III: **Assessing Pairwise Sequence Similarity**   **(5 Hours)**

- Types of alignment: Local and Global.
- Scoring matrices
- BLAST
- FASTA
- Comparing FASTA and BLAST

UNIT - IV: **Multiple Sequence Alignments (MSA)**   **(4 Hours)**

- The different approaches involved.
- Databases of MSA
- HMM and Statistical methods in MSA
- Evaluation

UNIT - V: **Phylogenetic Analysis**   **(4 Hours)**

- Concepts in Molecular Evolution
- Phylogenetic Trees and Dendrograms
- Basics
- How to Construct a tree
- Methods in Phylogenetic reconstructions

Text Books:

1. David Mount (2004) Bioinformatics: Sequence and Genome Analysis, Cold Spring Harbor Laboratory Press.
2. Arthur M Lesk (2009) Introduction to Bioinformatics, 3rd Edition, Oxford University Press, USA (ISBN-13: 9780199580798)
3. Andreas D. Baxevanis, B.F. Francis Ouellette (2009) Bioinformatics : A Practical Guide to the Analysis of Genes and Proteins, 3rd Edition, Wiley (ISBN-13: 9788126521920)

Additional readings:

1. Higgs PG, Attwood TK (2009) Bioinformatics and molecular evolution, Wiley-Blackwell.
2. Andrzej Polanski MK. (2007) Bioinformatics. Springer.

Elements of Synthetic Biology

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 522

Course Name: Elements of Synthetic Biology

Credits Equivalent: 2 Credits

(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to introduce students the concepts of synthetic biology – a field of study at the interface of (i) complexity of biological systems and (ii) techniques of traditional engineering. This course is designed to acquaint students about the following basic questions:

- Can we study and understand biology as an engineering discipline?
- Why is it necessary to consider stochasticity while modeling biological processes?
- What are the basic parts and devices that have been successfully bioengineered?
- What are the implications of Synthetic Biology on the society?

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - 5% class participation,
   - 20% assignment and presentation

Course Contents

UNIT I: Introductory Interdisciplinary Concepts   (4 hours)

- Definition and scope of Systems biology and Synthetic biology.

- Engineering concepts: parts, devices, circuits -- digital vs. analog, logic gates.

- Biological complexity: Self organization, Emergence, Robustness.

- Kinetic Chemistry: Chemical kinetics, Michaelis-Menten kinetics, Feedback in biological systems.

- Introduction to genetic engineering and metabolic engineering.

UNIT II: Stochastic Modeling of Biological Systems   (4 Hours)

- Aspects of noise in designing biological systems.

- Brief overview of deterministic modeling.

- Master equation, Gillespie's Stochastic Simulation Algorithm.

- Lambda switch and Chemotactic module in *E coli*.

- SBML, CellML, CAD and open source programs: Copasi, CellDesigner, JDesigner, eCell, mCell, StochSim, BioNets, etc

UNIT III: Standards and parts in Synthetic Biology   (4 Hours)

- Lac operon, zinc fingers.

- MIT Registry of standard Biological parts.

- Bio-brick and Non-biobrick initiatives, iGEM events.

- DNA writing technologies, artificial genes, never born proteins.

UNIT IV: Basic circuits of Synthetic Biology   (4 Hours)

- Gates: AND gate

- Counters: Pulse generators

- Switches: Toggle switch

- Oscillators: Repressilator, mammalian oscillator

- Brief overview of cascades, time delayed circuits, spatial patterning, biosensors, and other logical formula driven circuits.

UNIT V: From Modules to Systems   **(4 Hours)**

- Integrating gene circuits
- DNA Origami, Genome Synthesis
- Minimal synthetic cell, Multicellular synthetic systems
- Bio-energetics and Bio-fuels
- **Safety and Legal issues:** Bio-security, Bio-safety

Text Books:

1. **Chris Myers (2009). Engineering Genetic Circuits. Chapman & Hall.**
2. **EddaKlipp*et al.* (2009).**Systems Biology: A Textbook. Wiley-VCH.
3. **Huimin Zhao (2013).** Synthetic Biology: Tools and Applications. Academic Press.

Additional Readings:

1. **Freemont and Kitney (2012).** Synthetic Biology: A Primer. World Scientific
2. **Fu and Panke (2009).** Systems Biology and Synthetic Biology. Wiley, New Jersy.
3. Presidential Commission for the Study of Bioethical Issues (2010). NEW DIRECTIONS: Ethics of Synthetic Biology and Emerging Technologies. (http://bioethics.gov)

Introduction to Dynamical Systems: From Cells to Societies

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 529

Course Name: Introduction to Dynamical Systems: From Cells to Societies

Credits Equivalent: 2 Credits

(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to introduce students with the basic underlying principles of non-linear dynamical systems that are ubiquitous across all walks of life. Although this course is drafted for the study of biological systems, students will also be familiarized with the common features shared by systems from life sciences, physical sciences, social sciences as well as languages. The course will focus on following topics:

- Systems modeling by difference equations and/or differential equations.
- Stability analysis.
- Agent based modeling and stochastic methods.
- Study of systems as a complex network.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   o Attendance 5%,
   o Class Participation 5%,
   o Assignment and Presentation 15%

Course Contents

UNIT I: Elementary Concepts (4 Hours)

- Linear vs. Nonlinear Systems: Examples from Natural Sciences, Life Sciences, Social Sciences and Languages.
- Mean-field type vs. Agent based modeling.
- Fractals.
- Power laws and Self Organized Criticality.

Unit II: Linear stability and Bifurcation analysis (4 hours)

- First-order systems: fixed points and stability, population growth. saddle-node, transcritical and pitchfork bifurcations.
- Second-order systems: phase portraits, fixed points and linearization. attractors and limit cycles. Hopf bifurcations.
- Software to learn: XPPAut

UNIT III: Modeling Methodologies for Dynamical Systems (4 Hours)

- Iteration of maps, differential equations
- Deterministic approach: Euler and RK4 methods
- Stochastic approach: Monte-Carlo methods
- Agent Based Modeling
- Modeling Natural Systems: Predator-Prey, Brusselator, Circadian Rhythms, p53-mdm2 network.

UNIT IV: Design Principles of Systems Architecture (4 Hours)

- Random Networks: Erdös-Renyi model, Small world networks.
- Scale-free networks, Modular networks, Hierarchical networks.
- Origin of Life: Autocatalytic reaction network approach.
- Cellular Automata -- Conway's game of life.
- Softwares to learn: Pajek, Cytoscape, Mfinder, Graphviz, Netlogo etc.

UNIT V: Network Properties (4 Hours)

- Local Properties: Centrality measures, clustering coefficients etc.
- Global Properties: Regulatory motifs in networks.

- Topology of genetic, metabolic, social, ecological and language networks.
- Dynamics on networks. Flux balance analysis.

Text Books:

1. **Steven H. Strogatz (1994).** Nonlinear Dynamics and Chaos: With Applications to Physics, Biology, Chemistry, and Engineering. Perseus Books, Massachusetts.
2. **Mark Newman (2010).** Networks: An Introduction. Oxford University Press.
3. **Nino Boccara (2010).** Modeling Complex Systems. Springer, New York.

Additional Readings:

1. **Uri Alon (2006).** An Introduction to Systems Biology: Design Principles of Biological Circuits. Chapman and Hall/CRC.
2. **Junker and Schreiber (2008).** Analysis of Biological Networks. Wiley-Interscience, New Jersy.
3. **Matthew O. Jackson (2010).** Social and Economic Networks. Princeton University Press.

Elements of Systems Biology

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: CBB 518

Course Name: Elements of Systems Biology

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: This course will be centered on (i) the theoretical and practical aspects of modelling in systems biology – both deterministic and stochastic and (ii) the study of biological networks.

"Systems Biology" finds its major application in the research field known as "Synthetic Biology" (aiming to design and realize modified or new biological parts). Students will become acquainted with the key concepts and computational approaches of both these fields.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Class Participation 5%
   - Class Test 5%
   - Presentation and Assignment 15%

Course Contents

Unit 1: Introductory Interdisciplinary Concepts   **(8 hours)**
- Definition and scope of Systems biology and Synthetic biology.
- Introduction to biological complexity -- Self organization, Emergence, Chaos, Robustness.
- Introduction to dynamical systems (elementary concepts only) -- Linear stability and Bifurcation analysis, Limit cycles, Attractors, Hopf bifurcation, etc.
- Software: XPPAut

Unit 2: Deterministic Modelling in Systems Biology   **(10 hours)**
- Chemical Kinetics, Michaelis-Menten Kinetics
- Deterministic Methods of systems modelling (Euler and RK4)
- Quantitative models for *E coli.*, Lac operon and Lambda switch, Chemotactic module in *E coli.*
- Modelling aspects of feedback (positive and negative) in natural and synthetic systems:
  - Toggle switch, Repressilator, Predator-Prey, Brusselator, Circadian Rhythms, p53-mdm2.
  - Logic gates, Pulse generators, Time delayed circuits, Spatial patterning etc.

Unit 3: Stochastic Modelling in Systems Biology   **(8 hours)**
- Introduction to noise in biological systems. Intrinsic vs. extrinsic noise. System behaviour and role of noise: Synchronization, Bi/multi stability, Phenotypic switching, Signal processing etc.
- Stochastic Methods for modelling biological systems (Master equation, Gillespie's stochastic simulation algorithm)
- SBML and open source programs: Copasi, CellDesigner, JDesigner, eCell, mCell, StochSim, BioNets, etc.

Unit 4: Design principles of Biological Networks   **(10 hours)**
- Erdös-Renyi model, Small world networks, Scale-free networks, Modular networks.
- Regulatory motifs in networks. Topology of genetic and metabolic networks. Dynamics on networks. Flux balance analysis.
- Softwares: Pajek, Cytoscape, Mfinder, Graphviz etc.

Unit 5: Introduction to Synthetic Biology   **(4 hours)**
- MIT Registry of standard Biological parts, Bio-brick and Non-biobrick initiatives, New source of parts – metagenomics.

- Introduction to DNA writing technologies, Artificial genes, Artificial proteins, Minimal synthetic cell.
- Further discussions on the systems mentioned in unit 2.

Text Books:
1. Szallasi*et al.*(2010), System Modelling in Cellular Biology. MIT Press.
2. Uri Alon(2006), An Introduction to the Systems Biology. Chapman and Hall.
3. Klipp*et al.*(2009)Systems Biology in Practice.Wiley-VCH.

Additional Readings:

1. BO Palsson (2006), Systems Biology, Cambridge University Press.
2. Press *et al.* (2007),Numerical Recipies in C, Cambridge University Press.

Numerical Methods for Computational Biologists

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 423

Course Name: Numerical Methods for Computational Biologists

Credits Equivalent: 2 Credits

(One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to introduce students with the basic concepts of numerical methods. While working in the fields of computational biology and bioinformatics, researchers many times use the softwares for solving the differential equations, fitting curves, solving a set of linear equations etc. This course will provide students the theory on which these methods are based-on and they will feel more comfortable while working on these methods.

Pre-requisite: CBB 401

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - Class participation – 5%
   - Class Test – 10%
   - Assignment - 10%

Course Contents

UNIT I: Errors and Solution of Algebraic and Transcendental Equations 5 Hours

- Floating Point Computation. Overflow and Underflow.
- Truncation and Round-off Errors.
- Single and Double Precision Arithmetic.
- Solution of Algebraic and Transcendental Equations:
  Fixed-Point Iteration Method

  Bisection Method

  Newton-Raphson Method

UNIT II: Matrices and Linear System of Equations   4 Hours

- Solution of Linear Equations by Gauss Elimination Method
- Computation of Eigenvalues and Eigenvectors of Matrices by Iterative Methods.

UNIT III: Curve Fitting by Least Square Methods   3 Hours

- Fitting a Straight Line.
- Non-Linear Curve Fitting:
  - Power Function
  - Polynomial of nth Degree
  - Exponential Function.

UNIT IV Interpolation and Numerical Differentiation   4 Hours

- Newton's General Interpolation Formula.
- Divided Differences.
- Newton' Forward and Backward Interpolation Formulas.
- Numerical Differentiation using Newton's Interpolation Formulas

UNIT V: Numerical Integration andSolution of first-order Ordinary Differential Equations
4 Hours

- Numerical Integration using
  - Trapezoidal Rule.
  - Simpson's 1/3 Rules.
- Solution of Initial Value Problems with Error Estimation:
  - Euler's Method
  - Modified Eulers's Method
  - Runge-Kutta Method of fourth-order

Text Books:

1. K. Atkinson (1989). An Introduction to Numerical Analysis. Wiley-India.
2. M.K. Jain (2012). Numerical Methods. New Age Publishers
3. S.S.Sastry (2012). Introductory Methods of Numerical Analysis. PHI Learning.

Additional Readings:

1. H.M. Antia (2002). Numerical methods for scientists and Engineers. Springer.

Basics of Microbiology and Immunology

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 422

Course Name: Basics of Microbiology and Immunology

Credits Equivalent: 2

2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
This introductory course will provide a broad overview of Immunology and basic concepts of Microbiology. The course will cover an introduction to the human immune system; bacteria & viruses and the diseases they cause.
As an introductory course, it emphasizes the description of molecular and cellular elements of the immune system, and their basic function This course is also designed to give the student insight into the fundamentals of microbiology with emphasis on its relation to human biology and disease.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    a.   Assignment: 10%
    b.   Presentation/Class room Participation: 10%
    c.   Attendance: 5%

Course Contents:

Unit I - Introduction to the Immune System   **(4 Hours)**
- Overview of the Immune System
- Elements of Innate and Acquired Immunity
- Immunogens and Antigens
- Antibody Structure and Function
- Antigen-Antibody Interactions

Unit II - Antigen Recognition and B and T Cell Development   **(4 Hours)**
- Biology of the B Lymphocyte
- Role of The MHC complex in The Immune Response
- Biology of the T Lymphocyte
- Activation and Function of T and B Cells

Unit III - The Immune System in Health And Disease   **(4 Hours)**
- Cytokines
- Tolerance and Autoimmunity
- Immunodeficiency Disorders
- Transplantation

Unit IV – Bacteria   **(4 Hours)**
- Bacterial Structure
- Mechanisms of Gene Transfer
- Mechanisms of Bacterial Pathogenesis
- Antibiotics and Resistance

Unit V – Viruses   **(4 Hours)**
- Epidemiology and Control of Virus Infections
- Respiratory, Gastrointestinal and Sexually Transmitted Viruses
- Virus Diagnostic Methods

Reference Books:
4. Immunology: Janis Kuby, Cold W H Freeman & Co (Sd); 3rd edition (February 1997).
5. Microbiology: Lansing M. Prescott, McGraw-Hill Science/Engineering/Math; 8 edition (February 3, 2010)
6. Basic Immunology: Abul K. Abbas & Andrew H. Lichtman, 3rd Edition (January 29, 2010).

Further readings:
1. Color Atlas of Immunology, Gerd - Rudiger Burmester & Antonio Pezzutto, Thieme; 1 edition (December 2002).
2. Human Microbiology: Simon P. Hardy, Publisher: Taylor and Francis CRC ebook account; 1 edition (April 16, 2007).

Computer Aided Drug Discovery

Course Code: CBB 515

Course Name: Computer Aided Drug Discovery

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

This course will be centered on

- When to use CADD methods in your research (and when not to).
- Which methods are best to use to solve your particular research problems.
- Structure Based and Ligand based drug design approaches and examples.
- Role of Scaffold Hopping in modern drug discovery

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a) Presentations 10 %
   b) Assignments 10 %
   c) Attendance 5%

Course contents:

Unit –I: Introduction to Molecular Modelling: **(11 Hrs)**

- Introduction, force field; Quantum chemistry
- Energy minimization; Local and global minima
- Molecular Dynamics
- Conformational Analysis

Unit –II: Introduction to Proteins   **(3 Hrs)**

- Proteins: Amino acids; Levels of Protein Structure
- Molecular Visualization programs, Active site analysis

Unit –III: Structure Based Drug Design   **(14 Hrs)**

- Protein Structure Prediction; Homology modelling
- Docking and its applications : Various search algorithms and scoring functions
- *De novo* drug design methods
- Virtual screening and its applications

Unit –IV: Ligand Based Drug Design   **(10 Hrs)**

- QSAR
- Pharmacophore Modelling
- Pseudoreceptor Modelling
- Scaffold Hopping

Unit –V : Clinical Trials and Drug Discovery   **(2 Hrs)**

- Success stories of CADD
- Clinical trials

Reference books:

- Andrew Leach (2009) Molecular Modelling: Principles and Applications, Pearson Education (ISBN-13: 9788131728604).
- Kenneth M. Merz, Dagmar Ringe, Charles H. Reynolds (2010) Drug Design: Structure- and Ligand-Based Approaches, Cambridge University Press (ISBN-13: 9780521887236)
- Lipkowitz, KB, Boyd, DB, Eds (1997) Reviews in Computational Chemistry; John Wiley & Sons, Inc.: Hoboken, NJ, USA (ISBN: 9780471192480)

Additional Readings

1. David L. Nelson, Michael M. Cox (2012) Lehninger Principles of Biochemistry 6th Edition, MAC publisher (ISBN-13: 9781464109621)
2. Laurie AT, Jackson RM. Methods for the prediction of protein-ligand binding sites for structure-based drug design and virtual ligand screening. Curr Protein Pept Sci. 2006 Oct;7(5):395-406. Review. PubMed PMID: 17073692.
3. Krieger E, Nabuurs SB, Vriend G. Homology modeling. Methods Biochem Anal. 2003;44:509-23. Review. PubMed PMID: 12647402.
4. Dias R, de Azevedo WF Jr. Molecular docking algorithms. Curr Drug Targets. 2008 Dec;9(12):1040-7. Review. PubMed PMID: 19128213.
5. Oda A, Tsuchida K, Takakura T, Yamaotsu N, Hirono S. Comparison of consensus scoring strategies for evaluating computational models of protein-ligand complexes. J Chem Inf Model. 2006 Jan-Feb;46(1):380-91. PubMed PMID: 16426072.
6. Warren GL, Andrews CW, Capelli AM, Clarke B, LaLonde J, Lambert MH, Lindvall M, Nevins N, Semus SF, Senger S, Tedesco G, Wall ID, Woolven JM, Peishoff CE, Head MS. A critical assessment of docking programs and scoring functions. J Med Chem. 2006 Oct 5;49(20):5912-31. PubMed PMID: 17004707.
7. Bissantz C, Kuhn B, Stahl M. A medicinal chemist's guide to molecular interactions. J Med Chem 53 (2010) 5061-5084.
8. Sun H. Pharmacophore-based virtual screening. Curr Med Chem. 2008;15(10):1018-24. Review. PubMed PMID: 18393859.
9. Hans-Joachim Böhm, Alexander Flohr, Martin Stahl, Scaffold hopping, Drug Discovery Today: Technologies, Dec 2004; 1 (3) :217–24.

Concepts in Molecular Biology

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code:　　　**CBB 419**

Course Name:　　　**Concepts in Molecular Biology**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to the fundamentals of replication, transcription and translation.
- Study of regulation of central dogma of life at molecular level

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    - d.　　　　　　Assignments : 10%
    - e.　　　　　　Class Test: 5%
    - f.　　　　　　Presentation : 10%

Course Contents:

UNIT-I: Introduction to Macromolecules　　　　　　　　　　**(4 hours)**
- Nucleic acid and its role in genetic information
- Importance of weak and strong chemical bonds
- DNA structure
- Structure and types of RNA
- Protein and protein structure

UNIT-II: Genome maintenance   **(4 hours)**

- Genome Structure, chromatin and nucleosome
- DNA replication
- DNA repair and mutation
- Homologous recombination
- Site specific recombination and DNA transposition

UNIT-III: Genome Expression   **(4 hours)**

- Mechanism of transcription
- RNA splicing and processing
- mRNA stability and localization
- catalytic RNA
- Translation
- Genetic code
- Origin and evolution of life

UNIT-V: Regulation   **(4 hours)**

- Transcriptional regulation in prokaryotes and Eukaryotes
- Regulatory RNAs
- Gene regulation in development and evolution
- Systems biology

UNIT-V: Recombinant DNA Technology   **(4 hours)**

- The fragmentation, separation and sequencing of DNA molecules
- Nucleic acid hybridization
- DNA cloning
- DNA engineering

TEXTBOOKS

1. Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter: Molecular Biology of the Cell, Garland Sciences, 4th edition, 2002.
2. James D. Watson, Molecular Biology of the Gene, Cold Spring Harbor Laboratory Press,7th edition, 2013.
3. Jocelyn E. Krebs, Elliott S. Goldstein, Stephen T. Kilpatrick: Lewin's Genes X, Jones and Bartlett publishers, 10th Edition, 2011.

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 425

Course Name: Basic of Plant Biotechnology

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to the basic principles of modern plant biology and its environmental impact.
- Fundamentals of plant genetic improvement
- Fundamentals of plant genetic manipulation and public concerns about genetically modified crops

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Assignment: 10%
   b. Class Test: 5%
   c. Presentation: 10%

Course Contents:

<u>UNIT -I:</u> **Plant genome**   **(4 Hours)**

- Organization and expression of genes
- Regulation of gene expression
- Implications of plant transformation
- Genome size and organization

UNIT -II:Plant Tissue culture   **(4 Hours)**

- Plant tissue culture.
- Culture types
- Plant regeneration
- Plant tissue culture and plant transformation

UNIT -III:Plant Transformation   **(4 Hours)**

- Techniques for plant transformation
- Vectors for plant transformation
- Basic features of plant vectors
- Clean gene technology

UNIT-IV : Plant disease resistance and Stress tolerance   **(5 Hours)**

- Genetic manipulation of herbicide tolerance
- Genetic manipulation of pest resistance
- Plant disease resistance
- Reducing the effects of viral disease
- Strategies to reduce stress tolerance

UNIT- V: Crop Improvement and GM crops   **(3 Hours)**

- Improvement of crop yield and quality
- Molecular farming
- Genetically modified food and public acceptability

Prescribed Text Books:

- Adrian Slater, Nigel W. Scott, and Mark R. Fowler Plant (2008) Biotechnology: The Genetic Manipulation of Plants. Second edition. Oxford University Press

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 525

Course Name: Enzyme Kinetics

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students about the structure & function of enzymes
- Acquaint students to the basic principles of enzyme kinetics
- To understand the molecular mechanisms of enzyme catalysis
- To understand the enzyme inhibition and its types

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a)   Presentation 10%

   b)   Class Participation 10%

   c)   Attendance 5%

Course Contents:

UNIT -I: Introduction to Enzymes   (4 Hours)

- Enzymes, Enzyme commission's system of classification and significance of EC number
- Mechanism of action of enzyme catalysis and factors affecting catalytic power and specificity
- Structure of Proteins
- Monomeric and Oligomeric Enzymes

UNIT -II: Introduction to bioenergetics, catalysis and kinetics   (4 Hours)

- Concepts of bioenergetics
- Factors affecting rates of chemical reactions
- Kinetics of uncatalysed chemical reactions
- Kinetics of enzyme catalysed reactions

UNIT -III: Kinetics of Single substrate Enzyme Catalysed Reactions   (4 Hours)

- Henri and Michaelis-Menten Equation; significance and its modification
- Lineweaver- Burk Plot, Eadie- Hofstee and Hanes Plot
- Eisenthal and Cornish- Bowden plot, Haldane relationship for reversible reactions
- Rapid Reaction Kinetics

UNIT -IV: Enzyme Inhibition   (4 Hours)

- Reversible Inhibition: Competitive and Uncompetitive Inhibition
- Non-competitive Inhibition and Mixed Inhibition
- Partial Inhibition and Substrate Inhibition
- Allosteric Inhibition and Irreversible Inhibition

UNIT –V: Kinetics of Multi-Substrate Enzyme- Catalyzed Reactions   (4 Hours)

- Ping-pong bi-bi, Random-order and Compulsory-order Mechanisms
- Steady State Kinetics
- Investigation of Reaction Mechanisms using Steady- State Methods
- Investigation of Reaction Mechanisms using Non Steady- State Methods

Prescribed Text Reference Books:

1).Understanding Enzymes,Trevor Palmer,Prentice Hall,4th Ed,1995
2. Biochemistry By Lubert Stryrer,3rd Ed.,1995,W.F. Freeman and Co., New York.
3. Enzyme Structure and Mechanisms, Alan Ferst,W.M. Freeman, New York,1985.
Other Readings

Sr. No.	Jouranls atricles (specific articles, *Complete reference*)
1	Muller J, Morrison DK (2002). Assay of Raf-1 activity. Methods in Enzymology 345: 490-498
2	Reszka, R and Jacobs, A and Voges, J (2005) Liposome-mediated suicide gene therapy in humans. Methods in Enzymology, 391 . 200-208. ISSN 0076-687
3	Methods in enzymology. Vol. 89, carbohydrate metabolism, part D : Edited by , Academic Press, New York, 1982. 656

Relevant Websites

Sr. No.	Web address	Salient Features
1	Methods in enzymology. Vol. 89, carbohydrate metabolism, part D : Edited by , Academic Press, New York, 1982. 656	Lesson of properties of enzymes
2	www.proteinscience.org	All types of enzyme mechanisms are mentioned in this website

Molecular Evolution and Biodiversity

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CBB 516

Course Name: Molecular Evolution and Biodiversity

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Make students familiar with laws of genetics.
- To understand mechanism behind the process of molecular evolution.
- To study various techniques which are used to study genetic pattern and evolutionary history.
- To study genetic processes that results in biodiversity.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

Evaluation Criteria:

1.   Mid Term Examination: 25%

2.   End Term Examination: 50%

3.   Continuous Internal Assessment: 25%

   a)   Presentation 10%

   b)   Class Participation 10%

   c)   Attendance 5%

Course Content:

UNIT I: INTRODUCTION TO MOLECULAR EVOLUTION (4 hours)

Introduction to Molecular evolution: Meaning and importance of Molecular evolution, heredity and variation, Variations- nature and types, Genetic basis of evolution

Mendelian laws of inheritance

Exceptions in Mendel 's laws :

Organization and structure of gene, evolution of Genetic code, Molecular clock, phylogeny

UNIT II: EVOLUTION AT MOLECULAR LEVEL (4 Hours)

Mutation and its types: Point mutation, Gene duplication, Chromsomal rearrangement, polyploidy and aneuploidy

DNA Damage and Repair: Types of DNA Repair: Base Excision Repair Nucleotide Excision Repair, Mismatch Repair, Double Strand Break Repair

Protein and DNA alignment, distances among sequences, parsimony, Models of molecular evolution: Neutral and nearly neutral theory, tree as evolutionary hypothesis

UNIT III: MOLECULAR TECHNIQUES (4 Hours)

Molecular techniques: RFLP, RAPD, SSR, AFLP , VNTR, Plasmid Fingerprinting

Hybridization techniques: FISH, Nucleic acid probes or hybridisation probe

Polymerization chain reaction and its various types : Allele specific PCR, Helicase Dependent PCR, Real Time PCR , Assembly PCR, Inverse PCR, Anchor Dependent PCR or solid phase PCR , *In situ* PCR, RT PCR, Nested PCR

DNA sequencing methods: Sanger di deoxy method, Maxam Gilbert method

UNIT IV: MOLECULAR EVOLUTION IN BACTERIAL PATHOGENS (4 Hours)

Molecular epidemiology and archeology, Applications in Epidemiology

Diagnostics and Interventions, Strategies of genome evolution, gene acquisition

Horizontal gene transfer (HGT)

Evolution in *Mycobacterium tuberculosis* and *M. leprae*

Reductive evolution: Case of *Mycobacterium leprae* and *Yersinia pestis*

UNIT V: BIODIVERSITY   **(4 hours)**

Biodiversity: Genetic, species and ecosystem diversity. Biodiversity at global and national levels.

Genetic variations, genetic drift, factors that affect genetic variations

Approaches to biodiversity conservation: species and landscape approach, Ecosystem approach

PRESCRIBED TEXT AND REFERENCE BOOKS:

1. Dan Graur Wen Hisiung Li. (2000). Fundamentals of Molecular Evolution, Sinauer Assoc ISBN 0878932666.

2. John H.Gillespie . (2004) , Population genetics: A concise guide, (2nd edn), John Hopkins Univ. Press, ISBN 080188092

3. P.Higgs and T.Atwood. (2005), Bioinformatics and Molecular Evolution , John wiley and sons, ISBN 1405130857.

4. D.C.Reanney Hicks and Smith. (1973), Molecular Evolution, Frontiers of Biology, ISBN 0454018606

5. Richard B. Primack. (2002). Essentials of Conservation Biology. (3rd edition), Sinauer Associates, Inc. Publishers.ISBN0-87893-719-6.

6. Eldon John Gardner, Michael J. Simmons, D. Peter Snustad.(8th edition) Principles of Genetics, ISBN: 0471504874

7. T. A. Brown. (2010). <u>Gene Cloning and DNA Analysis: An Introduction</u> (6th edition), willey Blackwell publications. ISBN: 1405181737

8. T.A. Brown (2002). Genomes 2 , BIOS scientific Publishers. ISBN-10: 1859960294

Bioanalytical Techniques

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: CBB 431

Course Name: Bioanalytical Techniques

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students about the techniques used to study biochemical analysis of cellular structures and macromolecules
- Acquaint students to the basic principles of various immunochemical techniques
- To understand the techniques to monitor how the structure and dynamics of biomolecules enables specific biological functions

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
    a. Assignment: 10%
    b. Class Test: 5%
    c. Presentation: 10%

Course Contents:

UNIT -I: Introduction to Centrifugation and Microscopy   (4 Hours)

- Basic principles of centrifugation and types of centrifuges
- Preparative and Analytical Centrifugation
- Light Microscope
- Stereomicroscope

UNIT -II: Mass Spectrometric Techniques   (4 Hours)

- Introduction, Ionisation
- Mass analysers, Detectors
- Structural Information by tandem mass spectrometry
- Analysing protein complexes

UNIT -III: Electrophoretic Techniques   (4 Hours)

- Introduction, Electrophoresis of proteins
- Electrophoresis of proteins
- Electrophoresis of nucleic acids
- Electrophoresis of nucleic acids and capillary electrophoresis

UNIT -IV: Chromatographic Techniques   (4 Hours)

- Principle of chromatography
- Liquid chromatography and high performance liquid chromatography
- Adsorption, Partition and Ion Exchange Chromatography
- Molecular exclusion, gas liquid and thin layer chromatography

UNIT –V: Spectroscopic Techniques   (4 Hours)

- Introduction to Spectroscopic Techniques
- X-Ray Spectroscopy ; applications
- Nuclear magnetic resonance spectroscopy; applications
- Circular Dichromism and Electron spin spectroscopy; applications

Prescribed Text and Reference Books:

1).Biochemistry and Molecular Biology, 7th edition, Keith Wilson and John Walker

2) Fundamentals Of Bioanalytical Techniques And Instrumentation, Ghosal & Srivastava,2009, Published   by Ashoke K. Ghosh.

3) Introduction to Biophysical Methods for Protein and Nucleic Acid Research , Jay A. Glasel, Murray
P.   Deutscher and Murray P. Deutscher, ISBN: 978-0-12-286230-4

4). Biophysical Techniques ,Iain Campbell, 368 pages ,16 February 2012.

Other Readings

Sr. No.	Jouranls atricles (specific articles, *Complete reference*)
4	Spectroscopic Methods in Biochemistry —Principles and Applications, © Jörg H. Kleinschmidt WS 2000/2001
5	A review of chromatographic methods for the assessment of phospholipids in biological samples,2005; Brianna L. Peterson and Brian S. Cummings, BIOMEDICAL CHROMATOGRAPHY, Biomed. Chromatogr. 20: 227–243 (2006)
6	An Introduction to Mass Spectrometry, 1998,Scott E. Van Bramer

Relevant Websites

Sr. No.	Web address	Salient Features
7	Journal of Biochemical and Biophysical Methods (http://www.sciencedirect.com/science/journal/0165022X)	methodological aspects of biochemistry,biophysics,molecular genetics and cellular biology

Plant Bioinformatics

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: CBB 527

Course Name: Plant Bioinformatics

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to introduce the fundamentals, theoretical and practical aspects of plant bioinformatics and its significance in life science and agricultural research

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
    a. Assignment: 10%
    b. Class Test: 5%
    c. Presentation: 10%

Course Contents

UNIT I Plant specific databases and sequence searching   **9 Hours**
- The EMBL Nucleotide Sequence and Genome Reviews Databases
- A Collection of Plant-Specific Genomic Data and Resources at NCBI
- Plant databases
- Exploiting plant genomes in term of polyploidy

UNIT II Plant genome mapping   8 Hours

- Genetic mapping
- Physical mapping
- Integration of genetic and physical maps
- QTL mapping and radiation hybrid mapping

UNIT III Plant functional genomics and proteomics   8 Hours

- Plant RNAs and Plant expression data
- Microarray and MIAME database
- Introduction to array express
- Plant transcriptome assembly
- Retrieving and validating data at PRIDE database

UNIT IV Plant metabolomics and plant microbiome metagenomics   8 Hours

- Plant Microbiomes & metagenomics
- Metabolomics assisted plant breeding
- Tools and Techniques in metabolomics
- Metabolomics Data Analysis, Visualization, and Integration

UNIT V Plant interactomes, networks and pathways   7 Hours

- Introduction to Bio PERL and Bio Linux
- Data integration for gene discovery in plant genetics and genomics
- Data integration, visualization and analysis through Ondex
- Build, visualize and analyze network with cytoscape
- Computational morphodynamics

Text Books:

3. David Edwards. (2007) Plant Bioinformatics: Methods and Protocols. Humana Press, Springer.
4. Khalid Meksem and Gunter Kahl (2005) The handbook of plant genome mapping. Wiley-VCH
5. Wolfram Weckwerth and Gunter Kahl () The handbook of plant metabolomics. Wiley-VCH

Additional Readings:

- Allwood JW, Ellis DI, Goodacre R. (2008) Metabolomic technologies and their application to the study of plants and plant-host interactions. Physiol Plant. 132(2)
- Berendsen RL, Pieterse CM, Bakker PA. (2012)The rhizosphere microbiome and plant health. Trends Plant Sci. 17(8):478-86
- Brazma A, Hingamp P, Quackenbush J, Sherlock G, Spellman P, Stoeckert C, Aach J, Ansorge W, Ball CA, Causton HC, Gaasterland T, Glenisson P, Holstege FC, Kim IF, Markowitz V, Matese JC, Parkinson H, Robinson A, Sarkans U, Schulze-Kremer S, Stewart J, Taylor R, Vilo J, Vingron M (2001) Minimum information about a microarray experiment (MIAME)-toward standards for microarray data. Nat Genet. 29(4):365-71.
- Brazma A, Parkinson H, Sarkans U, Shojatalab M, Vilo J, Abeygunawardena N, Holloway E, Kapushesky M, Kemmeren P, Lara GG, Oezcimen A, Rocca-Serra P, Sansone SA. (2003)

ArrayExpress--a public repository for microarray gene expression data at the EBI. <u>Nucleic Acids Res.</u> 31(1):68-71.

- <u>Chae L</u>, <u>Lee I</u>, <u>Shin J</u>, <u>Rhee SY</u>. (2012)Towards understanding how molecular networks evolve in plants. <u>Curr Opin</u> Plant <u>Biol.</u> 15(2):177-84
- <u>Chen S</u>, <u>Harmon AC</u>.(2006) Advances in plant proteomics. <u>Proteomics.</u> 6(20):5504-16.
- <u>Chickarmane V</u>, <u>Roeder AH</u>, <u>Tarr PT</u>, <u>Cunha A</u>, <u>Tobin C</u>, <u>Meyerowitz EM</u>. (2010) Computational morphodynamics: a modeling framework to understand plant growth. <u>Annu Rev</u> Plant <u>Biol.</u> 61:65-87
- Köhler J, Baumbach J, Taubert J, Specht M, Skusa A, Rüegg A, Rawlings C, Verrier P, Philippi S. (2006) <u>Graph-based analysis and visualization of experimental results with ONDEX.</u> Bioinformatics. 22(11):1383-90.
- Leonelli S. (2013) <u>Integrating data to acquire new knowledge: Three modes of integration in plant science.</u> Stud Hist Philos Biol Biomed Sci.
- <u>Martens L</u>, <u>Hermjakob H</u>, <u>Jones P</u>, <u>Adamski M</u>, <u>Taylor C</u>, <u>States D</u>, <u>Gevaert K</u>, <u>Vandekerckhove J</u>, <u>Apweiler R</u>.(2005) PRIDE: the proteomics identifications database. <u>Proteomics.</u> 5(13):3537-45.
- <u>Shannon P</u>, <u>Markiel A</u>, <u>Ozier O</u>, <u>Baliga NS</u>, <u>Wang JT</u>, <u>Ramage D</u>, <u>Amin N</u>, <u>Schwikowski B</u>, <u>Ideker T</u>. (2003) Cytoscape: a software environment for integrated models of biomolecular interaction networks. <u>Genome Res.</u> 13(11):2498-504.
- <u>Ward JA</u>, <u>Ponnala L</u>, <u>Weber CA</u>. (2012) Strategies for transcriptome analysis in nonmodel plants. <u>Am J Bot.</u> 99(2):267-76

Cell biology and genetics

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: CBB 420

Course Name: Cell biology and genetics

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce students to the steps and key elements of foundation of life.
- To study the regulatory elements in cellular biology.
- Fundamentals of life at cellular level

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   - g.   Assignment: 10%
   - h.   Class Test: 5%
   - i.   Presentation: 10%

Course Contents:

UNIT-I: fundamentals of Genetics   **(8 hours)**

- Mendelian genetics
- Genetic material: properties and replication
- Structure and replication of eukaryotic chromosomes
- Linkage crossing over and chromosome mapping
- Transposable genetic elements
- Gene expression
- Mutation
- Recombination

UNIT-II: Change, Structure and function of genetic material   **(8 hours)**

- Genetic fine structure
- Chromosome number variation
- Gene regulation and manipulation
- Gene frequencies and equilibrium
- Inbreeding and heterosis
- Speciation and evolution

UNIT-III: Cell structure and function   **(8 hours)**

- Visualizing, fractionating and culturing cells.
- Biomembrane structure
- Transmembrane transport of ions and small molecules
- Cellular energetics
- Moving proteins into membranes and organelles
- Vesicular traffic, secretion and endocytosis
- Cell signaling
- Cell organization and movement
- Integrating cells into tissues

UNIT-IV: Cell growth and development   **(8 hours)**

- The cell divison cycle
- Mechanics of cell division cycle
- Regulating the eukaryotic cell cycle
- Cell birth, lineage and death
- Germ cells and fertilization
- The molecular cell biology of development

UNIT-V: Advances in genetics and cell biology   **(8 hours)**

- Developmental genetics
- Population genetics
- Quantitative genetics
- Evolutionary genetics

- Genetics of behavior
- Genetic engineering and the future
- Nerve cells
- cellular immunology
- Cancer

TEXTBOOKS

1. Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter: Molecular Biology of the Cell, Garland Sciences, 4th edition, 2002.
2. Eldon J. Gardner, Michael J. Simmons, D. Peter Snustad: Principles of genetics, Wiley India Pvt. Ltd., 8th edition 2011.
3. Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Matthew P. Scott, Anthony Bretscher, Hidde Ploegh: Molecular Cell Biology, W.H.Freeman and Company, 6th edition 2008.

ADDITIONAL READINGS

1. Monroe E. Strickberger (2008) Genetics. Phi Learning

School of Mathematics, Computers & Information Science

Department of Mathematics

School of Mathematics, Computers & Information Science
Name of the Department: Department of Mathematics
Name of the Programme of Study: MSc (Mathematics)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	IAM 402	Ordinary & Partial Differential Equations	4	NA	Dr. Rakesh Kumar
2	IAM 405	Fluid Dymamics	4	NA	Dr. Rakesh Kumar
3	IAM 401	Complex Analysis	4	NA	Dr. Sachin
4	MTH 403	Linear Algebra	4	NA	Dr. Ravinder Singh

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	MTH 609	Advance Algebra	4	NA	Dr. Ravinder Singh
2	CSI 517	Operations Research	4	NA	Dr. Sachin
3	MTH 405	Lebesgue Measure & Integration	4	NA	Dr. Sachin
4	IAM 550	Project & Seminar based on practical training with Industry	4	NA	------------
5	MTH 510	Number Theory	4	NA	Dr. Ravinder Singh

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	IAM 506	Finite elements Methods	4	NA	Dr. Rakesh Kumar

Ordinary and Partial Differential Equations

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: IAM 402
Course Name: Ordinary and Partial Differential Equations
Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objective: The purpose of this course is to acquaint the students with the dynamics of fluid motion.
Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.
Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
i. Subjective / Objective Assignment: 10 %
ii. Numerical Assignments using programming: 10 %
iii. Presentations and Class Tests: 5 %

Course Contents:
Unit I: Existence and Uniqueness Theorem of Solutions of Initial Value Problems for First Order ODEs; Second Order ODEs; Higher Order ODEs; System of First Order Linear Equations; Boundary Value Problems, Green's Function, Sturm-Liouville Theory**.**

(12 Hours)
Unit II: Non-Linear Differential Equations, Classification of Critical Points, Stability, Instability and Bifurcations. **(10 Hours)**
Unit III: Lagrange, Jacobi and Charpit Methods for Solving First Order PDEs; Cauchy Problem for First Order PDEs; Pfaffin Equations; General Solution of Higher Order PDEs with Constant Coefficients; Elliptic, Parabolic and Hyperbolic Differential Equations.

(10 Hours)
Unit IV: Asymptotic Methods:- Basic Ideas, Asymptotic Expansions, Asymptotic Evaluation of Integrals; Asymptotic Methods for Algebraic , Differential and Partial Differential Equations.

(08 Hours)
Prescribed Text Books:
1. King A.C., Billingham J. and Otto S.R. (2005). Differential Equations: Linear, Nonlinear, Ordinary, Partial. First Edition. Cambridge University Press.
2. Sharma J.N. and Singh K. (2009).Fluid Dynamics. Second Edition. Narosa Publishing House. New Delhi.

Suggested Additional Readings:

1. Ross S.L. (1984). Differential Equations. Third Edition. John Wiley & Sons Inc.
2. Nayfeh A.H. (1981). Introduction to Perturbation Techniques. First Edition John Wiley & Sons Inc.
3. Sneddon I. N. (2006). Elements of Partial Differential Equations. Dover Publications. Mineola, New York.

Fluid Dynamics

Course Code: IAM 405
Course Name: Fluid Dynamics
Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objective: The purpose of this course is to acquaint the students with the dynamics of fluid motion.
Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
i. Subjective / Objective Assignment: 10 %
ii. Numerical Assignments using programming: 10 %
iii. Presentations and Class Tests: 5 %

Course Contents:
Unit I: Basic Concepts, Orthogonal Curvilinear Coordinates, Kinematics of Fluid in Motion, General Theory of Stress and Strain, Equations of Motion of Inviscid Fluids, Bernoulli's Equation and its Applications**.** **(10 Hours)**
Unit II: The Navier-Stokes Equations and the Energy Equation, Dynamical Similarity, Inspection Analysis and Dynamical Analysis:- Rayleigh's Technique and Buckingham π-Theorem. **(08 Hours)**
Unit III: Laminar Flow of Viscous Incompressible Fluids with Temperature Distribution:-Plane Couette Flows, Plane Poiseuille Flows, Generalized Plane Couette Flows, Hagen-Poiseuille Flow, Flow in Tubes of Various Cross-Sections, Jeffery-Hamel Flow, Flow of two Immiscible Fluids, Flow with Constant Fluid Properties and with Variable Viscosity, and Flow in the Neighbourhood of a Stagnation Point. **(12 Hours)**
Unit IV: Boundary Layer Theory:- Velocity and Thermal Boundary Layers; Flow of a Compressible Viscous Fluid and Theory of very Slow Motion. **(10 Hours)**

Prescribed Text Books:
1. Bansal J. L. (2004). Viscous Fluid Dynamics. Second Edition. Oxford and IBH Publishing, Delhi.
2. Raisinghania M.D. (2011).Fluid Dynamics. Tenth Edition. S Chand & Company LTD. New Delhi.

Suggested Additional Readings:
1. Schlichting H. and Gersten K. (2000). Boundary Layer Theory. Eighth Edition. Springer Verlag. Germany.
2. Kundu P.K. and Cohen I.M. (2010). Fluid Mechanics. Fourth Edition. Academic Press.

Complex Analysis

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: IAM 401
Course Name: COMPLEX ANALYSIS
Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity /contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The purpose of this course is to acquaint the students with the Complex Analysis to study the development of functions of one complex variable. Applications of Complex analysis are numerous and can be found in many other branches of mathematics, ranging from Number theory, Fluid dynamics, Electrodynamics, and Computer science.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
i. Subjective / Objective Assignment: 10 %
ii. Numerical Assignments using programming: 10 %
iii. Presentations and Class Tests: 5 %

Course Contents:

Unit I: Algebra of complex numbers, the complex plane, polynomials, power series, Transcendental functions such as exponential, trigonometric and hyperbolic functions.
[8 Hours]

Unit II: Analytic functions, Cauchy-Riemann equations, Contour integral, Cauchy's theorem, Cauchy's integral formula, Liouville's theorem, Maximum modulus principle, Schwarz lemma, Open mapping theorem, Taylor series and Laurent series.
[12 Hours]

Unit III: Calculus of residues, conformal mappings and Mobius transformations. **[10 Hours]**

Unit IV: The Space of Continuous Functions, Spaces of Analytic Functions, Spaces of Meromorphic Functions , The Riemann Mapping Theorem, Weierstrass Factorization Theorem , Factorization of the Sine Function , The Gamma Function , The Riemann Zeta Function, Schwarz Reflection Principle,

Analytic Continuation along a Path, Monodromy Theorem , The Sheaf of Germs of Analytic Functions on an Open Set and Analytic Manifolds. **[10 Hours]**

Prescribed Text Books:
1. John B. Conway, Function of One Complex Variable, (Second Edition), Narosa Publishing.
2. J. W. Brown and R. V. Churchill (2003), Complex variables and applications, 7th Edition, Mcgraw-Hill Education.

Suggested Additional Readings:
1. Theodore W. Gamelin (2001), Complex Analysis, Springer.
2. Walter Rudin (2006), Real and Complex Analysis, TMH

Linear Algebra

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
Website: www.cuhimachal.ac.in

Course Code: MTH-403
Course Name: Linear Algebra
Instructor Name: Dr. Ravinder Singh

Credit Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must, failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

      i)   Assignment   15%
      ii)   Class participation   5%
      ii)   Class tests   5%

Course Contents:

Unit-I:

Introduction to the Topic, Systems of linear equations, Matrices, Elementary Operations on Matrices, Row reduction and Echelon forms, Block Matrices. Vectors, Vector Spaces and Subspaces, Linear Span, Linear Independence and Dependence, Bases. Dimensions, Coordinates. Basic Theorems on these topics.

[10 Lectures]

Unit-II:

Linear Transformations, Algebra of Linear Transformations. Null Spaces, Range Spaces. Isomorphism, Representation of Linear Transformation by Matrices. Linear Functional, Duality, Double Dual. Transpose of Linear Transformation. Polynomial Ideals.

[10 Lectures]

Unit-III:

Determinants, Eigenvalues and Eigenvectors, Annihilating Polynomials, Invariant Subspaces. Simultaneous Triangulation, Simultaneous Diagonalization. Direct Sum Decomposition. Primary Decomposition Theorem.

[10 Lectures]

Unit-IV:

Cyclic Subspaces and Annihilators. Cyclic Decomposition and The Rational Canonical Form, The Jordan Canonical Form. Inner Product Spaces, Unitary Operators and Normal Operators.

[10 Lectures]

Prescribed Text Book:

- Kenneth Hoffman, Ray Alden Kunze, "Linear Algebra", Second Edition, Prentice Hall India.

Suggested Additional Reading:

1. M. Artin, "Algebra", Second Edition, PHI.
2. G. Strang, "Linear Algebra"
3. S. Axler, "Linear Algebra Done Right", Springer

Advanced Algebra

Course Code: MTH-609
Course Name: Advanced Algebra
Instructor Name: Dr. Ravinder Singh
Credit Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must, failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   iii)   Assignment   15%
   ii)   Class participation 5%
   iv)   Class tests   5%

Course Contents:

Unit-I:

Direct and Semidirect Products, Fundamental Theorem of Finitely Generated Abelian Groups. p-groups, Solvable Groups. How to recognize Direct products. Applications of Sylow's Theorem. Groups of small orders.

[10 Lectures]

Unit-II:

Rings of Fractions, Euclidean Domains, Principal Ideal Domains, Unique Factorization Domains. Polynomials Rings over Fields. Eisenstein's Criteria, Polynomials in Several Variables.

[10 Lectures]

Unit-III:

Field Extensions, Algebraic Extensions. Straightedge and Compass Constructions. Splitting Fields, Algebraic Closures. Separable and Inseparable Extensions. Cyclotomic Polynomials and Extensions.

[10 Lectures]

Unit-IV:

Basic Definitions. Fundamental Theorem of Galois Theory. Finite Fields, Composite Extensions and Simple Extensions, Abelian Extensions. Galois Group of a polynomial, Computation of Galois groups. Solvable and Radical Extensions: Insolvability of the Quintic.

[10 Lectures]

Prescribed Text Book:

- Dummit and Foote, "Algebra", Second Edition, Wiley India.

Suggested Additional Reading:

4. M. Artin, "Algebra", Second Edition, PHI.
5. N. Jacobson, "Basic Algebra I & II". Dover Books on Mathematics.

Lebesgue Measure And Integration

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: MTH 405

Course Name: LEBESGUE MEASURE AND INTEGRATION

Credits Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity /contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: The purpose of this course is to acquaint the students with the concept of measure, a means for comparing the size of sets and generalizing intuitive notions such as length and area, and moves on to describe the elements of the Lebesgue theory of integration. Lebesgue integration is a fundamental tool for advanced study in areas of mathematics such as functional analysis and potential theory, and provides the foundation for the axiomatic treatment of probability theor.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
i. Subjective / Objective Assignment: 10 %
ii. Numerical Assignments using programming: 10 %
iii. Presentations and Class Tests: 5 %

Course Contents:

Unit I: Set theory, Topological ideas, sequence and limits, functions and mapping, cardinal number and Countability, properties of open sets and Cantor's like sets.
Lebesgue outer Measure, Measurable sets, Regularity, Measurable functions, Borel and Lebesgue Measurability and Housedorff Measures on the Real line.

[10 Hours]

Unit II:
Integration of Non-negative functions, General Integral, Integration in series, Riemann and Lebesgue Integrals.
The four derivates, Continuous and Non- differentiable functions, functions of bounded variation, Lebesgue's differentiation theorem, differentiation, integration and the Lebesgue set.

[10 Hours]

Unit III:
Abstract Measure spaces: Measure and outer Measures, Extension of a Measure, Uniqueness of the Extensions, completion of Measure, Measure space and Integration with respect to a Measure.
Inequalities and the L^p- Spaces: The L^p- Spaces, Convex functions, Inequalities of Jensen, Holder and Minkowski and completeness of $L^p(\mu)$. **[08 Hours]**

Unit IV:
Convergence in Measure, Almost Uniform convergence, Monotone Convergence Theorem,
Fatou's Lemma, Dominated Convergence Theorem,Luzin's theorem, density of compactly supported Smooth Functions, Radon-Nikodym theorem, absolutely continuous and singular measures,
Product of two measures and Fubini's theorem. **[12 Hours]**

Prescribed Text Books:
1. G. De Barra (2003), Measure theory and Integration, Horwood Publishing.

2. H.L. Royden and Patrick Fitzpatrick (2010), Real analysis, Pearson, 4th Edition.

Suggested Additional Readings:

1. P.R. Halmos, Measure Theory, Graduate Text in Mathematics, Springer-Verlag, 1979.
2. Inder K. Rana, An Introduction to Measure and Integration (2nd ed.), Narosa Publishing House, New Delhi, 2004.

Number Theory

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
Website: www.cuhimachal.ac.in

Course Code: MTH-510
Course Name: Number Theory
Instructor Name: Dr. Ravinder Singh
Credit Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must, failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   i) Assignment 15%
   ii) Class participation 5%
   iii) Class tests 5%

Course Contents:

Unit-I:

Divisibility of Integers, and simple properties. Unique Factorization in Integers, Unique Factorization in a Polynomial ring over a Field. Congruences, Linear Congruences, Solutions of Congruences. The Chinese Remainder Theorem. Unique Factorization in Principal Ideal Domains. The Gaussian Integers Ring. Infinitude of Primes in Integers.

[10 Lectures]

Unit-II:

Arithmetical Functions, another proof of infinitude of Primes. Prime counting function. Prime power Moduli, Prime Modulus, Primitive Roots. N-th Power residues. Congruences of Degree two, Prime Modulus.

[10 Lectures]

Unit-III:

Quadratic Residues, The Law of Quadratic Reciprocity, Jacobi Symbols. Proof of Law of Quadratic Residues. Sums of Two Squares. Introduction to Algebraic Numbers and Algebraic Integers. Quadratic Character of 2. The Quadratic Gauss Sums.

[10 Lectures]

Unit-IV:

Finite Fields, Existence of Finite Fields. An application to Quadratic Residues. Multiplicative Characters, Gauss Sums, Jacobi Sums. Equations in Finite Fields. Introduction to Cubic and Biquadratic Reciprocity.

[10 Lectures]

Prescribed Text Book:

- K. Ireland and M. Rosen, "A Classical Introduction To Modern Number Theory", Second Edition, Springer.

Suggested Additional Reading:

1. I. Niven, H. Zuckerman and H. Montgomery, "An Introduction to Theory of Numbers", Second Edition, John Wiley and Sons.
2. G. Hardy and E. Wright, "An Introduction to Theory of Numbers" Fifth Edition, Oxford University Press.

Department of Computer Science

School of Mathematics, Computers & Information Science
Name of the Department: Department of Computer Science
Name of the Programme of Study: MSc (Information Technology)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	CSI 403	Computer Organization & Architecture	4	NA	Keshav Rawat
2	CSI 401	Programming Methodology & Problem Solving in C	2	NA	Manoj Dhiman
3	CSI 407A	LAB-C	2	NA	Manoj Dhiman
4	CSI 406A	Fundamentals of ICT	4	NA	Manoj Dhiman/Keshav Rawat

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	CSI 426	Operating System & System Software	4	NA	Manoj Dhiman
2	CSI 499	Industrial Training(Summer)	4	NA	Manoj Dhiman/Keshav Rawat
4	CSI 532	Theory of Computation	4	NA	Keshav Rawat
5	CSI 517	Operations Research	4	NA	Dr. Sachin

University Wide Courses

The students of other Programmes of Study may choose any courses offered by the school. However, for the guidance of the students of other departments, a tentantive list of courses is given as under:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	CSI 401	Programming Methodology & Problem Solving in C	2	NA	Manoj Dhiman
2	CSI 407A	LAB-C	2	NA	Manoj Dhiman

3	CSI 406A	Fundamentals of ICT	4	NA	Satish Sood
4	CSI 532	Theory of Computation	4	NA	Keshav Rawat
5	CSI 517	Operations Research	4	NA	Dr. Sachin

Computer Organisation and Architecture

Course Code: CSI403

Course Name: Computer Organisation and Architecture

Credit Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Course Objectives: The course is designed

- To have a thorough understanding of the basic structure and operation of a digital computer.
- To discuss in detail the operation of the arithmetic unit including the algorithms & implementation of fixed-point and floating-point addition, subtraction, multiplication & division.
- To study the different ways of communicating with I/O devices and standard I/O interfaces.
- To study the hierarchical memory system including cache memories and virtual memory.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   - i) Assignment 10%
   - ii) Class participation 5%
   - iii) Class test 5%
   - iv) Quiz 5%

Course Contents:

Unit-I: **(08 Hours)**

Brief introduction of Digital computers, Logic gates (OR, AND, NOR, NAND, XOR & XNOR), Boolean algebra, Demogran's laws, Boolean laws, Map simplification, Combinational circuits, half adder, full adder, Flip-flops- (RS, D, JK, Master-slave & & T flip-flops).

Unit-II: **(08 Hours)**

Digital Components: Integrated circuits, Decoders, Counters, Multiplexers, Registers.

Data Representation: Data types, Complements, binary arithmetic, Fixed point representation, Floating point representation.

Unit-III: **(08 Hours)**

Computer Basics and CPU: Von Newman model, various subsystems, CPU, Memory, I/O,

System Bus, CPU and Memory registers, Program Counter, Accumulator, Instruction register, Micro operations, Instruction Fetch, decode and execution, data movement and manipulation, Instruction formats and addressing modes of basic computer. 8085 Microprocessor organization.

Unit-IV: **(09 Hours)**

Computer Arithmetic: Introduction, Addition and subtraction, Multiplication algorithms, Division algorithms, Floating-point arithmetic operations.

Input-Output Organization: Peripheral devices, Input output interface, Asynchronous data transfer, Modes of transfer, Direct memory Access, 8085 I/O structure, 8085 instruction set and basic programming.

Unit-V: **(07 Hours)**

Memory Organization: Memory Hierarchy, Main memory, Auxiliary memory, Associative memory, Cache memory, Virtual memory, Memory management hardware. Multiprocessors: Pipeline and Vector processing.

Prescribed Text Book:

1. M. Morris Mano, "Computer System Architecture", Prentice Hall of India Pvt Ltd, Third edition, 2002
2. V. Rajaraman & T. Radhakrishanan, "Digital Logic and Computer Organization", PHI

Suggested Additional Reading:

- William Stallings, "Computer Organization and Architecture– Designing for performance", 6th Edition, Pearson Education.
- V. Rajaraman, Computer Organization and Architecture, PHI
- Tanenbaum: Structured Computer Organization, Pearson Education

Operating Systems and System Softwares

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

Course Code: CSI 426

Course Name: Operating Systems and System Softwares

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

To learn the various aspects of operating systems such as process management, memory management, I/O management, protection , security etc.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

4. Mid Term Examination: 25%
5. End Term Examination: 50%
6. Continuous Internal Assessment: 25%
   - Assignments: 10%
   - Class Tests: 10%
   - Class Participation: 5%

Course Contents

Unit-I **(10Hours)**
Introduction: Definition, Structure and Functions of Operating System, Types of operating systems.
Process Management: Process states, State Transitions, Process Control block, Context Switching, Process Scheduling, Scheduling algorithm, Threads.

Unit-II **(6 Hours)**

Inter process synchronization and communication: need, Mutual exclusion, semaphore and hardware support for mutual exclusion, queuing implementation, and classical Problem in concurrent programming, critical region and conditional critical region, Monitors, Messages, Deadlock.

Unit-III   **(8 Hours)**
Memory Management: Address Binding, Dynamic Loading and Linking Concepts, Logical and Physical Addresses, Contiguous Allocation, fragmentation, Paging, Segmentation, Virtual Memory, Demand Paging, Page fault, Page replacement algorithms, Thrashing, Working Set Model.

Unit-IV   **(8 Hours)**
Storage Management: File Attributes, File Types, File Access Methods, Directory Structure, File System Organization and Mounting, file system implementation, directory system implementation, Allocation Methods, Free Space management, Secondary storage management, I/O system.

Unit-V   **(8 Hours)**
Protection.
Security.
System Software: Definition, their types, Loader, linker, editor, Assembler, Compiler, Interpreter.
Case Studies: Linux/window NT/Window XP/ Window 2007

Prescribed Text Books
- Operating system concepts, by Gagne Greg, Abraham Silberschatz and Peter B. Galvin , Addison Wesley 8th Edition.
- Dhamdhere, Operating system, TMH

References:
1. Modern operating Systems, A S Tanenbaum, PHI.
2. William Staling, Operating System.

Programming Methodology and Problem Solving on C

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

Course Code: CSI 401
Course Name: Programming Methodology and Problem Solving on C
Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Course Objectives: The course is designed to

- The main purpose of this course is to introduce students with the Problem solving Analysis, Approach and Techniques using C Programming language. C being the rich source of built in functions and constructs will help students to write simple and complex programs.
- The students will be made aware about the concept of portability of C and its platform independenability, that is the C programs written for one computer can be executed on another with little or no modification.
- C is having the ability to extend itself. Thus students can continuously add their own functions to C library.
- Further as the course will continue the students will be introduced and taught many more concepts, features and programming skills in C.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
iv)   Assignment   15%
    ii)   Class Participation   5%
v)   Class tests   5%

Course Contents

Unit-I:
Programming Tools- Problem analysis, Program constructs (sequential, decision, loops), Algorithm, Flowchart, Pseudo code, Decision table, Modular programming, Top Down and Bottom up approaches, Concept of High Level Languages, Low Level Languages, Assembly Languages, Assembler, Compiler, Interpreter, Type of errors.

Overview of C- General Structure of C Program, C compilers, Editing, Compiling & , Running of a C program Data types, Constants and Variables, Operators and expressions, Storage Classes, Different types of expressions and their Evaluation, Conditional Expression, Assignment statement, Enumerated data type, Redefining/ Creating data types, Library functions, Type casting.

Unit II:
Input/Output- Unformatted and formatted I/O Functions**.**
Control Statements- Decision making using if, if-else, elseif and switch statements, Looping using for, while and do-while statements, Transferring Program controlling break and continue statements, Programming examples to illustrate the use of these control statements.
Functions- Defining a function, Local variables, return statement, invoking a Function, specifying and passing arguments to a function, Functions returning non Integer, External, static, and register variable, block structure, initialization and recursion.
Unit-III:
Array & strings- Introduction to arrays, Declaring arrays, Initializing, arrays, Processing arrays, Pointers to arrays, Passing arrays as arguments to functions, Introduction to strings, Pointers to strings, Passing strings and Arrays of strings as arguments to a function, Programming examples to illustrate the use of arrays and strings.
Pointers- Definition, Need of pointers, declaring Pointers, Accessing Values via Pointers, Pointer arithmetic, Types of pointers, Programming examples to illustrate the use of pointers.

Unit IV:
Structures- Declaring a structure type, Declaring Variables of structure type, Initializing Structures, Accessing Elements of structures, arrays of structures, nested structures, Pointers to structures Programming examples to illustrate the use of Structures.
Data files- Definition of data files, different ways of file processing (standard I/O and system I/O), description of various library functions for file handling, updating files, Programming examples to illustrate the use of Data Files.
Prescribed Text Books:

1. E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill.
2. R S Salaria, Application in C, Khanna book publishing.
3. Anita Goel, Computer fundamentals, Pearson.

Suggested Additional Reading:

1. Yashwant Kanetakar, "Let us C" BPB.
2. Kerninghan B.W. & Ritchie D.M. "The C Programming Language" Prentice-Hall.
3. Mullish Cooper, "The Spirit of C" Jaico Publishing House.
4. Byron Gottfried, "Programming with C", Schaum's Outlines, Tata McGraw Hill.
5. Herbert Schildt, C: The complete reference, Tata mcCgraw hill

LAB- C

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH

Course Code: CSI407A
Course Name: LAB- C
Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Course Objectives: The course is designed to

- The main purpose of this course is to introduce students with the Problem solving Analysis, Approach and Techniques using C Programming language. C being the rich source of built in functions and constructs will help students to write simple and complex programs.
- The students will be made aware about the concept of portability of C that is the C programs written for one computer can be executed on another with little or no modification.
- C is having the ability to extend itself. Thus students can continuously add their own functions to C library.
- Further as the course will continue the students will be introduced and taught many more concepts, features and programming skills in C.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   vi)   Lab Assignment   15%
      ii)   Class Participation   5%
   vii)   Class tests   5%

Course Contents:

Unit-I: **5 Hrs**
algorithm, flowcharts, Pseudo code and Decision table.
General Structure of C Program, C compilers, Editing, Compiling & , Running of a C program Data types, Constants and Variables, Operators and expressions, Storage Classes, Different types of

expressions and their Evaluation, Conditional Expression, Assignment statement, Enumerated data type, Redefining/ Creating data types, Library functions, Type casting.

Unit II: **5 Hrs**
Input/Output- Unformatted and formatted I/O Functions**.**
Control Statements- Decision making using if, if-else, elseif and switch statements, Looping using for, while and do-while statements, Transferring Program controlling break and continue statements
Functions- Defining a function, Local variables, return statement, invoking a Function, specifying and passing arguments to a function, Functions returning non Integer, External, static, and register variable, block structure, initialization and recursion.

Unit-III: **5Hrs**
Array & strings- Introduction to arrays, Declaring arrays, Initializing, arrays, Processing arrays, Pointers to arrays, Passing arrays as arguments to functions, Introduction to strings, Pointers to strings, Passing strings and Arrays of strings as arguments to a function, Programming examples to illustrate the use of arrays and strings.
Pointers- Definition, Need of pointers, declaring Pointers, Accessing Values via Pointers, Pointer arithmetic, Types of pointers, Programming examples to illustrate the use of pointers.

Unit IV: **5Hrs**
Structures- Declaring a structure type, Declaring Variables of structure type, Initializing Structures, Accessing Elements of structures, arrays of structures, nested structures, Pointers to structures Programming examples to illustrate the use of Structures.
Data files- Definition of data files, different ways of file processing (standard I/O and system I/O), description of various library functions for file handling, updating files, Programming examples to illustrate the use of Data Files.

Prescribed Text Books:

1. E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill.
2. R S Salaria, Application in C, Khanna book publishing.
3. Anita Goel, Computer fundamentals, Pearson.

Suggested Additional Reading:

1. Yashwant Kanetakar, "Let us C" BPB.
2. Kerninghan B.W. & Ritchie D.M. "The C Programming Language" Prentice-Hall.
3. Mullish Cooper, "The Spirit of C" Jaico Publishing House.
4. Byron Gottfried, "Programming with C", Schaum's Outlines, Tata McGraw Hill.
5. Herbert Schildt, C: The complete reference, Tata mcCgraw hill

Fundamentals of ICT

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: CSI 406 A

Course Name: Fundamentals of ICT

Faculty: Mr. Satish Sood

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- Knowledge of Basic Computing Concepts.
- Identifying the functions of Input & Output Devices.
- To understand the concept of Computer Software.
- In general, develop an intuitive sense of how computers work and how they can be used to make your work more efficient.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   i.   Assignment: 15%
   ii.   Surprise Test: 10%

Course Content:

UNIT - I:

Introduction: Computer, Data Processing, Computer System Characteristics, Evolution of Computers, Capabilities and Limitations, Generations of computers, Block diagram of computer, Basic

components of a computer system- Input unit, Output unit, Storage unit, ALU, Control unit, Central Processing unit; Number Systems- Non-positional number system, Positional number system, Decimal Number system, Binary number system, Octal number system, Hexadecimal number system.

UNIT - II:

Memory: Main memory organization, Main memory capacity, RAM, ROM, PROM, EPROM, Cache Memory, Secondary storage devices: Sequential access devices- Magnetic tape; Direct access devices- Magnetic disks, Floppy disks, Optical disks, Types of Optical disks: CD-ROM, CD-R, CD-RW, DVD.

UNIT - III:

Input devices: Keyboard, Pointing Devices-Mouse, Touch screens, Joystick, Electronic pen, Trackball, Scanning devices: Optical Scanners, OCR, OMR, Bar code reader, MICR, Electronic card reader, Image capturing devices, Digital cameras.

Output devices: Monitors- CRT, LCD, Printers-Dot matrix, Inkjet, Laser; Plotters, Screen image projector.

UNIT - IV:

Introduction: Software, Relationship between Hardware and Software, Types of Software-System Software, Application Software; System Software-Operating System, Utility Program; Programming Languages-Machine, Assembly, High Level; Assembler, Compiler, Interpreter.

UNIT - V:

Data Communication & Computer Networks, Basic elements of a communication system, Data Transmission modes-Simplex, Half duplex, Full duplex; Data Transmission speed-Narrowband, Voice band, Broadband; Data Transmission media-Twisted Pair Wire, Coaxial cable, Optical fibers; Modems, Types of Network-LAN, WAN, MAN; Internet, World Wide Web, Web Browsers.

Prescribed Text Book:

1. Pradeep K. Sinha, Priti Sinha, "Computer Fundamentals", BPB Publications.

Suggested Additional Reading:

1. Rajaraman, V., "Fundamental of Computers", Fifth Edition, Prentice Hall India, New Delhi.
2. E. Balagurusamy, "Introduction to Computers (Special Indian Edition)", Tata McGraw Hill.

Theory of Computation

Course Code: CSI532

Course Name: Theory of Computation

Credit Equivalent: 04 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual / group work; obligatory / optional work placement; literature survey / library work; data collection / field work; writing of papers / projects / dissertation / thesis; seminars, etc.)

Course Objectives: The course is designed to cover the underlying concepts and techniques used in Theory of Computation. In this syllabus we cover finite automata, pushdown automata, Context free grammars and Turing machines.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%
   i) Assignment 10%
   ii) Class participation 5%
   iii) Class test 5%
   iv) Quiz 5%

Course Contents:

Unit-I: **(08 Hours)**

Alphabet, Strings and their properties, Definition of an automation, Description of a finite Automation, Transition graph, transition function, Acceptability of a string by a Finite Automation, Deterministic and nondeterministic FSM'S, Equivalence of DFA and NDFA, Mealy & Moore machines, Minimization of finite automata.

Unit-II: **(08 Hours)**
Chomsky classification of Languages, Languages and their relation, Languages and Automata, Regular sets, regular expression, Regular Grammars, Finite state machine and regular expression, Pumping lemma for regular sets, Application of pumping lemma, closure properties of regular sets.

Unit-III: **(08 Hours)**
Introduction to CFG, Context-free languages and Derivation Trees, Ambiguity in context-free Grammars, simplification of context-free Grammars, Normal forms for context-free Grammars – Chomsky normal form and Greiback normal form.

Unit-IV: **(09 Hours)**
Pushdown Automata: Definitions – Moves – Instantaneous descriptions – Deterministic pushdown automata – Pushdown automata and CFL, PDA corresponding to given CFG, CFG corresponding to a given PDA, pumping Lemma for context-free Languages, Closure properties of CFL's.

Unit-V: **(07 Hours)**
Introduction, TM model Representation of Turing machines, languages acceptability of TM, Design of TM, Universal TM & Other modification, Church's hypothesis, Properties of recursive and Recursively enumerable languages.
Tractable and Untractable Problems: P, NP, NP complete and NP hard problems

Prescribed Text Book:
1. John E. Hopcroft, Jeffery Ullman,"Introduction to Automata theory, Langauges & computation" , Narosa Publishers.
2. K.L.P Mishra & N.Chandrasekaran,"Theory of Computer Science", PHI Learning

Suggested Additional Reading:
- John C Martin, "Introdution to languages and theory of computation", McGraw Hill
- Daniel I.A. Cohen,"Introduction to Computer Theory",Wiley India.
- Peter Linz, "An Introduction to Formal Languages and Automata", Jones & Bartlett Learning

Department of Library Science

School of Mathematics, Computers & Information Science
Name of the Department: Department of Library Science
Name of the Programme of Study: MS Lib Sc (Integrated Dual Degree Programme)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	LIS 404	Foundation of Library & Information Science	4	NA	Dr. Dimple Patel
2	LIS 411	Management of Libraries & Information Centers	2	NA	Nimmala Karunakar
3	LIS 409	Collection Management	2	NA	Dr. Dimple Patel

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	LIS 501	Library Automation & Networks	4	NA	Nimmala Karunakar
2	LIS 502	Library Automation & Networks(Practical)	2	NA	Nimmala Karunakar
3	LIS 505	Electronic Publishing & Content Management(Lab)	2	NA	Prof. I. V. Malhan
4	LIS 402	Web Designing & Hosting(Lab)	2	NA	Prof. I. V. Malhan
5	LIS 507	Community Lab for Library & Information Sciences	4	NA	Prof. I. V. Malhan

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	LIS 422	Media & Information Literacy	4	NA	Dr. Dimple Patel/ Prof. I. V. Malhan
2	LIS 410	Fundamentals of Information & Communication Technology	2	NA	Nimmala Karunakar
3	LIS 418	Digital Preservations & Digital Rights	2	NA	Dr. Dimple Patel

Foundation of Library and information science

Central University of Himachal Pradesh
[Established under Central Universities Act 2009]
PO Box 21, Dharamshala, District Kangra, Himachal Pradesh [India]-176215
Tel: 01892-229330, 237285, Fax: 01892-229331,
Website: www.cuhimachal.ac.in

Course Code: LIS 404

Course Name: Foundation of Library and information science

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To provide students an understanding of the basic principles and fundamental laws of Library and Information Science and to enable them to understand and appreciate the functions and purpose of the libraries and information centers

- To educate the students in the philosophy of librarianship and professional ethics

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%

2. End Term Examination: 50%

3. Continuous Internal Assessment: 25%

    1. Assignment/Library Work/Class Test/Surprise Test/Quiz: 15%

    2. Class Attendance: 10%

Course Content:

UNIT – I: Library, information society   (8 Hours)

- Information characteristics, value and use
- Information cycle: Generation, collection, storage and dissemination
- Information communication channels & barriers
- Knowledge society: genesis and characteristics

UNIT – II: Role and functions of various types of library systems   (10 Hours)

- Role of libraries in the contemporary society
- National libraries features, functions & activities
- Academic libraries
- Special libraries & public libraries

UNIT – III: Fundamental laws & library legislation   (8 Hours)

- Five laws of library science and their implications
- Library legislation need and implications for developing &sustaining public library system
- Model public libraries Act
- Delivery of books (public libraries) Act, IPR

UNIT – IV: Library Development   (6 Hours)

- Library movement in India
- Committees & commission on library development: Sinha committee, Ranganathan committee, Kothari commission
- Recommendations of NKC on libraries
- Role of UNESCO, UGC & RRLF in library development

UNIT – V: Library and Information Profession   (8 Hours)

- Librarianship as a profession: Attributes and core professional ethics

- Professional associations –their role in the development in the development of the profession

- Professional associations –National (ILA, IASLIC, IATLIS, etc.)

- Professional association –International (ASLIB, IFLA, FID, ALA, LA etc)

Prescribed Text Books:

1. Buragohian, Alka. *Various aspects of Librarianship and Information Science.* New Delhi: Ess Ess, 2000.

2. Chapman, Elizabeth A. and Lynden, Frederick C. *Advances in Librarianship.* 24th Vol. San Diego: Academic Press, 2000.

3. Chowdhury(GG), Burton(PF), and McMenemy (D). *Librarianship: the complete introduction.* 2008. New York: Neal-Schuman.

4. Feather (J). *The information society: a study of continuity and change.* Ed.5. 2008. Facet publishing, London.

5. Krishan Kumar. *Library organisation.*1993. Vikas, New Delhi.

Suggested Additional Readings:

1. Kumar, P.S.G. *Foundations of Library and Information Science.* Paper I of UGC Model Curriculum. New Delhi. Manohar, 2003

2. McGarry, Kevin: *The changing context of information: An introductory analysis* 2nd Ed. London, Library Association, 1993

3. Ranganathan, S.R. *The Five Laws of Library Science,* Ed. 2. Bangalore: Sarada Ranganathan Endowment for Library Science, 1999.

4. Surendra Singh and Sonal Singh. Ed. *Library Information and Science and Society.* New Delhi: Ess Ess, 2002.

5. Venkatappaiah, V. *Indian Library Legislation.* 2nd Vol. New Delhi: Daya, 1990.

Management of Libraries and Information Centers

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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www.cuhimachal.ac.in

Course Code: LIS 411
Course Name: Management of Libraries and Information Centers

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

1. To acquaint students with various functions and management of library / information centers

2. To train the students to become effective librarians/Information managers

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
    iii. Assignment: 10%
    iv. Library Work: 5%
    v. Seminar: 5 %
    vi. Surprise Test: 5%

Course Content:

UNIT - I: Concept; Functions and principles of management (5 Hours)

- Management concept - Historical overview; Principles of management and their application in Libraries and Information Centres
- Schools of Management Thought
- Systems Analysis and Design
- Change management

UNIT - II: Human Resource Management (4 Hours)

- Organisation models
- Job analyses and Job description; recruitment training development
- Motivation and leadership.
- Job evaluation and Performance appraisal

UNIT - III: **Financial Management**   **(3 Hours)**
- Financial Management in LICs - Sources of finance; resource mobilization
- Budgeting - methods and techniques
- Budgetary control techniques- Cost Benefit, Cost Effective analysis

UNIT - IV: **Project Management**   **(5 Hours)**

- SWOT
- PERT, CPM
- TQM – applications
- Six sigma , Reengineering

UNIT - V: **Library and Information centre Management**   **(3 Hours)**

- Library routines; Acquisition procedures
- Technical processing; Circulation control; Serials control
- Collection development : policies and procedures

Prescribed Text Books:

1. Beardwell, Ian and Holden, Len. Ed. Human Resource Management: Contemporary

Perspective. New Delhi: McMillan, 1996
2. Brophy, Peter and Courling Kote, Quality Management for Information and Library

Managers. Bombay: Jaico, 1997
3. Krishna Kumar. Library Administration and Management. Vikas: Delhi, 2004.

Suggested Extra Readings:

1. Krishan Kumar. Library Manual. Delhi: Vikas, 2003
2. Ranganathan, S R. Library manual. 2nd ed. Bangalore : Sharada Ranganathan

Endowment, 1988

3. Ranganathan, S R. Library administration. Bombay: Asia, 1959

Collection management

Course Code: LIS409

Course Name: Collection management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
1. To educate the students regarding various principles of collection development and management.

2. To educate the students regarding various tools for documents selection and apprise them the latest trends of collection management.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
- Mid Term Examination: 25%

- End Term Examination: 50%

- Continuous Internal Assessment : 25%

  i. Assignments/Library Work/Class Test/Surprise Test/Quiz: 15%

  ii. Class Attendance: 5%

Course Content:
UNIT - I: User Studies and Information Resources   **(4 Hours)**
- User Groups and Individual User Interests
- Methods of Survey and Study
- Documentary Sources
- Non-Documentary Sources

UNIT - II: Principles of collection development   **(5 Hours)**
- Drury's principles
- Dewey's principles
- McColvin's principles
- Ranganathan's principles

UNIT - III: Tools for selection of documents   **(3 Hours)**
- Trade bibliography and National bibliography
- Web based resources for selection of documents
- Periodical directory
- Tools for selection of e-resources

UNIT - IV: Current trends in collection management   **(4 Hours)**
- Print and electronic media
- Open access information resources
- Management of acquisition section
- Managing the economic and budgeting

UNIT - V: Case studies of selected libraries   **(4 Hours)**
- Academic library system
- Public library system
- Special library system

Prescribed Text Books:

1. KATZ W.A. (1980). *Collection Development.* New York: Holt, Rinehart and Winston

2. Jain,M.K, Jain,Nirmal(2006). *Teaching learning :library and information science a manual.* Shipra Publication .

3. Kumar, Krishna, *Reference Service*, Ed.3, New Delhi, Vikas, 2003.

4. Ranganathan, S.R. (1966). *Library Book Selection.* 3rd ed. Bombay: Asia.

Suggested Extra Readings:

1. Carter, MC (1969). *Building Library Collections.* Metuchen (N.J.): Scarecrow Press.
2. Chakrabarti, AK (1983). *A Treatise on Book Selection.* Delhi: D.K. Publications
3. Spiller, D. (1980). *Book Selection.* 3rd ed. London: Clive Bingley

Library automation and networks (Theory)

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www.cuhimachal.ac.in

Course Code: LIS501

Course Name: Library automation and networks (Theory)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
On successful completion of the course the students will be able to do the following:
- To acquaint the students with the planning and management of automated library systems
- To impart practical training in the housekeeping operation

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
    vii. Assignment: 5%
    viii. Library Work: 5%
    ix. Surprise Test: 5%

Course Content:

UNIT - I: Library automation   (4 Hours)

- Definition, need, purpose and advantages, historical development
- Identifying goals and objectives of automation
- Areas of Automation: Acquisition, technical services, OPAC, Administrative routines, Circulation and Serial Control
- Application of barcoding, RFID in libraries

UNIT - II: Evaluation of library automation systems   (5 Hours)

- Criteria for selection of library automation software: open sources ,property, customize
- Criteria for selection of hardware specification
- Evaluation techniques
- Study of standards relevant to library automation

UNIT - III: Automation Procedure   (3 Hours)

- Steps in Automation: Developing a basic Technology Plan
- Assessing needs and priorities, Preparing strategic Plan, Feasibility Study, Describing existing library services and technology
- Retrospective conversation techniques and process
- Integrated Library Management System

UNIT - IV: Library networks and information systems   (4 Hours)

- Library Networks- OCLC, BLAISE, INFLIBNET, STN, RLIN
- Information Systems: NISCAIR, DESIDOC, SENDOC, NASSDOC
- PADIS, ENVIS, INIS
- AGRIS, BIOSIS, MEDLARS

UNIT - V: Case study of Library automation software   (4 Hours)

- Comparative study of Library automation software's
- Current trends in Library automation software's
- Case study of KOHA
- Case study of SOUL

Prescribed Text Books:

1. R.S.Aswal.Librray Automation for 21 st Century, New Delhi, Ess Ess Publication.
2. Desiree Webber and Andrew Peters. Integrated Library Systems: Planning, Selecting, and Implementing, London: Libraries Unlimited, 2010.
3. Thomas R. Kochtanek and Joseph R. Matthews . Library Information Systems: From Library Automation to Distributed Information Access Solutions, London: Libraries Unlimited, 2002
4. H. K. kaul. Library Networks: An Indian Experience, New Delhi: Virgo Publications, 1992.

Suggested Extra Readings:

1. Satyanarayana, N. R. A manual of computerization of libraries. New Delhi: Viswa Prakashan, 1995.
2. John M. Cohn, Ann L. Kelsey and Keith Michael Fiels .Planning for library automation: A Practical Handbook, London : Library Association, 1998.
3. Michael D. Cooper, Design of Library Automation Systems: File Structures, Data Structures, and Tools, London: John Wiley & Sons

Library and automation network (practical)

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: LIS502

Course Name: Library and automation network (practical)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To impart practical training in the use software to develop bibliographic databases
- To give practical training in the use of library automation software

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
   i.   Assignment: 5%
   ii.   Surprise Test: 5%
   iii.   Mini Project: 15%

Course Content:

UNIT - I: Hands-on experience with the KOHA

UNIT-II: Hands-on experience with the KOHA

UNIT-III: Hands-on experience with the Demo SOUL

UNIT-IV: Hands-on experience with servers and networking

UNIT-V: Mini project

Text Books:
1. KOHA Manual

2. SOUL Manual

Electronic publishing and content management

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[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: LIS-505
Course Name: Electronic publishing and content management

Faculty: Prof.I.V.Malhan

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To provide students with basic knowledge of electronic publishing
- Familiarize students with existing electronic publishing services.
- To train students in the use of Joomla content development software
- To train students to create content using Drupal software

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
    v.   Assignment: 5%
    vi.   Surprise Test: 10%
    vii.   Mini Project: 10%

Course Content:

UNIT - I: **E-Publishing basics**   **5 hours**

- Electronic publishing:concept,need and importance
- E-publishing challenges and opportunities
- E-publishing services
- Marketing of e-documents

UNIT - II: **E-publishing issues**   **5 hours**

- Social and economic issues
- IPR and copyright issues
- E-content metadata standards
- E-content classification

UNIT - III: **Joomla content creation**   **5 hours**

- Introduction to Joomla
- Purpose and advantages of Joomla in web technology
- Content creation using Joomla
- Tools

UNIT - IV: **Content creation tool-Drupal**

         5 hours

- Introduction to Drupal
- Installation and configuration
- Drupal structure and taxonomy
- Site building using Drupal

UNIT - V: **Case studies**   **5 hours**

Prescribed Text Books:

1 David J. Brown & Richard Boulderstone; The Impact of Electronic Publishing; The Future of Publishers and Librarians. Munchen, Saur Verlag, 2008

2 Stephen Burge. Joomla Explained your step by step Guide. Addison-Wesley, 2011,448p

3 http://learnbythedrop.com/system/files/Beginners%20Guide%20To%20Drupal.pdf

Suggested Extra Readings:

1 R J Townsend, Foundation Drupal 7 FriendsofEd, 2011, 309p

2 Elizabeth Logan & Myke Gluck,eds, Electronic Publishjing: Applications and Implications, USA, ASIS Monograph,1997

Web designing and hosting

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: LIS402

Course Name: Web designing and hosting

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
On successful completion of the course the students will be able to do the following:
- Creating own websites and host
- The students will understand, essential step by step guide on how to set up a
  Website

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
   i. Quiz: 5%
   ii. Surprise Test: 5%
   iii. Mini-Project: 15%

Course Content:

UNIT - I: Web-designing using HTML   codes   (4Hours)

UNIT - II: Web-designing using HTML   editors   (4Hours)

UNIT - III: Hyperlinks and multimedia features   (4Hours)

UNIT - IV: Hosting on web-servers   (4Hours)

UNIT - V: Project   (4Hours)

Prescribed Text Books:

1. Bruce Lawson. Introducing HTML5 (Voices That Matter), 2010, New Riders Press, USA

2. Gavin Hoole &Cheryl Smith.The Really, Really, Really Easy Step-by-Step Guide to Building Your Own Website: For Absolute Beginners of All Ages,New Holland publisher,2008,London.

3. Lan Lloyd .Build Your Own Web Site The Right Way Using HTML & CSS, 2nd Edition, 2003, sitepoint pvt.Ltd

4. Thomas A. Powell . HTML & CSS: The Complete Reference, Fifth Edition, 2006, Mc Graw Hill.

 Suggested Extra Readings:

1. C. Xavier. World Wide Web Design with HTML. New Delhi: TMH, 2000.
2. Alan Poulter, Gwyneth Tseng and Goff Sargent: The Library and Information Professionals Guide to the World Wide Web. London : Facet Publishing, 199

Community Lab for Library and information Science

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: LIS507

Course Name: Community Lab for Library and information Science

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Media and Information Literacy (MIL)

Central University of Himachal Pradesh
[Established under Central Universities Act 2009]
PO Box 21, Dharamshala, District Kangra, Himachal Pradesh [India]-176215
Tel: 01892-229330, 237285, Fax: 01892-229331,
Website: www.cuhimachal.ac.in

Course Code: LIS 422

Course Name: Media and Information Literacy (MIL)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To acquaint the students with functions of media and information channels in society
- To train the student in the advanced skills of information/knowledge gathering of various information sources, especially online e-resources

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
- Mid Term Examination: 25%
- End Term Examination: 50%
- Continuous Internal Assessment : 25%
    - Assignment/Library Work/Class Test/Surprise Test/Quiz: 15%
    - Class Attendance: 10%

Course Content:

UNIT - I: **Fundamentals of Media and Information Literacy**   **(5 Hours)**

- Definition, need and purpose of media and information literacy
- Role of media and information literacy in society
- Socio-cultural context of media and information
- Media and Information Literacy Indicators
- IFLA Media and Information Literacy Recommendations

UNIT - II: **Media Literacy**   **(3 Hours)**

- Brief history of media, New media
- Media convergence, Media Pluralism
- Representation in Media; Paid News, advertising
- News, Media and Information Ethics

UNIT - III: **Information Literacy**   **(4 Hours)**

- Information Literacy standards
- Information Literacy and Knowledge Society
- Information Literacy for emerging learning environments
- Overview of Types of information and information resources

UNIT - IV: **Information Discovery and Search**   **(5 Hours)**

- Internet Search Engines: Origin, development, types, working of SEs
- Discovery tools for OA scholarly information: DOAJ, ROAR, OpenDOAR, DOAB.
- Information Search Tools: OPACs and Worlcat
- Access to information: Closed vs. Open
- Evaluation of information resources

UNIT - V: **Social Web**   **(3 Hours)**

- Web 1.0, Web 2.0 and Web 3.0: characteristics, features.
- Collaborative content development: Social networking sites, Blogs, Microblogs, Wikis, RSS, Podcasting, Social Tagging, Social Bookmarking, Web Content voting.
- Role of Social Web in society

Prescribed Text Books:

1. Mahiri, Jabari. <u>Digital Tools in Urban Schools: Mediating a Remix of Learning</u>. Series: Technologies of the Imagination. Published: Ann Arbor, MI: University of Michigan Press, 2011. Full text of e-book available for reading at: http://dx.doi.org/10.3998/toi.10329379.0001.001

Last accessed on: 10th June, 2013

2. Kenix, Linda Jean. <u>Alternative and Mainstream Media</u>. ISBN: 9781849665421, Publisher: Bloomsbury Academic, Year: 2011. Full text of e-book available for reading at: http://www.bloomsburyacademic.com/view/AlternativeMainstreamMedia_978184966542 1/book-ba-9781849665421.xml

Last accessed on: 10th June, 2013

3. Neuman, W. Russell, Ed. <u>Media, Technology, and Society: Theories of Media Evolution</u>. Series: digitalculturebooks. Published: Ann Arbor, MI: University of Michigan Press, 2010. Full text of e-book available for reading at: http://dx.doi.org/10.3998/dcbooks.8232214.0001.001

Last accessed on: 10th June, 2013

4. Krishna Kumar: <u>Reference Service</u>, Ed.3, New Delhi, Vikas, 2003.

5. Association of College And Research Libraries. <u>Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians</u>. (2001). ACRL, available at : www.ala.org/acrl/guides/objinfolit.html

Last accessed on: 10th June, 2013

6. Baldwin (V A). <u>Information Literacy in Science & Technology Disciplines</u>. Library Conference Presentation and Speech. (2005).University of Nebraska, Lincoln. http://digitalcommons.unl.edu/library_talks/11

7. Martin white. Making search work: implementing web, intranet and enterprise search. Facet publishing, New York (2005)

Last accessed on: 10th June, 2013

Suggested Extra Readings:

1. Carey, John and Elton, Martin C. J. <u>When Media Are New: Understanding the Dynamics of New Media Adoption and Use</u>. Series: New Media World. Published: Ann Arbor, MI: University of Michigan Press, 2010. Full text of e-book available for reading at: : http://dx.doi.org/10.3998/nmw.8859947.0001.001

Last accessed on: 10th June, 2013

2. Martin White. Making search work: implementing web, intranet and enterprise search. Facet publishing, New York (2005)

3. The Hyperlinked Society: Questioning Connections in the Digital Age. Joseph Turow and Lokman Tsui, Editors. Series: New Media World. Published: Ann Arbor, MI: University of Michigan Press, 2008. Full text of e-book available for reading at: http://dx.doi.org/10.3998/nmw.5680986.0001.001

Last accessed on: 10th June, 2013

4. How Canadians Communicate IV: Media and Politics. Authors: Waddell, Christopher and Taras, David. ISBN: 9781926836812 9781926836829 9781926836829 Year: 2012 Pages: 401 Publisher: Athabasca University Press. Full text of e-book available for reading at: http://www.aupress.ca/index.php/books/120205

Last accessed on: 10th June, 2013

Fundamentals of Information and Communication Technology

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: LIS 410

Course Name: Fundamentals of Information and Communication Technology

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To provides students with basic knowledge of computers and networks and their application to library and information activities.
- Familiarly with the Internet technology.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   i.   Assignment: 10%
   ii.   Surprise Test: 10%
   iii.   Class work :5%

Course Content:

UNIT - I: **Computer Fundamentals and Hardware**   **(5 Hours)**

- Basics: Von Neumann Architecture, Computer Generations, And Classification of computers, Computer Organisation, Processor Types: CISC, RISC
- Data Representation: ASCII, BCD, UNICODE &Numbering systems (Binary, Octal, Hexadecimal)
- computer memory: Memory Hierarchy: Register, Cache, RAM, ROM, DRAM, Flash Memory**,** Secondary Storage: Characteristic of Hard disk and CD-ROM, DVDs,
- Printers and Scanners; Types and characteristics

UNIT - II: **Computer software**   **(5 Hours)**

- System and application software; Programming concepts: System analysis, flowcharts, and algorithms.
- Open source and proprietary software.
- Operating Systems: M S- DOS, Windows
- Operating Systems: UNIX / LINUX.

UNIT - III: **Database management Systems**   **(10 Hours)**

- Database: concepts and components
- Database Management system: Basic Functions, potential uses
- Database Strctures, file organization : Sequential, Indexed Sequential and Direct file
- Database type; relational database

UNIT - IV: **Fundamentals of Networking**   **(10 Hours)**

- Network Devices : NIC, Modem, Amplifier, Repeater, Hub, Bridge, Switches, Router, Wi-Fi devices
- serial and parallal data communication, analog& digital data communication, synchrous and asynchrsous mode of data communication Introduction to Computer Networks,
- Classification : LAN, MAN, WAN: Internet, Intra-net, Extra-net Networking Models : ISO OSI, TCP/IP reference Model
- Network Topologies : Bus, Ring, Star, Mesh; Switching Techniques : Circuit Switching, Packet Switching

UNIT - V: **Internet: Basic features, Tools, protocols & Services**   **(10 Hours)**

- origin and stages of development of the internet; introduction to intranets and extranets
- Internet connectivity: Dial-up, Leased Line, ISDN, wi-fi. Addressing: MAC addressing, port-address, domain address, ip address.
- Internet security: authentication, firewalls, virus, spyware maintence , Proxy servers
- Protocols & services:IP,TCP,Telnet,FTP,SMTP,POP,DNS,News groups

Prescribed Text Books:

1. ANITA GOEL.Computer Fundamentals,New Delhi,pearson,2010.
2. TANENBAUM,ANDREW S.Computer network,3dr ed. New Delhi,pearson,2010
3. CLARK M P: Networks and telecommunication: design and operation. 2nd ed. 1997.

Suggested Extra Readings:

1. COMER D E: Computer networks and internets. 1997.

2. DUATO J, YALAMANCHILI S and NI L: Interconnection networks. 1997

3. DEESON, ERIC. Managing with Information Technology, Great Britan, Kogan page Ltd. 2000.

4. Forrester W.H. and Rowlands, J.L. The Online searcher s companion. London,

4. Library Association, 2002.

6. ROWELY, JENNIFER: Information Systems, Ed.2, London, Clive Bingley, 2001.

Digital Preservation and Digital Rights

Central University of Himachal Pradesh
[Established under Central Universities Act 2009]
PO Box 21, Dharamshala, District Kangra, Himachal Pradesh [India]-176215
Tel: 01892-229330, 237285, Fax: 01892-229331,
Website: www.cuhimachal.ac.in

Course Code: LIS 418

Course Name: Digital Preservation and Digital Rights

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- To acquaint the students with various digital information resources

- To train the student in the preservation of digital information and digital rights management.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
- Mid Term Examination: 25%
- End Term Examination: 50%
- Continuous Internal Assessment : 25%
  - Assignment/Library Work/Class Test/Surprise Test/Quiz: 15%
  - Class Attendance: 5%

Course Content:

UNIT - I: **Digital Resources**   **(2 Hours)**

- Digital Resources: concept, features, merits
- Types of Digital Resources: E-books, E-journals, Multimedia resources, Online resources.
- Digital Formats

UNIT - II: **Preservation of Digital Resources**   **(4 Hours)**

- Digital Preservation: definition, need and purpose
- Digital Preservation: strategies, best practices
- Issues and challenges in Digital Preservation
- Digital Preservation standards

UNIT - III: **Digital Preservation Programmes and Initiatives**   **(4 Hours)**

- IFLA's PAC, NDIIP (US) ; DPC (UK); NDPP (India), PADI (Australia)
- OCA, MBP (UDL), HathiTrust, Internet Archive
- Indian Initiatives:

Digital Library of India

Digital Archives: NAMAMI; TKDL; Initiatives of NAI, IGNCA.

ETDs: Shodganga, Shodgangotri

Institution-level efforts: LDL, IISc EPrints, Vidyanidhi, OUDL, etc.

UNIT - IV: **Digital Rights**   **(5 Hours)**

- Digital Rights: concept, need, purpose
- Right to information and Freedom of Expression; Privacy, Censorhip
- IFLA Internet Manisfesto, WSIS (UN)
- Digital Rights initiatives and advocacy groups: GNI, APC, EFF, FSF, etc.

UNIT - V: **Digital Rights vs. Intellectual Property Rights**   **(5 Hours)**

- IPR: concept, purpose, types
- Digital Rights Management (DRM): Concept, purpose, techniques
- DRM Laws: DCMA, EUCD, IT Act 2000, Copyright Law of India (Amendment 2012)
- Digital Rights vs. IPRs

Prescribed Text Books:

1. G.G. Chowdhury, <u>Introduction to digital libraries</u>. UK, facet publishing , 2007.

2. <u>The Digital Rights Movement: The Role of Technology in Subverting Digital Copyright</u>. Hector Postigo, MIT Press, 2012.

3. WIPO Intellectual Property Handbook: Policy, Law and Use. Available at: *http://www.wipo.int/about-ip/en/iprm/* Last accessed on: 10th June, 2013.

4. Digital Rights Management - An Introduction by D Satish Sbs Publishers (2010)

Suggested Extra Readings:

1. Demystifying Intellectual Property Rights by NR Subbaram. Lexis-Nexis India (2009) ISBN: 8180385787, ISBN-13: 9788180385780

2. Intellectual Property Rights in India. by VK Ahuja Publisher: Lexis-Nexis India (2009) ISBN-13: 9788180385193, ISBN-10: 8180385191

3. Digital Rights Management: Imperatives and Innovative Opportunities by B. K. Jain. Global Vision Publishing House (2012)

School of Physical & Material Sciences

Department of Physics & Astronomical Science

School of Physical & Material Sciences
Name of the Department: Department of Physics & Astronomical Sciences
Name of the Programme of Study: MSc (Physics)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	PAS 401	Classical Mechanics	2	NA	Dr. O S K S Sastri
2	PAS 402	Mathematical Physics	2	NA	Dr. Jagdish
3	PAS 403	Classical Electrodynamics	2	NA	Dr. B.C. Chauhan
4	PAS 404	Quantum Mechanics	2	NA	DrSurenderVerma
5	PAS 405	Electronics	2	NA	DrDalip Singh Verma
6	IAM 521	Special Functions	4	NA	Dr. Ayan& Dr. Dalip
7	PAS 413	General Physics Lab	2	NA	Dr O S K S Sastri, DrAyan, Dr Joshi, DrChauhan
8	PAS 415	Electronics Lab	2	NA	DrDalip&DrSurender
9	CBB 406	A Practical in Programming	2	NA	DrChauhan&DrJagdish

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	PAS 503	Advanced Condensed Matter Physics	2	PAS 408	Dr K B Joshi
2	PAS 505	Advanced Nuclear Physics	2	PAS 409	DrDalip S Verma
3	PAS 426	Quantum Field Theory	2	PAS 407	DrSurenderVerma
4	PAS 506	General Theory of Relativity	2	PAS 421, PAS 402	DrAyanChatterjee
5	PAS 513	Magnetic Materials	2	PAS 408	Dr K B Joshi
6	PAS 524	Advanced Statistical Mechanics	2	PAS 406, PAS 407	DrAyan
7	PAS 528	Accelerator and Reactor Physics	2	PAS 409	DrChauhan
8	PAS 529	Group Theoretical Physics	2	PAS 507	DrSurenderVerma

9	PAS 423	Modern Physics	2		Dr K B Joshi, DrAyan&DrDalip
10	PAS 427	Computational Physics Lab	2	PAS 407	Dr O S K S Sastri, DrJagdish&DrSurenderVerma
11	ENV	Earth Science Systems	2		DrChauhan
12	CBB 514	Molecular Simulations & Applications	4		Dr O S K Sastri&DrJagdish

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	IAM 521	Special Functions	4		Dr. Ayan& Dr. Dalip
2	CBB 406	A Practical in Programming	2		DrChauhan&DrJagdish
3	ENV	Earth Science Systems	2		DrChauhan
4	CBB 514	Molecular Simulations & Applications	4		Dr O S K Sastri&DrJagdish

Classical Mechanics

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: PAS 401

Course Name: Classical Mechanics

Course Instructor: Dr O S K S Sastri

Course Duration: 15 weeks

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:
- Discuss in detail Lagrangian and Hamiltonian Formalisms
- Solve problems involving Central Force Fields
- Study Motion of Rigid Body

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination at the end of 5th week for 30 marks: 25% weightage
2. End Term Examination at the end of 10th week for 60 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term):

   50% weightage
3. Continuous Internal Assessment: Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Class test at the end of every unit. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents:

Unit 1: Lagrangian Formulation of Mechanics   **(4 hours)**

- Generalised co-ordinates and constraints
- D'Alembert's principle and Lagrangian Equations
- Hamilton's principle and Lagrangian Equations
- Integrals of motion and Conservation Laws
- Forces of contraint and Lagrange's Multiplier Method

Unit 2: Linear Oscillations   **(4 hours)**

- The Simple Harmonic Oscillator
- Harmonic Oscillations in 2D & 3D
- The Damped Oscillator
- Forced Oscillations
- Coupled Oscillations

Unit 3: Hamiltonian Dynamics   **(4 hours)**

- The Hamiltonian of a Dynamical System
- Hamilton's Canonical Equations
- Integrals of Hamilton's Equations
- Canonical Transformations
- Poisson Brackets
- Phase Space and Liouvelli's Thoerm

Unit 4: Central Force Motion   **(4 hours)**

- The Two-body problem and the Reduced Mass
- General Properties of Central Force Motion
- Effective Potentials and Classification of Orbits
- General Solutions of the Problem of Motion in a Central Force Field
- Inverse Square Law of Force
- Kepler's Laws of Planetary motion
- Newton's laws of Gravity from Kepler's Laws

Unit 5: Rigid Body Dynamics   **(4 hours)**

- The Eulerian Angles
  Rate of change of a vector
  Rotational Kinetic Energy and Angular Momentum
- The Inertia Tensor
- Eulerian angles; Euler's equations;
- The rigid bodies in contact; Motion in non-inertial frame of reference.

Prescribed Text Book:

1. Tai L. Chow, **"Classical Mechanics",** John Wiley & sons, 1995**.**

Suggested Extra Readings:

1. Goldstein H, Poole C, and Safko J, **Classical Mechanics**, Ed III, Pearson Education, 2002

2. Landau and Lifsitz, "Classical Mechanics"

Mathematical Physics

Course Code: PAS 402
Course Name: Mathematical Physics
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objectives: The course is designed to study:
- Matrices, determinants and linear systems
- Vector differential calculus
- Complex numbers and functions
- Complex integration

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination at the end of 5th week for 30 marks: 25% weightage
2. End Term Examination at the end of 10th week for 60 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term):   50% weightage
3. Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents:
PART-A: Linear Algebra
UNIT-I: Matrices, determinants and linear systems   **(9 Hours)**
- Various matrix operations
- Special matrices
- Matrices for system of linear equations
- Gauss-Elimination method
- Rank of a matrix and linear independence
- Determinants and Cramer's rule
- Inverse of a matrix: Gauss Jordan method
- Eigen values and Eigen vectors
- Hermitian, skew Hermitian and orthogonal matrices

UNIT-II: Vector differential calculus (6 Hours)
- Vector and scalar functions and fields
- Fundamentals of vector calculus
- Gradient of a scalar field
- Divergence and curl of a vector field
- Green's theorem
- Gauss's divergence theorem
- Stoke's theorem

PART-A: Complex Analysis

UNIT-III: Complex numbers and functions (5 hours)
- Complex numbers and complex plane
- Polar form of complex number, roots
- Derivative and analyticity
- Cauchy-Riemann equations
- Some basic complex functions

UNIT-IV: Complex integration (10 hours)
- The line integral in a complex plane
- ML inequality
- Cauchy's integral theorem
- Cauchy's integral formula
- n-th order derivatives of analytical function
- Cauchy's inequality
- Power, Taylor and Laurent series
- Radius of convergence
- Singularities and zeros
- Zeros of an analytical function
- Residue theorem and applications

Prescribed Text Books:
Key texts
1. Advanced Engineering Mathematics by Erwin Kreyszic, John Wiley & Sons
2. Mathematical Methods for Physicists by G. Arfken and H.J. Weber , Elsevir Academic Press

Reference texts
1. Explorations in Mathematical Physics: The Concepts Behind an Elegant Language by Don Koks, Springer Science
2. Mathematical Physics by B.S. Rajput, Pragti Prakashan
3. Mathematical Methods in the Physical Sciences by W.L. Baos, John Wiley & Sons
4. Advanced Engineering Mathematics by Peter V. O'Neil, Thomson

Classical Electrodynamics

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: PAS 403   **Credits:** 02

Course Name: Classical Electrodynamics

Course Instructor: Dr. B.C. Chauhan

Course Duration: 10 weeks

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; Reading/listening to self-learning modules, literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Review Electrostatics: Gauss's law, Laplace and Poisson equations, boundary value problems. Dielectrics and conductors
- Green's Theorem, Solution with Dirichlet or Neumann Boundary Conditions, Formal solution of electrostatic Boundary-Value problem with Green's Function
- Point charge in the presence of a grounded, charged and insulated conducting sphere
- Green's Function for the Sphere; Magnetic Induction for a circular current loop
- Magnetic Field of a Localized Current Distribution and Magnetic Moment
- Methods of Solving Boundary Value Problems in Magnetostatics
- Maxwell Equations; Electromagnetic Waves

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination at the end of 5th week for 70 marks: 25% weightage
2. End Term Examination at the end of 10th week for 100 marks (about 40 marks from portions before mid-term and 60 marks from portions after mid-term):   50% weightage

3. Continuous Internal Assessment: Assignments or other activities consisting of 4 or 5 problems to be done at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents: **2 Credits**

Unit 1: Electrostatics   **(5 hours)**
- Electric Field, Gauss Law and its Applications
- Poisson's equation and Laplace's equation, Electric Potential
- Electric potential of a localized charge distribution

Unit 2: Boundary Conditions and Uniqueness Theorems   **(6 hours)**
- 1st Uniqueness Theorem and 2nd Uniqueness Theorem
- Green's Theorem and Green's Function
- Uniqueness of the solution with Dirichlet or Neumann Boundary Conditions
- Formal solution of Electrostatic Boundary-Value problem with Green Function
- Variational Approach to the solution of Laplace and Poisson Equations

Unit 3: Boundary-Value Problems in Electrostatics   **(6 hours)**
- Method of Images, Induced Surface Charge , Force and Energy
- Point charge in the presence of a Grounded, Charged and Insulated conducting sphere
- Green's Function for the Sphere
- Conducting Sphere with Hemispheres ate different potentials

Unit 4: Magnetostatics   **(8 hours)**
- Scalar and Vector Potentials, Biot and Savart Law
- Vector Potential and Magnetic Induction for a circular current loop
- Magnetic Field of a Localized Current Distribution and Magnetic Moment
- Method of Solving Boundary Value Problems in Magnetostatics

Unit 5: Maxwell Equations   **(5 hours)**
- Maxwell Equations in Matter
- Gauge Transformation, Lorentz Gauge and Coulomb Gauge
- Green's Function for Wave Equation
- Electromagnetic Waves

Prescribed Text Books:
1. Griffiths, D. J.: **Introduction to Electrodynamics**, Ed-III, Prentice Hall of India, 2000.
2. Jackson. J.D.: **Classical Electrodynamics**, (III Edition) John Wiley & Sons, 1999.

Suggested Extra Readings:

1. Pedrotti, F.L. and Pedrotti, L. S.: **Introduction to Optics**, Prentice Hall, 1987.
2. Rangwalla, A. A.and Mahajan, R.: **Electricity and Magnetism**, Tata McGraw Hill, 1988.

Quantum Mechanics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: PAS 404
Course Name: Quantum Mechanics (QM)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The purpose of the course is to provide a comprehensive introduction and application of the principles of quantum mechanics. Initializing the course from the basic structure of the formalism i.e. wave-particle duality, wave functions, Schrodinger equation, Hilbert space, state vectors and operators, Dirac notation etc. the students will get familiarize to understand the evolution of quantum system. The angular momentum operators, their commutation relations and addition of angular momentum will be discussed. An introduction to the main approximation methods and to the application of quantum theory to a variety of quantum systems will be provided.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination at the end of 5th week for 30 marks: **25% weightage**
2. End Term Examination at the end of 10th week for 60 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term):   **50% weightage**
3. Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances and attendence will be considered for evaluation which makes up for the remaining **25%** of the total 100 marks. Attendance

Course Contents

UNIT-I: Basic formalism: Wave function and the uncertainty principal   (6 hours)
Wave-particle duality, Interpretation and conditions on the wave function, wave functions for particle having a definite momentum, wave packets, Heisenberg uncertainty principle, Schrodinger equation: time-dependent, conservation of probability, expectation values and operators, Ehrenfest theorem, time independent Schrodinger equation, Stationary states, Schrodinger equation in momentum space.

UNIT-II: The formalism of quantum mechanics   (6 hours)
Hilbert space, Dirac notation, state of a system, dynamical variables and operators, expension in eigen functions, commuting observables, compatibility and the Heisenberg uncertainty relations, Unitary transformations, matrix representations of wave functions and operators, Schrodinger equation and the time evolution of a system, Schrodinger and Heisenberg pictures.

UNIT-III: Angular momentum and identical particles   (6 hours)
Orbital angular momentum, orbital angular momentum and spatial rotations, eigen values and eigen functions of L^2, J^2, L_z and J_z, Spin angular momentum, matrix representation of angular momentum operators, addition of angular momentum.

UNIT-IV: One Dimensional and Three Dimensional Problems   (6 hours)
One Dimensional: free particle, potential step, potential barrier, infinite square well, square well, linear harmonic oscillator, periodic potential(if the time permits), Three Dimensional: Seperation of Schrodinger equation in spherical polar coordinates, Hydrogenic atom, three dimensional isotropic oscillator.

UNIT-V: Approximation methods   (6 hours)
Time-independent perturbation theory for non-degenerate energy levels, Time-independent perturbation theory for degenerate energy levels, Application to ground state of a harmonic oscillator, Variation method, Application to ground state of Helium, WKB approximation (if time permits).

Text books:

1. **B.H. Bransden and C.J. Joachain,** Quantum Mechnanics, 2nd edition, Pearson education.
2. **David J. Griffiths,** Introduction to Quantum Mechanics, Prentice Hall.

Reference Books:
1. **J.J.Sakurai,** Modern Quantum Mechanics, Benjamin Cumming.
2. **Albert Messiah,** Quantum Mechanics, North-Holland Publishing Company.
3. **R. Shankar,** Principles of Quantum Mechanics, Second edition, Plenum Press, New York.
4. **Ashok Das,** Quantum Mechanics, Tata McGraw Hill (2007).

Electronic Circuits

Course Code: PAS405

Course Name: Electronic Circuits

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to under the detail of the **basics of diode** its types, characteristics and applications (**diode circuits**) like rectifiers, Clipper, Clamper, comparator, sampling gate etc. **Integrated circuits as analog system building blocks:** including linear and nonlinear analog systems. **Integrated circuits as digital system building blocks** including adders, decoder/de-multiplexer, data encoder, ROM and its applications, flip-flops, shift registers, digital to analog converters and analog to digital converter.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

Course Contents

UNIT I: **Junction Diode Characteristics**   10 Hours
- Open circuit p-n junction diodes
- p-n junction as rectifier
- current components in p-n junction diode
- volt-ampere characteristics and its temperature dependence
- diode resistance, space charge or transition
- capacitance, charge control description of diode
- diffusion capacitance
- junction diode switching times
- breakdown diode
- semiconductor photodiode
- photovoltaic effect and light emitting diode

UNIT II: **Diode Circuits**   10 Hours

- Diode as circuit element
- diode line concept
- piece wise linear diode model
- clipping circuit, clipping at two independent levels
- comparator, sampling gate
- rectifiers, and capacitor filter

UNIT III: **Integrated Circuits as Analog System Building Blocks**   5 Hours
- Basic Operational Amplifiers
- Differential amplifier and its transfer characteristics
- Frequency response of operational amplifiers

UNIT IV: **Analog Systems**   10 Hours
- Linear Analog System: basic operational amplifier applications, differential dc amplifier, stable ac coupled amplifier, analog integration and differentiation, electronic analog computation, active filters.
- Non-Linear Analog System: comparators, logarithmic amplifiers, wave generators,

UNIT V: **Integrated Circuits as Digital System Building Blocks**   10 Hours

- Binary adder
- Arithmetic functions
- Decoder/De-multiplexer
- Data selector/Multiplexer
- Encoder
- ROM and its applications
- Flip-Flops, Shift Registers
- Digital to Analog converters and Analog to Digital converter

Text Books:

1. Integrated Electronics by Jacob Miliman and Cristos Halkias, Tata McGraw-Hill Edition
2. Electronic device and circuit theory by Robert L. Boylestad and Louis Nashelsky, Pearson Education.

Additional Readings:

1. Operational Amplifiers Design and Applications by Jerald G. Graeme, Gene E. Tobey, Lawrence P. Huelsman, McGraw-Hill.
2. Digital Electronic Principles by A. P. Malvino, Tata McGraw Hill..
3. Electronic Devices and Amplifier Circuits by Steven T. Karris, Orchard Publications

Special Functions

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code : IAM- 523.

Course Name : Special Functions.

Course Instructor : Ayan Chatterjee.

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: Partial differential equations appear in almost all branches pf physics applied mathematics, particularly in potential theory. The objective of this course is study how they arise, their classification and their solution. We shall encounter various   methods used to solve them and also learn about functions which arise out of their solution. These functions are not elementary functions, like the sine, the cosine or the tangent function but possess properties which are useful for a better understanding of boundary value problems in mechanics, electrostatics and kinetic theory. A student of physics or mathematics must have the skills to solve differential equations and this course is oriented in this direction.

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which, a student may not be permitted to appear in the examination.

Evaluation Criteria:

1.   Mid Term Examination: 25%
2.   End Term Examination: 50%
3.   Continuous Internal Assessment: 25%

 Course content: (The values in the brackets indicate lecture hours + tutorial hours)

I.   <u>Introduction to partial differential equations and their solutions</u> : (3 hours)

1.   Differential equations of various types.
2.   Partial differential equations.
3.   Coordinate systems and the corresponding equations.

II. Infinite series: (4 hours)

  1. Definition and tests of convergence.
  2. Power series and convergence.
  3. Beta and Gamma functions.

III. The Frobenius- Fuchs method (4 hours)

  1. Techniques for solving pdes: seperation of variables.
  2. Seperation of variables: turning pdes to odes.
  3. The Frobenius- Fuchs method of series solution.
  4. Linear independence of solutions: the Wronskian.

IV. Legendre polynomials   (9 hours)

   1. Legendre functions: reccurence relations, generating function orthogonality and completeness.
   2. Alternate definitions of Legendre polynomials: Rodrigues' formula and integral representations.
   3. Associated Legengdre polynomials: solution, orthogonality and completeness.
   4. Spherical harmonics.

V. Other orthogonal polynomials. (4 hours)

  1. Hermite polynomials: solution, generating function, orthogonality and completeness.
  2. Laguerre polynomials: generating functions and orthogonality.

VI. Bessel functions   (6 hours)

  1. Solution of Bessel's differential equation: Bessel functions of the first kind.
  2. Generating functions for integral order, integral representations, orthogonality and completeness.
  3. Neumann functions, Hankel functions and their representations.
  4. Hermite polynomials: generating function, orthogonality and completeness.

 Text books:

  1.   G. Arfken and H. Weber: Mathematical Methods for Physicists , Academic press (2005).
  2.   P. Dennery and A. Krzywicki: Mathematics for physicists, Dover (1996).

Reference Books:

  1.   N. Asmar: Partial differential equations, Pearson (2004).
  2.   Tusli Dass and S. Sharma: Mathematical methods for classical and quantum physics, Orient, (1998).
  3.   D. Colton: Partial differential equations, an introduction, Dover (2004).
  4.   M. Boas: , Mathematical methods in the physical sciences, Dover, (1996).
  5.   R. Guenther and J. Lee: Partial differential equations of mathematical physics, Dover (1996).
  6.   I. N. Sneddon: Elements of partial differential equations, Dover (2011).

7. S. L. Sobolev: Partial differential equations of mathematical physics, Dover (2011).
8. N. Lebedev: Special functions and their applications, Dover, (1972).
9. W. Bell: Special functions for scientists and engineers, Dover (2004).
10. E. Coddington: An introduction to the ordinary differential equations, Dover (1989).

Lectures	Topics	Prescribed Text Book	Chapter No.
Lecture – 1	Various types of differential equations.	Text book 1 and Text book 2	9 4
Lecture – 2	Partial differential equation of simple types.	Text book 1 and Text book 2	9 4
Lecture – 3	Problem session.	Text book 2	9
Lecture – 4	Second order partial differential equations in various coordinate systems.	Text book 1	9
Lecture – 5	Infinite series, tests of convergence.	Text book 1	5
Lecture – 6	Problem session	Text book 2	5
Lecture -7	Taylor and Maclaurin series.	Text book 1	5
Lecture-8	Power series: convergence.	Text book 1	5
Lecture -9	Problem session	Text book 1	5
Lecture – 10	Beta and gamma functions.	Text book 1	8
Lecture – 11	Method of seperation of variables.	Text book 1	9
Lecture – 12	Problem session	Text book 1	3
Lecture – 12	Classification of singularities and the Frobenius- Fuchs method.	Text book 1 and Text book 2	9 3 and 4
Lecture – 13	Frobenius- Fuchs method (continued).	Text book 1	9
Lecture – 14	Problem session	Text book 2	7
Lecture – 15	Linear independence of solutions: Wronskian.	Text book 1	9
Lecture – 16	Legendre differential equation: series solution.	Text book 1	9
Lecture – 17	Problem session.		

Lecture – 18	Generating functions and few examples.	Text book 1	12
Lecture – 19	Recurence relation.	Text book 3	12
Lecture – 20	Problem session.	Text book 3	12
Lecture – 21	Orthogonality and completeness of Legendre functions.	Text book 3	12
Lecture – 22	Alternate definitions: differential and integral representation of Legendre polynomials.	Text book 1	12
Lecture – 24	Problem session		
Lecture – 25	Legendre functions of second kind.	Text book 1	12
Lecture – 26	Associated Legendre polynomials: recuerence relations.	Text book 1	12
Lecture – 27	Problem session	Text book 2	8
Lecture – 28	Orthogonality and completeness.	Text book 1	12
Lecture -29	Spherical harmonics.	Text book 1	12
Lecture – 30	Problem session		8 9
Lecture -31	Hermite equation: series solution.	Text book 1	13
Lecture – 32	Rodrigues formula, integral representation, orthogonality and completeness.	Text book 1	13
Lecture – 33	Problem session.		
Lecture – 34	Integral and product formula.	Text book 1	13
Lecture -35	Laguerre differential equation: solution.	Text book 1	13
Lecture – 36	Problem session		
Lecture -37	The Bessel equation: solution for integral order.	Text book 1	
Lecture -38	Generating functions and recurence relations.	Text book 1	11
Lecture -39	Problem session		

Lecture -40	Integral representation.	Text book 1	11
Lecture -41	Problem session.		
Lecture -42	Orthogonality and completeness.	Text book 1	11
Lecture -43	Neumann functions: solution, orthogonality and completeness.	Text book 1	11
Lecture 44	Problem session.		
Lecture -45	Hankel functions.	Text book 1	11

Practical course in programming

Course Code: CBB 406

Course Name: Practical course in programming

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- Introduce to the programming using FORTRAN
- Writing arithmetic expressions for various formulas
- Various input and out statements
- Control statements: Do, IF and LOGICAL
- Subscripted variables
- Functions and subroutines

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

Mid Term Examination at the end of 5th week for 70 marks: 25% weightage

End Term Examination at the end of 10th week for 100 marks (40 marks from portions before mid-term and 60 marks from portions after mid-term): 50% weightage.

Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents:

Unit I: Writing various expressions in FORTRAN

FORTRAN constant, FORTRAN variables and type declaration with some examples, Arithmetic expressions: real and integer expressions, standard functions in FORTRAN.

Unit II: Input and output and control statements

Read, Print and write statements. File processing in FORTRAN. OPEN statement. Elementary FORMAT specifications.

Unit III: Control statements

IF statement and general rules for it, Logical IF statement, GOTO statement, nested if, computed GOTO. DO statement and its various uses. LOGICAL expressions.

Unit IV: Subscripted variables

Reading subscripted variables, use of multiple subscripts, subscript expressions, Dimension statement, printing subscripted variables. DO loop with subscripted variables. manipulating matrices and vectors.

Unit V: FUNCTIONS and SUBROUTINES

FUNCTION statement, calling a function, SUBROUTINE writing and calling a subroutine. COMMON statement.

Prescribed text books:

1. Computer Programming in FORTRAN 77, V. Rajraman, PHI
2. Fortran for Human beings, L.W.B. Browne, Interface 1983

Suggested extra readings:

1. Computer Programming in FORTRAN 90/95, V. Rajraman, PHI

Advanced Condensed Matter Physics

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: PAS503

Course Name: Advanced Condensed Matter Physics

Course Instructor: Prof. K.B. Joshi

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:
- Educate language of band theory and elementary band structure calculations
- Introduce concept of Fermi surface etc.
- Introduce about superconductivity and its importance
- Understand properties dielectric materials and physics underlying
- Introduce about defects and dislocations in crystals.

This course together with PAS408 (Complete) and PAS513(Partly) makes almost a complete course on Solid State Physics required for the PG students.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

    (It may include components such as, Assignments, class test, problem solving in class, discussion on a problems solved in assignments, attendance in other activities, general discussion on a topic etc).

Course Contents

Unit 1: Band theory of solids (4L+2T)

- Origin of energy gap, Brillouin zone and its construction for SC, FCC and BCC structures
- The Bloch theorem and its proof
- Electron in a periodic potential (The Kronig-Penny Model)
- Language of band theory and Tight binding method for energy bands
- typical Energy band structures of Si, Ge and Al & brief introduction of other methods

Unit 2: Fermi surface in metals: (4L+2T)

- Electron velocity and the effective mass.
- Extended, periodic and reduced zone schemes, Simple examples of construction of Fermi surfaces, Electron, hole and open orbits
- Measurement of Fermi Surface shapes

  de Haas-van Alphen effect, positron annihilation Compton spectroscopy

Unit 3: Superconductivity: (4L+2T)

- Introduction; experimental facts, zero resistivity, critical temperature, critical B field
- Basic properties of superconductors: Isotope effect, Specific heat, Meissner effect
- Thermodynamic aspects; London equation, Intermediate and mixed state
- Basic elements of BCS theory
- Flux quantisation in superconducting ring
- High temperature superconductors

Unit 4: Dielectrics and Ferroelectrics: (4L+2T)

- Polarization, Macroscopic Electric field, Depolarization field
- Local electric field at an atom
- Dielectric current and polarizability
- Ferroelectric crystals & Classification, Polarization catastrophe
- Soft optical phonons, Antiferroelectricity, Ferroelectric domains, Piezoelectricity, Ferro elasticity
- Displacive transition & Soft optical phonons

Unit 5: Imperfections in Solids: (4L+2T)

- Introduction and classification of imperfections
- Point defects: Schottky and Frenkel defects
- Line defects: Dislocation types, Dislocation theory
- Plane defects: Large and small angle boundaries, Stacking faults
- Color centres

Textbooks:
1. C. Kittel: Introduction to Solid State Physics, V Edition, Wiley Eastern, 1976.
2. L.V. Azaroff: Introduction to Solids, Tata-McGraw Hill, 1978

Reference books:
1. J.S. Blakemore: Solid State Physics, II Edition, Cambridge University Press, 1985
2. N. W. Ashcroft and N.D. Mermin, Solid State Physics, Harcourt Asia Pvt Ltd. 2001

Advanced Nuclear Physics

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: PAS 505
Course Name: Advanced Nuclear Physics

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to understand the nucleon-nucleon interactions which responsible for binding protons and neutrons into atomic nuclei, the physics of neutron and nuclear spin and moments, hyperfine structure finally we focus on to study the detail physics of meson.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student will not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment: 25%

 Course Contents

UNIT I: **The Force between nucleons**   8 Hours
- The deuteron: Binding energy, spin and parity, magnetic moment, quadrupole moment
- nucleon-nucleon scattering
- proton-proton and neutron-neutron interaction
- properties of nuclear force
- the exchange force model

UNIT II: **Neutron Physics**   7 Hours

- Neutron sources
- absorption and moderation of neutrons
- neutron detectors

- neutron reactions and cross-sections
- neutron capture
- Interference and diffraction with neutron

UNIT III: **Nuclear spins and moments** 5 Hours
- Nuclear spin
- nuclear moment: magnetic dipole moment, electric quadrupole moments
- hyperfine structure

UNIT IV: **Meson Physics-I** 5 Hours
- Yukawa's Hypothesis
- Properties of π-meson: electric charge, isospin, mass, spin and parity, decay modes

UNIT V: **Meson Physics-II** 5 Hours
- Pion- Nuclear reaction
- Meson resonances
- Strange Mesons and Baryon
- CP violation in K meson-decay

Text Books:

1. Introductory Nuclear Physics by Kenneth S. Krane, John Wiely & Sons (1988)
2. Introduction to Nuclear Physics, H.A. Enge, Addison-Wesley (1971)

Additional Readings:

1. An Introduction to Nuclear Physics by W. N. Cottingham, D. A. Greenwood, Cambridge University Press.

Quantum Field Theory

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: PAS-509
Course Name: Quantum Field Theory

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
For a given theory to be consistent it has to be in compliance with the quantum mechanics and relativity. In the first part of the course the need of transition from non-relativistic quantum mechanics to relativistic one will be discussed. In that the Klein-Gordon field for spin-0 particles and Dirac equation for spin-half particles will be discussed along with their implications and limitations. Bilinear covariants of the Dirac theory, classical and quantized lagrangian field theory will be discussed in the second part. Need to go from particle/discrete interpretation to field interpretation and, thus, the KG field and Dirac field and their respective quantization will be introduced in the third and fourth part of the course. Last part of the course is dedicated to the perturbative field theory, S-matrix and Feynmann diagrams.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
Mid Term Examination at the end of 5th week for 30 marks: **25% weightage**
End Term Examination at the end of 10th week for 60 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term):   **50% weightage**
Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances and attendence will be considered for evaluation which makes up for the remaining **25%** of the total 100 marks.

Course Contents

Unit 1: The Relativistic Equations-I, Klein Gordon equation   (6 hours)
Introduction: 4-vector notation, natural units, space-time in RQM, creation and annihilation operators, Klein Gordon equation and its interpretation, continuity equation, KG equation in Schrodinger form, free Spin-0 particles, limitations of KG equation.

Unit 2: The Relativistic Equations-II, Dirac equation (6 hours)
Dirac equation, Dirac representation of matrices α and β, Adjoint equation, continuity equation, probability and current density, Stationary state solutions of Dirac equation, covariant formulation of Dirac theory, Lorentz invariance of Dirac equation, plane wave solutions and non-relativistic limit, spin and helicity operators, normalization of solutions, negative energy states and hole theory, bilinear covariants.

Unit 3: Lagrangian field theory (6hours)
Introduction: why field theory, creation and annihilation operators e.g. harmonic oscillator, classical lagrangian field theory, quantized lagrangian field theory, symmetries and conservation laws.

Unit 4: Canonical Quantization (6 hours)
Real KG field, complex KG field, meson propagator, Dirac field, fermion propagator.

Unit 5: Interacting fields and Feynmann diagrams (6 hours)
Perturbation theory: examples, S-matrix expansion, Wick's theorem, Feynmann diagram in momentum and configuration space, Feynmann diagram for Compton, Mott and Bhabha scattering, feynmann rules for QED.

Prescribed Textbooks:
W. Greiner, **Relativistic quantum mechanics**, Springer.
F. Mandl & G. Shaw, *Quantum Field Theory*, John-Wiley & Sons,Interscience Publ. 2010.
L. H. Ryder, *Quantum field Theory*, Cambridge University Press, 2003.
A. Lahiri and P.B. Pal, **A First book of quantum field theory**, 2nd edition, Narosa publishing house.
M. E. Peskin and D.V. Schroeder, **An introduction to quantum field theory,** Addison Wesley publishing company.

Reference books:
J.J. Sakurai, *Relativistic Quantum Mechanics*, Cambridge University Press, 1985
A. Das, *Lectures on Quantum Field Theory,* World Scientific.
Claude Itzykson and Jean-Bernard Zuber, *Quantum Field Theory,* McGraw-Hill Inc..
F. Gross, *Relativistic Quantum Mechanics and Field Theory,* Wiley-VCH.

Magnetic Materials

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code:　　　PAS 513

Course Name:　　　Magnetic Materials

Course Instructor:　　Prof. K.B. Joshi

Credits Equivalent:　2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

This course is designed to introduce concepts give exposure of Magnetism to the students. The origin of magnetic properties from localised and band electrons will be discussed. Characteristics of almost all types of magnetic materials will be introduced. Experimental techniques in magnetism to measure magnetic field, magnetization, susceptibility and temperature will be elucidated.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination:　　　　　25%
2. End Term Examination:　　　　　50%
3. Continuous Internal Assessment:　25%

(It may include components such as, Assignments, class tests, problem solving in class, to carry forward steps in lengthy expressions of the course contents, discussion on a problem solved in assignments, attendance in other activities, general discussion on a topic etc).

Course Contents

Unit 1: Localised magnetism (4 L+2T)

- Origin of magnetic & Magnetic moment of single atom
- Magnetic moment of assembly of atoms
- Paramagnetic susceptibility of atoms
- Ferromagnetism in local moment model

Unit 2: Magnetism from Band electrons (4L+2T)

- Paramagnetic susceptibility of free electrons
- Ferromagnetism of band electrons
- Magnetic moment of Fe, Co, Ni and a its few alloys

Unit 3: Antiferromagnetism, Ferrimagnetism and Helimagnetism (4L+2T)

- Antiferromagnetism, magnetisation of sublattices
- Susceptibility below T_N , Pperpendicular & parallel susceptibility
- Ferrimagnetism, structure of spinel ferrites, Susceptibility and magnetization, Saturation magnetic moment of ferrites
- Hellimagnetism

Unit 4: Domain magnetism (4L+2T)

- Domain magnetism & Magneto-crystalline anisotropy
- Magneto-static energy
- Bloch Walls
- Magnetoelastic energy and magnetostriction
- Superparamagnetism
- Soft, hard and magnetis materials, magnetic films and bubble domains

Unit 5: Techniques in magnetic measurements (4L+2T)

- Generation & measurement of magnetic fields
- Measurement of magnetisation
- Measurement of paramagnetic susceptibility
- Measurement of Curie temperature

Textbooks:
1. J. Crangle: The Magnetic properties of Solids, Edward Arnold Publ., London 1977.
2. B.D. Cullity & C.D. Graham: Introduction to Magnetic Materials, John Wiley & Sons, New Jersey, 2009

Reference books:
1. S. Chikazumi: Physics of Magnetism, II Edition, Cambridge University Press, 1985
2. N. W. Ashcroft and N.D. Mermin, Solid State Physics, Harcourt Asia Pvt Ltd. 2001
3. Omar Ali: Introduction to Solid State Physics, Pearson Education, 2003

Accelerator and Reactor Physics

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: PAS 528

Course Name: Accelerator and Reactor Physics

Course Instructor: Dr. B. C. Chauhan

Course Duration: 10 weeks (20 Hrs.)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
The course is designed to Review
- Introduction: Historical view and main parts
- Types Design and Working of Accelerators and Reactors
- Accelerators in CERN: LHC
- Applications and Nuclear Safeguards

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
1. Mid Term Examination at the end of 5th week for 70 marks: 25% weightage
2. End Term Examination at the end of 10th week for 100 marks (about 40 marks from portions before mid-term and 60 marks from portions after mid-term): 50% weightage
3. Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents: **Accelerator and Reactor Physics (PAS 528)**   2 Credits

I Accelerators   (6 hours)

- Historical Developments, Layout and Components of Accelerators
- Electrostatic Accelerators, Linear Accelerators
- Phase Stability, Low Energy Circular Accelerators

II High Energy Accelerators   (8 hours)

- Synchro-cyclotron, Synchrotrons
- Colliding Beam Accelerators and Storage Rings
- Accelerators at CERN, Large Hadrons Collider (LHC)

III Neutron Physics   (5 hours)

- Neutron Sources, Absorption and Moderation of Neutrons
- Neutron Reaction and Cross-sections
- Neutron Capture

IV Nuclear Reactors   (8 hours)

- Energy and Characteristics of Fission, Nuclear Chain Reaction
- Physics of the Nuclear Reactor and Critical Size of a Reactor
- Types, Design and Working of Fission Reactors
- Characteristics of Fusion, Fusion Reactors, Design of Fusion Power Plant

V Applications & Nuclear Safeguards   (3 hours)

- Reactor Safety, Domestic and International Nuclear Safeguards and Nuclear Waste Management.

TEXT BOOKS
1) Kenneth S. Krane : **Introductory Nuclear Physics**, John Wiley & Sons, 1988.
2) D. C. Tayal: **Nuclear Physics**, Himalaya Publishing House Pvt. Ltd.

REFERENCE BOOKS
1) S.Y. Lee: **Accelerator Physics**, World scientific, 2004.
2) Vena Carter: **Advanced Nuclear Physics**, Global Media, 2009.
3) H. Staneley: **Principles of Charged Particle Acceleration**, John Wiley & Sons.
4) H. Wiedemann: **Particle Accelerator Physics I,** Springer, 1999.
5) B.R. Martin: **Nuclear and Particle Physics**, John Wiley & Sons Ltd. 2006.

Group Theoretical Physics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: PAS- 529
Course Name: Group Theoretical Physics

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis/seminars etc.)

Course Objectives:
Symmetry plays an important role in physics and these symmetry transformation form groups, in this context the study of groups become imperative to understand the basic structure of the theory. To begin with, we will start by introducing group axioms, subgroup, permutation group, cyclic group, conjugate group and conjugacy class etc. Then, theory of group representation will be discussed in the second part of the course. In the third and last part, continuous groups in the context of particle physics and point groups in the context of crystal structure will be discussed.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:
Mid Term Examination at the end of 5th week for 30 marks: **25% weightage**
End Term Examination at the end of 10th week for 60 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term): **50% weightage**
Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances and attendance will be considered for evaluation which makes up for the remaining **25%** of the total 100 marks.

Course Contents

Unit 1: Introduction to Groups   (6 hours)
Definition of Group: Some simple examples, Group and multiplication table, Subsets in a group: Subgroup, cosets, Conjugate element and conjugacy class, invariant subgroup, Homomorphism of two groups, direct product, Point groups and cyclic groups, Cayley theorem: application for finding group structure of finite groups of order 3,4,5 and 6, Lagrange theorem, Rearrangement theorem.

Unit 2: Representation Theory-I   **(6 hours)**
Representations: a formal introduction, irreducible, equivalent, nonequivalent representations, Unitary representation, Maschke's theorem, Schur's lemmas, orthonormality and completeness relations of irreducible representation matrices, orthonormality and completeness relations of irreducible characters.

Unit-3: Representation Theory-II   **(6 hours)**
The regular representation, The direct product representation, C. G. coefficients, irreducible basis vectors, character table for group S_4, irreducible representation of Dihedral group D_4, 3D representation of the group of rotation.

Unit 4: Permutation groups   **(6 hours)**
Multiplication of permutations, permutations, cycles, classes in permutation group, Young pattern, Young tableaux, Young operators, irreducible representation of S_n, symmetry groups of crystals, point groups and space groups.

Unit 5: Continuous groups   **(6 hours)**
Lie groups, Adjoint representation of a Lie group, The rotation group SO(2), Generators of SO(2), Irreducible representation of SO(2), Description of the group SO(3), The angle and Axis parameterization, the Euler angles, Irreducible representations of SO(3), homomorphism of SU(2) onto SO(3), SU(n) group and particle physics: SU(2), SU(3), and young tableaux.

Prescribed Textbooks:
1. *W. K. Tung, **Group Theory in Physics**,* World Scientific publishing Co. Pte. Ltd.
2. Zhong-Qi Ma, ***Group theory for physicists**,* World Scientific.
3. *H. F. Jones, **Groups, Representations and Physics**,* Institute of Physics Publishing, 1998.

Reference books:
1. *S. Sternberg, **Group Theory and Physics***, Cambridge University Press.
2. *Volker Heine, **Group Theory in Quantum Mechanics***, Pergamon Press Ltd.
3. *L. M. Falicov, **Group Theory and its Physical Application***, University of Chikago Press.

Molecular Simulations

Course Code: CBB 514

Course Name: Molecular Simulations

Credits Equivalent: 4 Credits (2 credit theory + 2 credit lab, One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The first part of the course is designed to understand density functional theory (DFT) based approach to simulate various properties of multi-atomic molecules and solids. The various properties considered will be mainly structural, electronic and magnetic.

In second part we shall study two important approaches to study the microscopic description namely molecular dynamics (deterministic approach) and Monte Carlo (stochastic approach).

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

Mid Term Examination at the end of 5th week for 70 marks: 25% weightage.

End Term Examination at the end of 10th week for 100 marks (40 marks from portions before mid-term and 60 marks from portions after mid-term): 50% weightage.

Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Contents:

PART-A: Ab-initio characterization of materials by density funtional theory (DFT)

Unit-I: Density functional theory

A brief introduction to quantum mechanics of many particle systems and its importance to real world problems, Born Oppenheimer approximation, Hartree Fock approximation, method of self consistent fields (SCF), Slater determinant, brief introduction to density functional theory, Hohenberg-Kohn theorems, Kohn Sham equations. Exchange and correlation functional. Pseudopotentials and their generation. Periodic boundary conditions, Bloch theorem and Kroning Penney model. Various packages used to perform DFT based calculations (SIESTA, ELK, Wien2k etc.).

Unit-II: Properties of molecules

Basics of crystallography, Lattice vectors and basis. Total Energy and its relation to various properties. Input file for SIESTA and ELK codes. Computing bond length, vibrational frequencies and HOMO-LUMO gap etc. for various diatomic molecules (H_2, O_2 and HCl).

Unit-III: Properties of crystalline solids

Computing ground state structure for simple elements like Al, Cu etc among well known structures like SC, FCC, BCC. Electronic density of states and band structure for some metals and semiconductors. Magnetic ground state.

Part B: Classical molecular dynamics and Monte Carlo approach

Unit IV: Molecular dynamics simulations

The idea of molecular dynamics, classical molecular dynamics and equation of motion. Solution for equations of motion (Euler and Verlet algorithms). Modelling the interaction between particles, Periodic Boundary Conditions. Computing properties from (x,v) data obtained using MD calculations. Various interaction potentials and energy minimisation. Histogram Distributions of speed and velocities.Constant temperature molecular dynamics. The Melting Transition: Stable Structure of atoms for LJ potential.

Unit V: Monte Carlo simulations

The idea of MC simulations and random sampling. Importance sampling and Metropolis algorithm. Ising model. Mean field theory. Implementation of Mean Field Equation using the root finding methods. Monte Carlo algorithm for Ising model on an L x L square lattice. The Ising Model and Second-order Phase transition. Spontaneous magnetisation as a function of temperature for Ising model, Specific heat per spin as a function of temperature, Ising model correlations, First-order phase transitions.

Prescribed text books:

1. Density functional theory: A practical introduction by David S. Sholl and Janice A. Steckel, John Wiley and Sons.
2. Computational Materials Science: An Introduction by June Gunn Lee, CRC Press.

Suggested extra readings:

1. Electronic structure: Basic theory and practical methods by Richard M. Martin, Cambridge University press
2. Planewaves, pseudopotentials and LAPW methods by D.J. Singh and Lards Nordstrom, Springer

General Relativity

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code : PAS- 506.

Course Name : General relativity.

Course Instructor : Ayan Chatterjee.

Course Duration : 10 Weeks.

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: General theory of relativity is presently the accepted theory of classical gravity. It was created by Einstein in 1915 in an endeavor to extend the principles of special relativity for accelerated observers. This theory is considered the greatest scientific creation by any individual since the time of Newton. As you might be aware, general theory of relativity has been applied everywhere with great success, be it in the stars (relativistic astrophysics), the universe (relativistic cosmology) or the GPS in your our mobile phone. A theory with such vast set of applications (and almost a hundred years old), we believe, is a must learn for students. The course is designed to introduce you to the fundamentals of the theory and it's application in understanding the geometry and spacetime structure of compact massive objects.

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which, a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination at the end of 5th week for 70 marks: 25% weightage
2. End Term Examination at the end of 10th week for 100 marks (20 marks from portions before mid-term and 40 marks from portions after mid-term): 50% weightage
3. Continuous Internal Assessment: 8 Assignments consisting of 4 or 5 problems to be solved at the end of every week other than 5th and 10th. Best 6 performances will be considered for evaluation which makes up for the remaining 25% of the total 100 marks.

Course Content: (The values in the brackets indicate lecture hours +tutorial hours)

I.   Newtonian gravity and special relativity   (2 +1 hours)

1. Newton's theory of gravity.
2. The principle of equivalence.
3. Linearity and light.

II.   Tensors in the Minkowski spacetime   (4 +2 hours)

1. Inertial coordinates and the Lorentz transformations.
2. Four vectors and tensors in the Minkowski spacetime.
3. Tensor algebra.
4. Energy- momentum tensors.

III.   Tensors on curved spacetime   (6 +3 hours)

1. Tensor algebra.
2. Covariant derivative and parallel transport.
3. Tensor densities and tensor integration : Gauss' and Stokes' theorem.
4. Timelike and null geodesics.
5. Curvature tensors: the Riemann and the Ricci tensors.

IV.   Einstein's equations   (4 +2 hours)

1. Einstein's tensor and the Einstein equation.
2. The Newtonian approximation.
3. The Einstein equations with matter and cosmological constant.
4. Einstein's equations from an action principle:
    (i) The action for gravity and it's variation.
    (ii) The action for matter and electromagnetic fields.

V.   Spherical symmetry and compact objects: (4 +2 hours)

1. The Schwarzschild solution.
2. Gravitational collapse and black holes: the Eddington- Finkelstein and the Kruskal coordinates .
3. Particle motion in the Schwarzschild geometry: the perihelion advance.
4. Rotating bodies: the Kerr solution.

Prerequisite: Advanced classical mechanics -PAS 421, Advanced classical electrodynamics – PAS 424.

Text books:

1. N. M. J. Woodhouse- General relativity, Springer (2000).
2. J. Hartle- Gravity, Pearson, (2000).
3. L. Landau and E. M. Lifshitz: Classical theory of fields, Pergamon.

Reference Books:

1. E. Taylor and J. Wheeler: Spacetime physics, W.H. Freeman (1992).
2. E. Taylor and J. Wheeler: Exploring black holes, Addison Wesley (2000).
3. B. Schutz: A first course on general relativity, Cambridge Univ. press, (2009).
4. A. Einstein: The special and the general theory, Empire books, (2013).
5. R. d'Inverno: Introducing Einstein's relativity, Oxford Univ. press (1992).
6. B. Schutz: Geometrical methods in mathematical physics, Cambridge Univ. press (1980).

Lectures	Topics	Prescribed Text Book	Chapter No.
Lecture – 1	Newton's theory of gravity and Galilean transformations. Invariance and covariance.	Text book 1	1
Lecture – 2	Accelerated frames and the principle of equivalence. Beheviour of light in gravity field.	Text book 1	1
Lecture – 3	Problem session.	Text book 2	2 and 3
Lecture – 4	Global inertial coordinates and Lorentz transformations.	Text book 1	2
Lecture – 5	Null cones and the Minkowski spacetime. Four vectors and tensors in Minkowski spacetime: relativistic kinematics and electrodynamics.	Text book 1	2
Lecture – 6	Problem session	Text book 2	5
Lecture – 7	Tensor algebra	Text book 1	2
Lecture – 8	Energy momentum tensors for dust, fluids and electromagnetic field.	Text book 1	3
Lecture – 9	Problem session	Text book 1	3
Lecture – 10	Local inertial frames and tensors in curved spacetime.	Text book 1 and Text book 2	4 20
Lecture – 11	Tensor calculas: derivatives of tensors, parallel transport.	Text book 1	5
Lecture – 12	Problem session	Text book 2	7
Lecture – 13	Identities with covariant derivatives.	Text book 3	10
Lecture – 14	Tensor densities and tensor integration.	Text book 3	1 and 10
Lecture – 15	Problem session.		

Lecture – 16	Geodesics: timelike and null.	Text book 1	4
Lecture – 17	Curvature tensors.	Text book 3	11
Lecture – 18	Problem session.	Text book 3	11
Lecture – 19	Bianchi identities and the Einstein equation.	Text book 3 and Text book 1	11 6
Lecture – 20	Newtonian approximation	Text book 1 and Text book 3	6 12
Lecture – 21	Problem session		
Lecture – 22	Derivation of the Einstein equations from variational principles	Text book 3	11
Lecture – 23	Energy momentum tensor from variational principles	Text book 3	11
Lecture – 24	Problem session	Text book 2 and Text book 1	8 7
Lecture – 25	The Schwarzchild solution	Text book 3	12
Lecture – 26	Motion of massive and massless particles in the Schwarzschild spacetime.	Text book 1 and Text book 2	8 9
Lecture – 27	Problem session	Text book 1 and Text book 2	8 9
Lecture – 28	Black holes: Eddington- Finkelstein and the Kruskal coordinates.	Text book 1 and Text book 2	9 12
Lecture – 29	The Kerr solution.	Text book 1	10
Lecture – 30	Problem session	Text book 2	15

Advanced Statistical Mechanics

Course Code : PAS- 524.

Course Name : Advanced statistical mechanics.

Course Instructor : Ayan Chatterjee.

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: We have seen that the aim of statistical mechanics is to study physical macroscopic properties of matter on the basis of dynamical beheviour of it's microscopic constituents. The basic course (PAS-406) was geared to use the methodology of statistical mechanics to determine the equation of state of a few systems, most notably the ideal non-relativistic gas and the Einstein solid. The objective of this course is to go much further, to study the Bose and the Fermi systems, phase- transitions and the Boltzmann equation. Few applications, such as the free electron model of metals, the Saha ionisation equation, the H-theorem and the Ising model and it's solution in 1- dimension and 2-dimensions will be discussed.

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

 1. Mid Term Examination: 25%.
 2. End Term Examination: 50%
 3. Continuous Internal Assessment: 25%

Course Content: (The values in the brackets indicate lecture hours + tutorial hours)

I. <u>Non- interacting Bose gas</u>   (4 +2 hours)

 1. Thermodynamic relations and chemical potential of bosons.
 2. Non- relativistic and relativistic Bose gas.
 3. Photons.
 4. Bose -Einstein condensation.

II.   <u>Non -interacting Fermi gas</u>   (4 +2 hours)

 1. Thermodynamic relations.
 2. Fermi gas at zero temperature: ultra- relativistic and non- relativistic limits.
 3. Fermi gas at low temperatures: the Sommerfeld integrals.

III. <u>Approximation methods and Ising (and related) models</u> (4 +2 hours)

 1. Perturbation theory and variational techniques.
 2. Mean field approximation.
 3. Ising model and it's solution.

IV.   <u>Stellar matter</u>   (2 +1 hour)

 1. Ionisation in stars: the Saha ionisation equation.
 2. White dwarfs and the Chandasekhar limit.
 3. Neutron stars.

V.   <u>Phase transitions</u>   (4 +2 hours)

 1. Criterion for phase transition.
 2. Classification of phase transitions: Gibbs phase rule and the Claussius- Clapyeron equation.
 3. Order parameter and critical exponents.
 4. Landau's theory of continuous phase transition.

VI.   <u>Boltzmann's equation</u> (2 +1 hours)

 1. Derivation of the Boltzmann equation.
 2. Equilibriation: the Boltzmann H theorem**.**

Prerequisite: Statistical mechanics -PAS 406.

<u>Text books</u>:

 1. K. Huang: Statistical mechanics, John Wiley (1987).
 2. R. Pathria: Statistical mechanics, Butterworth- Heinemann (1996).

Reference Books:

1. F. Reif: Fundamentals of statistical and thermal physics, McGraw-Hill publications, NewYork.
2. L. Landau and E. Lifshitz: Statistical physics (part 1 and 2), Pergamon Press, (1980).
3. J. Walecka: Introduction to statistical mechanics, World scientific, (2011).
4. E. Stanley: Introduction to phase transitions, Oxford Univ. press (1987).
5. M. Kardar: Statistical physics of fields, Cambridge Univ. press, (2007).

Lectures	Topics	Prescribed Text Book	Chapter No.
Lecture – 1	Thermodynamic relations	Text book 2	7
Lecture – 2	Bose integrals	Text book 2	7
Lecture – 3	Problem session.		
Lecture – 4	Bose- Einstein condensation	Text book 2	7
Lecture – 5	Bose- Einstein condensation, continued	Text book 2	7
Lecture – 6	Problem session		
Lecture -7	Thermodynamics of Bose- Einstein condensation.	Text book 2	7
Lecture-8	Relativistic Bose integrals	Text book 2	7
Lecture -9	Problem session		
Lecture – 10	Density of states, pressure and energy of photons.	Text book 2	7
Lecture – 11	Planck's law	Text book 2	7
Lecture – 12	Problem session	Text book 1	3
Lecture – 12	Sound waves in solid	Text book 2	7
Lecture – 13	Sound quanta	Text book 2	7
Lecture – 14	Problem session		
Lecture – 15	Liquid helium II	Text book 2	7
Lecture – 16	Liqiud helium, continued.		
Lecture – 17	Problem session.		
Lecture – 18	Fermi gas at zero temperature.	Text book 1	8
Lecture – 19	Fermi gas at low temperature.	Text book 1	8
Lecture – 20	Problem session.		
Lecture – 21	Fermi gas at low temperature, continued.	Text book 2	8

			6
Lecture – 22	Massless Fermi gas at low temperatures.	Text book 2	8
Lecture – 24	Problem session		
Lecture – 25	Electro gas in metals, Richardson effect.	Text book 2	8
Lecture – 26	Photoelectric effect.	Text book 2	8
Lecture – 27	Problem session		
Lecture – 28	Ultracold Fermi gases.	Text book 2	8
Lecture -29	Problem session		
Lecture – 30	Classical perturbation theory.	Text book 1	10
Lecture -31	Quantum perturbation theory.	Text book 1	10
Lecture – 32	Problem session		
Lecture – 33	Variational technique.	Text book 1	10
Lecture – 34	Mean field approximations.	Text book 1	10
Lecture -35	Problem session.		
Lecture – 36	The Ising model in 1 dimensions: solution by perturbation theory.	Text book 1	14
Lecture -37	Solution by variational method.	Text book 1	14
Lecture -38	Exact solution.	Text book 1	11
Lecture -39	Problem session	Text book 1	11
Lecture -40	The Saha ionisation equation and the Chandrasekhar limit.	Text book 2	8
Lecture -41	Phase transitions and it's classification.	Text book 2	12
Lecture -42	Critical exponents.	Text book 2	12
Lecture -43	Landau's theory of continuous phase transitions.	Text book 2	12
Lecture 44	The Boltzmann equations and the H-theorem.	Text book 1	4
Lecture -45	Problem session.		

School of Social Sciences

Department of Social Work

School of Social Sciences
Name of the Department: Department of Social Work
Name of the Programme of Study: MSW

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	SWR 401	Basics of Social Work	2	NA	Dr A. Pradhan
2	SWR 402	Contemporary Social Problem	2	NA	Mr S. Ahmad
3	SWR 409	Concurrent Field Work and Viva-I	4	NA	All Faculty
4	SOC 401	Understanding Contemporary Society	2	NA	Prof A. Agrawal
5	PBS 401	Dynamics of Human Behaviour	2	NA	Mr S. Ahmad

Courses for Semester 3

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	SWR 412	NGO Management	2	SWR 401 SWR 409	Mr S. Ahmad
2	SWR 416	Concurrent Field Work and Viva-II	2	SWR 405 SWR 409	All Faculty
3	SWR 423	Block Placement Training	4	NA	All Faculty
4	SWR 432	Social Work Practice in Medical Hospital Settings	2	NA	Ms A. Jamali / Mr Javaid (RD) / Mr Jamon P.V
5	SWR 453	Community Lab for Social Work	4	NA	All Faculty
6	SWR 454	Social Development and Social Work	2	NA	Dr A. Pradhan

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	SOC 401	Understanding Contemporary Society by	2	NA	Prof A. Agrawal
2	PBS 401	Dynamics of Human Behaviour	2	NA	Mr S. Ahmad
3	SWR 402	Contemporary Social Problem	2	NA	Mr S. Ahmad
4	SWR 412	NGO Management	2	SWR 401 SWR 409	Mr S. Ahmad / Mr Javaid (RD)

Basics of Social Work

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: SWR 401
Course Name: **Basics of Social Work**
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Become familiar with the core values and philosophy of social work profession and be able to imbibe these values into their professional self.
- Understand and differentiate social work and other related terms
- Understand the context of emergence of social work as a profession
- Understand the nature of Social work practice in different settings

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course.
A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment (CIA): 25%
- Presentation: 10%
- Assignment: 10%
- Class Test / Quiz : 5%

COURSE CONTENTS:

Unit I: Introduction to Social Service and Social Welfare   **(5 Hours)**
- Basic Concepts : Social service, social services, social reform, social security, human & social capital
- Ideological perspectives: charity, philanthropy, humanitarian, humanistic-rationalistic, radical, human rights and social inclusion

Unit II: Introduction to Social Work Profession   **(4 Hours)**

- Social Work: Definition, Meaning and Concept.
- Social Welfare: Meaning, Models of social welfare
- Social Work: Nature, Goals, Components, Process and Phases
- Basic Values and Principles of Social Work
- Methods of Social Work and Levels of Intervention

<u>**Unit III:**</u> **Historical Development of Social Work**   (4 Hours)
- Development of Professional Social Work in U.K. and U.S.A.
- Social Service Traditions and Social Reform Movements in India
- Contribution of Gandhi, Ambedkar and Phule to Social Change
- Sarvodaya Movement and Bhoodan Movement

<u>**Unit IV:**</u> **Social Work as a Profession**   (4 Hours)
- Basic Requirements of Social Work Profession
- Code of Ethics and Ethical Practice
- Social Work Functions and Roles of Social Workers.
- Skills and Competencies for Social Work Practice.
- Socio-culture Factors Affecting the use of the Principles of Social Work.

<u>**Unit V:**</u> **Social Work Practice Areas**   (3 Hours)
- Emerging Perspectives and Trends of Social Work Practice.
- Community Development: Rural and Urban, Poverty Alleviation
- Family and Child Welfare
- Disability and Disaster Management.
- Work with Elderly and People Living with HIV/AIDS.

Prescribed Text Books:
1. Elizabeth A. Sehgal. et al. (2011). *Professional Social Work.* Jaipur: Rawat Publications.
2. Dubois, B. and Miley, K.K. (2005). *Social Work: An Empowering Profession*. London: Allyn and Bacon.
3. Hepworth, D. H., & Larsen, J. A. (2010). *Direct Social Work Practice: Theory and Skills*. Pacific Grove, Calif: Brooks/Cole.
4. Johnson, Louise C., and Stephen J. Yanca. (2010). *Social Work Practice: A Generalist Approach*. Boston: Allyn & Bacon.
5. Sheafor, B. W., Horejsi, C. R., & Horejsi, G. A. (2011). *Techniques and guidelines for social work practice*. Boston: Allyn and Bacon.

Supplementary Books:
1. Planning Commission, GOI. (1987). *Encyclopaedia of Social Work in India*. Delhi: Publications Division, Ministry of Information and Broadcasting.
2. Mizrahi, T., & Davis, L. E. (2008). *The Encyclopedia of Social Work*. Washington, DC: NASW Press.
3. Compton, B. R., Galaway, B., Cournoyer, B. R. (2005) *Social Work Processes* (7th Edn.), California: Brooks-Cole.
4. Skidmore, et al. (1997), *Introduction to Social Work*, Boston: Allyn & Bacon.
5. Sheldon Brian, et al. (2010). *A Textbook of Social Work*, New Delhi: Routledge Publications.

Contemporary Social Problem

Course Code: SWR 402
Course Name: Contemporary Social Problem
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: After completing this course the students will be able to:

- Develops an understanding about the social problems prevails in our society.
- Develop an understanding about the problems relating to Child and Welfare Services
- To develop an understanding of different issues as it affects individuals and groups.
- To expose students with ongoing strategies and programmes to eradicate poverty.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment : 25%
   a. Presentation: 10%
   b. Assignment: 10%
   c. Class Test / Quiz: 5%

Course Contents:

UNIT - I: Social Problem: Concept and Approaches   (4 Hours)

- Concept, Characteristics, Reactions, Types and Causes of Social Problem.
- Theoretical Approaches to Social Problems.
- Methods of Studying and Stages in the Development of Social Problem.
- Rural & Urban Problem.
- Solving Social Problem.
- Social Problem and Social Change in India.

UNIT - II: Social Problems   (4 Hours)

- Poverty.
- Unemployment.
- Alcoholism & Drug Addiction.
- Old Age & Destitution.
- Corruption and Lokpal Bill.

UNIT - III: Communalism, Secularism and Regionalization   (4 Hours)

- Concept of Communalism in India.
- Theories of Communal Violence.
- Secularism and Regionalization.
- Role of Police.

UNIT - IV: Violence against Women   (4 Hours)

- Violence against Women.
- Type of Violence.
- Women's Harassment.
- Women Welfare Services.

UNIT – V   Child's Social Issues   (4 Hours)

- Child Abuse.
- Child Labour.
- Youth Unrest and Agitation.
- Juvenile Delinquency.
- Child Welfare Services

Prescribed Text Books:

1. Ahuja, Ram. (2007). *Social Problems in India.* Jaipur: Rawat Publications.
2. Jha, Jainendra Kumar Ed., (2009). *Encyclopedia of Social Work*. New Delhi: Anmol Publications.

Suggested Additional Readings:

1. Ahuja, Ram. (2000), Criminology, Jaipur, Rawat Publications.

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Course Code: SOC 401
Course Name: Understanding Contemporary Society
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objective: The course is designed to
- Understand basic sociological concepts and social formations
- Develop skills to analyze and understand Indian society
- Learn to apply sociological insight in day to day life

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must, failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment (CIA): 25%
   a) Assignments: 10%
   b) Project Work: 10%
   c) Student Participation: 5%

COURSE CONTENTS:
UNIT - I: Orientation to Significant Sociological Concepts   **(5 Hours)**

- Culture: Elements in Culture, Cultural Systems and Sub Systems
- Social Structure and Social Institution and Social Groups
- Socialization - Meaning, Socialization and Development of Self
- Social Conformity & Social Deviation
- Social Control

UNIT – II: Social Change   **(5 Hours)**

- Social Change
- Marxist Approach to the Study of Society
- Modernization
- Globalization
- Post-Modernism

UNIT - III: Social Institutions   **(3 Hours)**
- Family- The Joint and the Nuclear Family.
- Family as Social Institution, Changing Structures and Patterns of Family.
- Religion
- Role of Religion in Society, Secularism

UNIT - IV: Social Structure and Social Stratification   **(4 Hours)**

- Social Stratification & Social Mobility
- Caste & Class: Changing Dynamics.
- Dalits, Adivasis and Minority Groups. Situation, Changing Relationship and Dynamics.

UNIT - V: Contemporary Social Concerns   **(3 Hours)**

- Social Problems in Indian Social Structure (Caste & Politics and Communalism, Youth Unrest)
- Violence Against Women,
- Corruption

Prescribed Text Books:
1. Johnson, Harry M.,(2007), Sociology: A Systematic Introduction, New Delhi, Allied Publishers
2. Ahuja, Ram, (2001), Indian Social System, Jaipur, Rawat Publications
3. Ahuja, Ram, (2008), Social Problems in India, Jaipur, Rawat Publications

Suggested Additional Readings:
1. Haralambos, M. & Holborn, M., (2008), Themes and Perspectives in Sociology, London, Harper Collins.
2. Doshi, S.L., Modernity, Post Modernity & Neo Sociological Theories, Jaipur, Rawat Publications

Dynamics of Human Behaviour

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Course Code: PBS 401

Course Name: Dynamics of Human Behaviour

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- Learn to apply Concepts and Theories of Psychology
- Develop a Critical Perspective of the Theories of Human Behavior and Personality.
- Understand the Nature and Development of Human Behaviour in Socio-Cultural Context.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment (CIA): 25%

   a) Presentation: 10%
   b) Spot Test: 10%
   c) Assignments: 5%

Course Contents:

UNIT - I: **Socio- Cultural Environment, Human Behaviour, Growth & Development** **(4 Hours)**

- Psychology: Meaning, Concept and its Branches
- Determinants of Human Behavior: Heredity & Environment
- Life Span Perspective of Human Development
- Role of Social Institution and Group in Shaping Human Behavior
- Understanding Human Behavior: Cross Cultural Perspective

UNIT - II: **Basic Psychological Process** **(4 Hours)**

1) Concept and Theories of
   - Cognition and Learning
   - Motivation, Emotion and Intelligence

2) Theories of Personality

   - Psychoanalytic Theories of Personality: Freud, Erikson and Adler
   - Behavioural Theories: Miller and Bandura
   - Humanistic Theories: Rogers and Maslow

UNIT - III: **Mental Health and Process: Development & Assessment** **(4 Hours)**

- Mental Health
- Mental Retardation
- Defense Mechanism
- Psychological Testing

UNIT - IV: **Abnormal Psychology** **(4 Hours)**

- Abnormal Psychology
- Etiological Factors of Mental Illness
- Types of Mental Disorders
- Therapeutic Process

UNIT – V: **Social Psychology** **(4 Hours)**

- Social Psychology
- Attitude: Formation, Change and Measurement
- Prejudice, Stereotypes and Discrimination:
- Collective Behaviour: Crowd, Riot and Rebellion.

Prescribed Text Books:

1. Baron, A. Robert and Byrne, D. (2010). *Social Psychology*. New Delhi: Pearson Publications.
2. Morgan, C.T and King, R.A. (2007). *An Introduction to Psychology*. New Delhi: Tata McGraw Hill.
3. Baron, A. Robert, (2001). *Psychology*. New Delhi: Pearson Publications.

Suggested Additional Readings:

1. Ahuja, Niraj. (2002). *A Short Textbook of Psychiatry*. New Delhi: Jaypee Brothers
2. Park, K. (2010). *Textbook of Preventive and Social Medicine*. Jabalpur: Barnarsidass Bhanot Publishers
3. Page, J.D. (2010). *Abnormal Psychology*. New Delhi: Tata McGraw Hill.

NGO Management

Course Code: SWR 412
Course Name: NGO Management
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to:

- To introduce the students to NGO Sector.
- To introduce the Basic Concepts of NGOs.
- To provide an overview of NGOs.
- To provide basic managerial skills of NGO.
- To equip the students for formation of NGO.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment(CIA) : 25%
   a. Project Proposal: 10%
   b. Presentation: 10%
   c. Assignments: 5%

Course Contents:

UNIT - I: NGOs – An Introduction, Concepts and Functions   (4 Hours)

- Concepts, Typology of Non Governmental Organization.
- Functions and Roles of Non Governmental Organizations.
- Problem Definition
- Problem Solving.

UNIT - II: Societies, Trusts and Companies   (5 Hours)

- How to register a Society.
- Matters included in Bye - Laws of a Society.
- Matters included in Rules & Regulations.
- Duties & Liabilities of Trustees; Income Tax-Exemptions & FCRA

UNIT - III: Project Proposal and its Evaluation   **(5 Hours)**

- Strategy: Vision / Mission Statements, Differentiation and Organizational Alignment.
- Best Practice Case Study.
- Strategy Formulation.
- Proposal Writing
- Mechanics of Proposal Writings, General Lineation for Formulation of Project Proposals.

UNIT – IV: Budgeting   **(3 Hours)**

- Definition, Purpose and Preparation of a Good Budget.
- Guiding Principles of Budgeting.
- A Good Budget –Desirability, Feasibility, Possibility, Continuity and Impact.

UNIT – V: Fund Raising   **(3 Hours)**

- Principles of Fund Raising.
- Searching & Role of Fund Raiser.
- Factors affecting Fundraising.

Prescribed Text Books:
1. Accenture - Stiftung, Germany, School of Communication Management, International University in Germany, Bruchsal, The Banyan, India. (2009) Strategic Research and Political Communications for NGOs: Initiating Policy Change. New Delhi, Sage Publications India Pvt. Ltd.

Suggested Additional Readings:
2. Fr. Emmanuel S. Fernando (2001), Project From Problems, Emmanuel Sylvester., Mumbai.

Social Work Practice in Medical Hospital Setting

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Course Code: SWR 432
Course Name: Social Work Practice in Medical Hospital Setting
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective: Having successfully completed this course, a student should be able to:
 1. To orient learners to the field Medical Social Work in Hospital Settings
2. To understand the Role and Function of Medical Social Worker into various settings

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

Evaluation Criteria:
  1. Mid Term Examination: 25%
  2. End Term Examination: 50%
  3. Continuous Internal Assessment(CIA) : 25%
       a. Case & Topic Presentation: 10%
       b. Assignment: 10%
       c. Class Test / Quiz : 5%

COURSE CONTENTS:
Unit I: **Nature and Scope of Medical Social Work**   **(4 Hours)**

- Medical Social Work
- Historical development and need of Medical Social Work in India
- Innovative Approach in Medical Hospital Setting
- Medical Social Work into different Settings

Unit II: **Health and Heath Problems**:   **(4 Hours)**

- Health and Disease
- Social, Preventive and Community Medicine
- Common Communicable Diseases: Tuberculosis, Malaria, Slim disease and STD
- Psycho-physiological Illness: Digestive System Diseases, Asthma and Migraine
- Leprosy, Epilepsy and Disability

Unit III: Health Care Services and Health Planning: **(4 Hours)**

- Mother and Child Health Services
- Immunization
- Health Care Services Delivery system and Prevention Levels
- Health Programmes, National Health Policy and Health Planning in India

Unit IV: Community Health and Social Work   **(4 Hours)**

- Community Health
- Role of Social Worker in Community Health Programmes
- International Health and Health Education
- School Health Programmes
- Health Planning and Management

Unit V: Epidemiology   **(4 Hours)**

- Epidemiology
- Measurement in Epidemiology
- Uses of Epidemiology
- Cohort Study: Prospective and Retrospective Studies
- National & International Health Organisations

Prescribed Text Books:
1. Jha. Jainenedra K., (2009). *Encyclopedia of Social Work* (Vol- 4), New Delhi: Anmol Publications.
2. Park, K. (2005). *Textbook of Preventive and Social Medicine*. 18th Ed, Jabalpur: Barnarsidass Bhanot Publications.
3. Sarafino Edward P. et al. (2011) *Health Psychology*. 7th Ed., New Delhi: Wiley India Publications.

Supplementary Books:
1. Jerrold, R. Brandell, (2010). *Theory & Practice in Clinical Social Work*. New Delhi: Sage Publication.

Social Development and Social Work

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Course Code: SWR 454
Course Name: Social Development and Social Work
Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Objectives: The course is designed to

- To develop ability to identify and analyse factors contributing to Under Development and Development.
- To provide understanding of Social, Economic and Political Justice and their implications for professional Social Work.
- To develop understanding of Social Policy and planning with special reference to India and their relevance to Social Work Practice.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Continuous Internal Assessment (CIA): 25%
      1. Assignment: 10%
      2. Class Test: 5%
      3. Topic Presentation: 10%

Course Contents:

UNIT - I: **Social Change and Planned Change** **(4 Hours)**

- Social Change - Definition and Meaning
- Theories of Social Change
- Planned Change – Meaning and Process
- Modernization and Development

UNIT - II: **Social Policy** **(4 Hours)**

- Social Policy – Definition and Meaning
- Social Policy – Characteristic Features, Steps in Policy Formulation
- Models of Social Policy
- Social Policy as an instrument of social change
- Social Policy for social inclusion

UNIT - III: Concept of Social Development   **(4 Hours)**
- Concept of Development and under-development
- Social Development – Meaning and concept
- Distinction between social and economic development
- Strategies of Development - People's Participation
- Sustainable Development

UNIT – IV: Social Planning   **(4 Hours)**
- Social Planning – Meaning and concept
- Need and Process of Social Planning
- Panchayati Raj Institutions and Gram Sabhas in Social Planning
- Role of voluntary organisations in social planning

UNIT - V: Social Development in Indian Context   **(4 Hours)**
- Areas of Development
- Development Administration
- Development Planning and Role of Planning Commission
- Role of Social Worker as an agent of Social Change and Social Development.

Prescribed Text Books:
1. Gore, M.S. (1985). *Social Aspects of Development*. Jaipur: Rawat Publications.
2. Midgley, James; Livermore, M., (2008). *The Handbook of Social Policy*. London: Sage Publications.
3. Titmus, R.M. (1974). *Social Policy*. London: George Allen & Unwin.

Suggested Additional Readings:
1. Mishra, P.D. (1994) *Social Work – Philosophy & Methods*. New Delhi: Inter-India Publications.
2. Kulkarni, P.D. (1978) *Social Policy and Social Development in India*. Madras: Association of School of Social.

Department of Economics & Public Policy

School of Social Sciences
Name of the Department: Department of Economics & Public Policy
Name of the Programme of Study: MA (Economics)
Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	ECN 404	Mathematics for Economists	4	NA	Mr. Indervir Singh
2	ECN 405	Microeconomic Theory	4	NA	Prof. HR Sharma
3	SAS 404	Applied Statistics	4	NA	Mr. Indervir Singh

Courses for Semester 3:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	ECN 502	History of Economic Thought	4	NA	Mr. Indervir Singh
2	ECN 410	Economic Development and Planning	4	NA	Mr. Amit Kumar Basantaray
3	ECN 411	Agricultural Economics	4	NA	Prof. HR Sharma/ Mr. Amit Kumar Basantaray
4	ECN 423	International Economics	4	NA	Mr. Kamal Singh
5	ECN 440	Evolution of Indian Economic System	4	NA	Mr. Kamal Singh
6		Professional Development Activities (PDA) #		NA	Mr. Kamal Singh

Note: # PDA will be offered as a zero credit course and will have work load equivalent to 4 credits.

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1	ECN 401	Basics of Microeconomics	2	NA	Mr. Amit Kumar Basantaray
2	ECN 407	Indian Economic Environment	2	NA	Mr. Kamal Singh
3	ECN 445	Basics Terms & Concepts in Economics	2	NA	Mr. Amit Kumar Basantaray Mr. Indervir Singh Mr. Kamal Singh

Note: Since both university-wide courses are usually opted by MBA and MBA T&T students, the number of students is expected to be large. Therefore, the class may be divided into two sections for each of these courses.

Mathematics for Economists

Course Code: ECN 404
Course Name: Mathematics for Economists
Faculty: Mr. Indervir Singh

Credit Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course objectives:
- to make students capable to understand basic mathematics required for understanding economics;
- to familiarize students with the use of mathematics as a tool to analyze economic phenomena.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 percent
2. End Term Examination: 50 percent
3. Counselling, Activities and Tutorials (CAT): 25 percent
    I. Class Participation: 5 percent
    II. Assignment: 15 percent
    III. Class Test: 5 percent

Unit- I   **(8 hours)**
Significance of Mathematics in Economics; Real numbers; Set theory; Relations and functions; Economic equilibrium analysis.

Unit- II   **(6 hours)**
Linear models and Matrix Algebra: Matrix operations; Commutative, associative, distributive laws, Transposes, Determinants, Nonsingularity, Laplace expansion, Matrix inversion, Cramer's rule; Applications in Economics: Input-output model.

Unit- III   **(8 hours)**

The derivative: Limit; Continuity; differentiability, Rules of differentiation, Partial differentiation, Total differentials, Total derivatives, Implicit functions; Applications in Economics: Input-Output Model, Market Models.

Unit- IV   **(10 hours)**

Optimization: First and second derivative tests; Derivatives of exponential function and logarithmic function: Applications in Economics: Profit Maximization.

Functions of two or more variables: Second order partial derivatives and total differentials; Finding maximum/minimum: Unconstrained optimization, Quadratic forms, Characteristic roots, Concavity and convexity; Applications in Economics: Problem of multiproduct firm, Price discrimination.

Constrained optimization: Classical Programming, Lagrange multiplier, Second order condition; Applications in Economics: utility maximization and consumer demand, Homogeneous functions, Homotheticity, Euler's theorem, Cobb-Douglas function, CES production function.

Non-linear programming and Kuhn-Tucker conditions; Applications in Economics: Envelop theorem; Duality, Roy's identity.

Unit- V   **(8 hours)**

Rules of integration; Indefinite integrals; Definite integrals; Improper integrals; Applications in Economics: Domar Growth model.

First order difference equations: Dynamic stability of equilibrium; Applications in Economics: Cobweb model.

Second order difference equations: Applications in Economics: Samuelson trade cycle model.

Prescribed Text Books:
1. Carter, Michael (2001). *Foundations of Mathematical Economics*. Cambridge: MIT Press.
2. Chiang, Alpha C. and Kevin Wainwright (2005) *Fundamental Methods of Mathematical Economics 4th Edition*. New York: McGraw-Hill/Irwin.
3. Franklin, Joel N. (2003). *Methods of Mathematical Economics: Linear and Nonlinear Programming*, Fixed-Point Theorems. Delhi: PHI Learning Private Limited.
4. Intriligator, Michael D. (2013). *Mathematical Optimization and Economic Theory*. Delhi: PHI Learning Private Limited.

Supplementary Readings:

1. Simon, Carl P. and Lawrence E. Blume (1994). *Mathematics for Economists*. New York: W. W. Norton & Company.
2. Sundaram, Rangarajan K. (1996). *A First Course in Optimization Theory*. New York: Cambridge University Press.
3. Sydsaeter, Knut and Peter J. Hammond (1995) *Mathematics for Economic Analysis*. New Delhi: Pearson Education.

4. Sydsaeter, Knut, Peter J. Hammond, Atle Seierstad and Arne Strom (2008) *Further Mathematics for Economic Analysis 2nd Edition*. Prentice Hall.

Vohra, Rakesh V. (2005). Advanced Mathematical Economics. New York: Routledge.

Microeconomic Theory

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Course Code: ECN 405
Course Name: Microeconomic Theory
Faculty: Professor H. R. Sharma

Credit Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- Equip students with comprehensive and rigorous theoretical concepts and methodology;
- Enabling students analyzing the behavior of individuals, firms and markets using general, static and partial equilibrium approach;

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 per cent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
    iv.   Class Participation: 5%
    v.   Assignment: 5%
    vi.   Quiz: 5%
    vii.   Presentation : 10%

Course Content:

Unit-I   **(8 hours)**

Scope of micro economics, methodology of economics as a positive science, demand analysis, partial vs. general equilibrium,   theory of consumer behaviour, cardinal utility theory, ordinal utility theory,

and revealed preference hypothesis, applications of ordinal and revealed preference approaches and measurement of consumer surplus

Unit-II **(8 Hours)**

Production and cost: Technology and production function, cost minimising equilibrium and choice techniques and scale, expansion path and derivation of long run average cost. Homogeneous production function, sources of various economies and diseconomies of scale. Production cost curves and learning curves. Saucer shaped and L shape long run average cost curves, Saucer shaped average variable cost curves. Relationship between short run and long run cost curves and engineering cost curves.

Unit –III **(12 Hours)**

Market Structures and Pricing Process: Equilibrium of firm and industry under perfect competition; Monopoly; bilateral monopoly; price discrimination, and Monopolistic competition; Excess capacity and imperfect competition. Oligopoly: Definition and meaning, Cournot model, Bertrand model, Stackelberg duoploly model, Kinked demand model, Chamberlin model. Collusive oligopoly: Cartel, Price leadership with dominant firm and low cost firm, Barometric price leadership. Bain's limit price theory. Marginalism versus average cost pricing. Profit maximisation vs Baumal's Sales maximisation hypothesis.

Unit-IV **(6 Hours)**

Factor Pricing: The Marginal Productivity Theory of Distribution. The adding up Problem and Euler's theorem. Modern theory of distribution. Theory of Rent: Ricardian and Modern. Theories of Interest: Classical, Theories of Wages: Wage determination under perfect and imperfect competition; wage determination under trade unionism.

Unit- V **(6 Hours)**

Welfare Economics: Pareto optimality conditions in production, consumption and exchange, Kaldor-Hicks compensation criterion, Bergson-Samuelson social welfare function, maximisation of social welfare function, efficiency and welfare maximisation in perfect competition, inefficiency of imperfect competition, externalities in production and consumption and market failure due to externalities in production.

Prescribed Text Books:

1. Koutsoyiannis, A. (1985), Modern Microeconomics, Macmillan, London.
2. Pindyck, Robert S. and Rubinfeld, Daniel L. (2009), Micro Economics (7th Edition), Pearson Education, New Delhi.
3. Varian Hal R (1995), Intermediate Micro Economics: A Modern Approach, W.W Norton, New York

Supplementary Readings:

1. Ferguson, C.E. (1968), Microeconomic Theory, Cambridge University Press, London.
2. Stigler, G.J.(1996), The Theory of Price (4th Edition), Premier Hall, New Delhi
3. Baumol W. J. (1982), Economic Theory and Operations Analysis, 4th Ed, Prentice Hall of India, New Delhi

Applied Statistics

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Course Code: SAS 404
Course Name: Applied Statistics
Faculty: Mr. Indervir Singh

Credit Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course objectives:
- to familiarize students with statistical methods;
- to enable students to apply statistical methods in data analysis.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25 percent
2. End Term Examination: 50 percent
3. Counselling, Activities and Tutorials (CAT): 25 percent
    IV. Class Participation: 5 percent
    V. Analyzing data collected/ provided and writing a report using statistical methods taught in class: 20 percent

Course Content:

Unit- I   **(8 hours)**
Univariate distributions: frequency table, histogram; Central tendency: Mean, Median, Mode; Measures of Dispersion: Range, Quartile deviations (QD), Mean deviation, standard deviation, Coefficient of variation (CV), Box Plots; Measure of inequality: Lorenz curve, Gini coefficient and FGT (Foster-Greer-Thorbecke) measures of poverty.

Unit-II   **(8 hours)**
Measures of skewness and kurtosis; Correlation: Simple correlation, Partial correlation, Multiple correlation; Index Numbers: Simple index number, Composite index number, Price Index, Splicing, Herfindahl-Hirschman Index (HHI).

Unit- III **(8 hours)**
Probability: Basic concepts of probability, Tree diagram; Probability Distributions: Probability distribution for discrete and continuous variables, Joint probability distribution; Expectation and moments; Normal distribution, Binomial distribution, Poisson distribution; Central limit theorem; Inference using normal distribution.

Unit IV **(8 hours)**
Sampling: Sample and population, Random sampling, sampling distribution and standard error; Tests of significance: Hypothesis testing, Z-test, t-test, F-test, Chi square test, Analysis of Variance (ANOVA).

Unit- V **(8 hours)**
Regression analysis: Two-variable regression, Test of significance, Goodness of fit, Multivariate regression, Residual plot; Time Series Analysis: Nature and decomposition of a time Series, Analysis of trends, Moving average, seasonal component, Cyclical and random component.

The course shall also introduce the use of software packages, such as, Excel, R and Stata, in data analysis.

 Prescribed Text Books:

1. Freedman, David, Robert Pisani and Roger Purves. (2009). *Statistics, 4th edition*. New York: W. W. Norton & Company.
2. Hamilton, Lawrence C. (1990). *Modern Data Analysis: A First Course in Applied Statistics*. Belmont, CA: Brooks/Cole Publication.
3. Koutsoyiannis, A. (1977). *Theory of Econometrics*. New York: Palgrave.
4. Nagar, A. L. and R. K. Das. (1976). *Basic Statistics, 2nd edition*. New Delhi: Oxford University Press.

Supplementary Readings:

1. Clark, Megan J. and John A. Randal (2010). *A First Course in Applied Statistics, 2nd edition*. Pearson Education.
2. Dunn, Dana S. (2001). *Statistics and Data Analysis for the Behavioral Sciences.* New York: McGraw-Hill.
3. Hamilton, Lawrence C. (2003). *Statistics with STATA, 8th edition*. Boston: Brooks/Cole, Cengage Learning.
4. Lewis, Margaret (2011) *Applied Statistics for Economists*, Routledge.
5. Marsh, Catherine (2009). *Exploring Data: An Introduction to Data Analysis for Social Scientists. 2nd Edition*. London: Polity Press.
6. Moore, D.S. and McCabe, G.P. (2003). *Introduction to the Practice of Statistics*. New York: W.H. Freeman & Company.
7. Ott, Lyman R and Longnecker, Michael (2008) *An Introduction to Statistical Methods and Data Analysis, 6th Edition*. Belmont, CA: Brooks/Cole Publication.
8. Peck, Roxy, Chris Olsen, Jay L. Devore. (2012). Introduction to Statistics and Data Analysis, 4th edition. Boston: Brooks/Cole, Cengage Learning.
9. Rohwer, Götz (2012) *Models in Statistical Social Research.* Routledge.

History of Economic Thought

Course Code: ECN 502
Course Name: History of Economic Thought

Faculty: Mr. Indervir Singh

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- to enable students to understand the development of economic theory.
- to develop the skills of abstract thinking among students.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
   - viii.   Class Participation: 5%
   - ix.   Assignment: 10%
   - x.   Class Test/Quiz: 5%
   - xi.   Presentation : 5%

Course Content:

Unit – I (6 Hours)

Pre Adamite Economics: Mercantilism, The eighteenth-Century Predecessors, Physiocracy

Adam Smith: Measurement and Cause of Value, Division of Labor, Cost of Production, Wages, Rent, Invisible Hand, Taxation.

Unit-II (6 Hours)

Malthus' Theory of Population.

David Ricardo: Diminishing Returns and Theory of Rent, Theory of Value, The Fundamental Theorem of Distribution, Capital Accumulation, Technical Change.

Unit-III (8 Hours)

Say's Law and Classical Monetary Theory: Say's Law of Market, Malthus's Theory of Gluts.

John Stuart Mill and His *Principles*

Marxian Economics: Value, Surplus Value, Economic Surplus, The Great Contradiction, The Transformation Problem and its Solution, Historical Transformation, The Laws of Motion of Capitalism, The Law of Falling Rate of Profits, The Reproduction Schema.

Unit-IV (10 Hours)

The Marginal Revolution: The Emergence of Marginal Utility, Jevons, Cournot on Profit Maximization, Duopoly Theory.

Marshallian Economics: Utility Theory, Welfare Economics, Cost and Supply

Marginal Productivity and Factor Prices: The Demand for Factor of Production, Homogenous Production Function, The Optimum Size of the Firm, The Theory of Profit, Aggregate Production Function, Technical Change and Process Innovation.

Unit-V (10 Hours)

The Austrian Theory of Capital and Interest: Bohm-Bawerk's Theory of Interest, The Average Period of Production, The Switch Theorem, Fisher's Theory of Interest, The Ricardo Effect.

General Equilibrium and Welfare Economics: Walrasian General Equilibrium, Paretian Welfare Economics.

The Neo-classical Theory of Money, Interest and Prices

Recent Developments in Economics

Prescribed Text Books:

1. Blaug, Mark (1997). *Economic Theory in Retrospect, 5th ed*. Cambridge University Press, Cambridge.
2. Hunt, E. K. and Mark Lautzenheiser (2011) *History of economic thought: A Critical Perspective, 3rd ed. PHI* Learning Private Limited, New Delhi.
3. Schumpeter, Joseph (1954). *History of Economic Analysis*, Oxford University Press, New York.

Supplementary Readings:

1. Backhouse, Roger E. (2002). *The Ordinary Business of Life*, Princeton University Press.
2. Buchholz, Todd G. (1999). *New Ideas from Dead Economists*, Penguin Group, New York.
3. Ekelund, Robert B., Jr. and Robert F. Hébert (2007). *A History of Economic Theory and Method. 5th ed.* Waveland Press.
4. Heilbroner, Robert L. (2003). *The Worldly Philosophers, updated 7th edition*, Simon and Schuster, New York.
5. Medema, Steven G., and Warren J. Samuels (2003). *The History of Economic Thought: A Reader*. Routledge, London.
6. Robbins, L. C. (1998). *A History of Economic Thought: The LSE Lectures,* Princeton University Press, Princeton NJ.
7. Samuelson, Paul A., and William A. Barnett, ed. (2007). *Inside the Economist's Mind: Conversations with Eminent Economists*, Wiley.

Economic Development and Planning

<p align="center">Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in</p>

Course Code: ECN 410

Course Name: Economic Development and Planning

Faculty: Mr. Amit Basantaray

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- Familiarize students with basic concepts of Economic Development and Planning.
- Understand different strategies and models of Economic Development and Planning.
- Understand the applicability of different strategies and models in the development and planning process

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
   - xii.   Class Participation and Participation: 5%
   - xiii.   Assignment: 10%
   - xiv.   Presentation : 5%
   - xv.   Library Work: 5%

COURSE CONTENT

Unit – I (6 Hours)

Nature and Scope of Development Economics, Measures of Development, Purchasing Power Parity, PQLI, HDI, Sen's Capability Approach. Core values and Objectives of Development, Characteristics of Underdevelopment, Rostow's Stages of Growth, Kaldor's Growth Laws.

Unit – II (10 Hours)

Classical, Malthus, Marxian and Schumpeterian Models of Economic Development. Balanced and Unbalanced Growth, Big-Push Theory; Critical Minimum Effort Thesis, Low Level Equilibrium Trap. Lewis and Ranis-Fei models of economic development. Modern Economic Growth, Kuznet's Six Characteristics, Harrod-Domar Model, Solow Model, Technical Progress, Convergence.

Unit – III (8 Hours)

New Growth Theories, Romer Model, Human Capital and Growth, Technical Progress and Human Decisions, Total Factor Productivity. Economic Inequality, Measuring Economic Inequality, Kuznet's Inverted-U Hypothesis, Poverty and Undernutrition.

Unit – IV (8 Hours)

Structure of Dual Economy-Lewis Model, Migration-Harris-Todaro Model, Market Mechanism and Market Failures, Role of State, Development Plans, Policy Models, Projection Models, Allocation of resources, Comparative Cost Doctrine, Project Appraisal, Social Cost-Benefit Analysis and Shadow Wages, Sustainable Development, Choice of Techniques, Input-Output Analysis.

Unit – V (8 Hours)

Evolution of Planning in India, Structural Constraints and Development Strategy, Mahalanobis Model, Role of State as visualized in the 1950's, Evolution of Strategy over the Planning Period: 1950's till date: Changing Perceptions. The Three Basic Imbalances and their Solutions by the State and the Market, Financing Development from Domestic resources, Foreign Assistance, debt and Development.

Prescribed Text Books

1. Ray, Debraj (1998), *Development Economics*, Oxford University Press, New Delhi.
2. Thirwall, A. P. (2006), *Growth and Development with Special Reference to Developing Economies*, 8th Edition, Palgrave Macmillan, New York.
3. Todaro, M. P. and Smith, S. C. (2003), Economic Development, Pearson Education Limited, New Delhi.

Supplementary Reading:

1. Sen, Amartya (1999), *Development vs. Freedom*, Oxford University Press, London.
2. Higgins, B. (1966), *Economic Development*, Central Book Depot, Allahabad.
3. Basu, Kausik (1998), *Analytical Development Economics*, Oxford India Paperbacks, New Delhi.

Agriculture Economics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: ECN 411

Course Name: Agriculture Economics

Faculty: Mr. Amit Basantaray

Course objectives:
- Familiarize students with theoretical and conceptual issues in agricultural economics
- Familiarize students with issues that are relevant to Indian agricultural economics
- Enable students to understand and analyse problems of Indian agriculture

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:
1. Mid Term Examination: 25 per cent
2. End Term Examination: 50 per cent
3. Counselling, Activities and Tutorials (CAT): 25 per cent

       Class Participation and Attendance: 5 per cent
       Assignment 5 per cent
       Quiz: 5 per cent
       Library work: 5 per cent
       Presentation: 5 per cent

COURSE CONTENT

Unit-I Agricultural Development and Agricultural Production and Resource Use
- Role of agriculture in economic development. Decline in the importance of agriculture with economic growth and structural change.
- Production function, input-input and product-product relationships.
- Equilibrium of the capitalist farm and peasant family farm.
- Equilibrium of share-tenant farm and its efficiency

Unit-II Supply and Demand for Agricultural Commodities
- Nature and Type of Risk and Uncertainty in Agriculture
- Methods used by farmers and Government policies for reducing risk and uncertainty
- Nature of supply and demand for agricultural products and structure of agricultural markets
- Instability of agricultural prices; need and objectives of agricultural price policy
- Schultazian theory and role of technological change in modernization of traditional agriculture

Unit-III Land reforms, Agrarian Structure and Green Revolution
- Objectives, progress and assessment of land reforms in India
- Nature of the emerging agrarian structure
- Progress of Green revolution in India and its impact on production, rural employment and income distribution
- Overview of growth rates of area, production and productivity of major crops
- Regional disparities in agricultural development

Unit-IV Farm Size Productivity, Mechanisation, Terms of Trade and Price Policy
- Nature of return to scale and farm size productivity relationship in Indian agriculture.
- Problems of mechanization of Indian agriculture
- Terms of trade of agricultural sector in India since independence
- Objectives and problems of agricultural price policy in India

Unit –V Agricultural Credit and WTO and Indian Agricultural
- Agricultural Credit in India: Sources, problems and government policies since independence.
- Capital Formation in Indian Agriculture
- Recent initiatives in improving access to credit in agriculture
- WTO and Indian Agriculture

Prescribed Text Books
1. Heady, E. O. (1952) Economics of Agricultural Production and Resource Use, Prentice-Hall of India Pvt. Ltd, New Delhi.
2. Schultz, T. W. (1969), Transforming Traditional Agriculture, Lyall Book Depot, Ludhiana.
3. Himmat Singh (2001), Green Revolution Reconsidered, Oxford University Press, New Delhi
4. R. Cohen (1968), The Economics of Agriculture, Butler & Tanner Limited, Frome and London, London
5. Rao, C. H. Hanumantha (2005), Agriculture, Food Security, Poverty and Environment, Oxford University Press, New Delhi
6. L. S. Subba Reddy, P. Raghu Ram, T. V. Neelakanta Satry and I Bhavani Devi (2004), Agricultural Economics, Oxford IBh Publishing Co. Pvt. Ltd., New Delhi
7. Bhalla G S Gurmail Singh (2001), Indian Agriculture: Four Decades of Development, Sage Publication, New Delhi

Suggested Additional Readings

8. Sharma, H. R. (1995), Agrarian Relations in India: Patterns and Implications, Har-Anand Publication, New Delhi.

9. Bruce F. Johnston and John W Mellor (1962), 'Role Agriculture in Economic Development *American Economic Review*, Vol.51, No. 4, Sept, pp. 566-593

10. Sharma, H. R. (1994), 'Distribution of Landholdings in Rural India, 1953-54 to 1981-82: Implications for Land Reforms', *Economic and Political Weekly,* Vol. XXIV, No. 13, pp. A12-A25.

11. Bandhu Das Sen (1974), The Green Revolution in India, Wiley Eastern Private Limited, New Delhi

12. Sharma, H. R. (2010), 'Magnitude, Structure and Determinants of Tenancy in Rural India: A State Level Analysis', *Indian Journal of Agricultural Economics*, Vol. 65, No. 1, pp. 80-100

International Economics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO Box: 21, Dharamshala, District Kangra, Himachal Pradesh-176215

Course Code: ECN 423

Course Name: International Economics

Faculty: Kamal Singh

Credit Equivalent: 4

Course Objectives:
- Familiarize students with basic concepts of international economics
- Enable students understand different principles and theories of international trade
- Enable students understand the impact of different trade policies and their implications towards economic growth
- Enable students analyse issues related to Indian trade both in goods and services

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 per cent

2. End Term Examination: 50 per cent

3. Counselling, Activities and Tutorials (CAT): 25 per cent

        Class Participation: 5 per cent
        Assignment: 10 per cent
        Quiz: 5 per cent
        Presentation: 5 per cent

Course Content:

Unit-I: Introduction and Theories of International Trade

- Introduction to International Economics
- Trade : Inter– regional and International ; Gains from Trade

- The Pure Theory of International Trade: Theories of absolute advantage, Comparative advantage and opportunity costs.
- Heckscher -Ohlin theory of trade and Leontief paradox
- Factor price equalization theorem and Stopler-Samuelson Theorem
- The Rybczynski Theorem and Immiserising growth

Unit-II New Approaches to International Trade

- News approaches to trade theory the Product cycle and economies of scale theory
- Preference similarity hypothesis
- Causes of emergence and measurement of intra-industry trade.
- Economies of scale; imperfect competition and international trade

Unit-III Tariffs, Economic Integration and Custom Union

- Theory of Tariffs: Effects of tariffs on balance of payments, terms of trade, national income, consumption, output and income distribution.
- Emergence of and the political economy of Non-tariff barriers
- Regionalism and multilaterals
- Optimum and effective rate of tariffs
- Forms of economic integration: The Theory of customs union.
- Prospects of forming a customs union in developing areas with reference to Asian region.

Unit-IV Balance of Payment and Exchange Rate

- Concepts and components of balance of payments, dis-equilibrium in the balance of payments
- The process of adjustment in the Balance of Payments under Gold Standard, fixed exchange rate and flexible exchange rate systems.
- Elasticity and absorption approaches to balance of payments.
- Monetary and fiscal measures for adjustment in balance of payments dis-equilibrium
- Monetary approaches to the balance of payments.
- Foreign trade multiplier with and without foreign repercussions.
- Fixed and Flexible exchange rates.

Unit-V International Economic Institutions

- International Monetary system
- Role of Multinational corporations in developing countries with special reference to India
- International economic institutions; Functions and achievements WTO , IMF ,ADB and SAARC
- Impact of WTO on different sectors of the Indian Economy
- Globalization and Anti Globalization

Text Books

1. Sodersten, B.O. and Geoffrey Reed (3rd ed.) (1999), International Economics, The Macmillan Press Ltd. London.

2. Paul, R. Krugman & Maurice Obstfeld (2000), International Economics: Theory and Policy (5th ed.), Addison-Wesley, Longman, Pearson Education.

3. Salvatore, D. (1996), International Economics, Prentice Hall, New York

Evolution of Indian Economic System

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: ECN 440

Course Name: Evolution of Indian Economic System

Faculty: Mr. Kamal Singh

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- To familiarize students with different aspects of evolution of Indian Economic System
- Understand different policies, their rationale and implications for economic growth

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
    - xvi.   Class Participation: 5%
    - xvii.   Assignment: 10%
    - xviii.   Quiz: 5%
    - xix.   Presentation : 5%

Course Content:

Unit – I   **(5 Hours)**

Indian economy on eve of independence; Economic Development during 1857-1947: Trend towards market economy. Economic consequences of British Rule.

Unit – II   **(10 Hours)**

Agriculture: Evolution of land tenure system, commercialization of agriculture, role, nature and cropping pattern; productivity and production trends; green revolution; agriculture finance and marketing; agriculture price policy; agriculture subsidies and food security in India

Industry Sector: role and importance, Industrial policy of 1948, 1956, 1977 and 1991; Industrial licensing policy — MRTP Act, FERA and FEMA; small and cottage Industries; privatization and disinvestment; industrial sickness.

Nature, causes and magnitude of poverty, inequality and unemployment.

Unit – III   **(10 Hours)**

Indian money market: components and characteristics; banking sector in India; financial sector reforms

Indian capital market: components and characteristics; SEBI; capital market reforms; Parallel economy and its implications.

Unit – IV   **(8 Hours)**

International Trade Policies: composition and directions of India's foreign trade; factors determining the balance of payment; Disequilibrium in the balance of payment; Causes, consequences and policy measure; exchange rate policy and the convertibility of Rupee.

Unit – V   **(7 Hours)**

Planning in India: rationale, objective and evaluation of economic planning; 11th five year and 12th five year plan. Rationale of internal and external reforms; Globalisation of Indian economy; W.T.O. and its impact on the different sectors of the economy

Prescribed Text Books:

1. Misra S.K. & V.K.Puri (28th Edition) Indian Economy – Himalaya Publication house Mumbai.
2. Rudra Dutt and K.P.M. Sundram (2009), Indian Economy, S. Chand, New Delhi.
3. Dhingra, I. C. (2001), The Indian Economy : Environment and Policy, Sultan Chand & Sons, New Delhi.
4. Government of India, Economic Survey (Annual), Ministry of Finance, New Delhi
5. Economic and Political Weekly (Various Issues)

Supplementary Readings:

1. Ahluwalia, I J (Eds.) (1998), India's Economic Reforms & Development (Essays in Honour of Manmohan Singh), Oxford University Press, New Delhi
2. Brahmandnda, P. R. and V. R. Panchumkhi, (Eds) (1987). The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
3. Jalan B (1992), The Indian Economy-Problems and Prospects, Viking, New Delhi Publication, Calcutta.

4. Ahluwalia, I J (1995), Industrial Growth in India, Oxford University Press, New Delhi
5. Byres, T. J. (Ed) (1998), The Indian Economy: Major debates Since Independence, Oxford University Press, New Delhi
6. Rangarajan, C (1998), Indian Economy: Essays on Money and Finance, UBS, New Delhi.
7. Chelliah Raja J. (1996), Towards Sustainable Growth- Essays in Physical and Financial Sector Reforms in India, Oxford University Press, New Delhi.
8. Dandekar, V. M. & N. Rath (1971), Poverty in India; Indian School of Political Economy, Bombay.
9. Kaushik basu (ed.) (2004), India's Emerging Economy: Performance and Prospects in the 1990s and Beyond, Oxford University Press, New Delhi

Basics of Microeconomics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: ECN 401
Course Name: Basics of Microeconomics
Faculty: Mr. Amit Basantaray

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
- Enable students to understand basics of microeconomics;
- Enable students analyzing behavior of individuals, firms and markets

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 per cent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
    xx.   Class Participation and Attendance: 5%
    xxi.   Assignment: 10%
    xxii.   Presentation : 5%
    xxiii.   Library Work: 5%

COURSE CONTENT

Unit-I   **(4 hours)**

Definition of Economics, Themes of Microeconomics, Why study Micro Economics?, Demand and Supply, Theory of Consumer Behaviour, Revealed Preference, Individual and Market Demand, Consumer Surplus.

Unit-II **(4 hours)**

Production, Technology of Production, Production with one variable input, Production with two variable inputs, Returns to Scale, Producer's Surplus.

Unit-III **(4 Hours)**

Costs of Production, Measuring Costs, Opportunity Cost, Sunk Costs, Fixed and Variable Costs, marginal and average Costs, Costs in the Short-run, Costs in the Long-run, Economies of Scale, Economies of Scope, Learning Curve, Cost Minimization, Marginal Rate of Technical Substitution.

Unit –IV **(4 Hours)**

Profit Maximization and Perfect Competition, Analysis of Competitive Markets, Monopoly and Monopsony, Price Discrimination, Monopolistic Competition and Oligopoly.

Unit-V **(6 Hours)**

Pricing of Factors of Production, Marginal Productivity, Wage, Rent, Interest and Profit, Game Theory and Competitive Strategy

Prescribed Text Books:

1. Pyndick, R. S., Rubinfield, D. L., and Mehta, P. L. (2009), *Microeconomics*, Seventh Edition, Pearson Education., New Delhi.
2. Koutsoyiannis, A. (1979), *Modern Microeconomics*, Second Edition, Macmillan Press Ltd, London.
3. Stonier, A.W. and Hague, D.C. (1980), *A Textbook of Economic Theory*, Fifth Edition, Long man Group Limited, London.

Suggested Readings:

1. Samuelson, P.A. and Nordhaus, W.D. (2010), Economics, Tenth Edition, Tata McGraw-Hill Education,

Indian Economic Environment

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: ECN 407

Course Name: INDIAN ECONOMIC ENVIRONMENT

Faculty: Mr. Kamal Singh

Credits Equivalent: 2

Course Objective:

After completing this course the students will be able to**:**

1. Acquaint with knowledge of Indian Business Environment. Emphasis is given to changes in the nature of business firms in the context of globalization
2. Understand basic internal and external factors affecting business organization globally
3. Identify social, political and economic factors in the Indian Economy with reference to the global economy.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
    xxiv.   Subjective Assignment: 10 %
    xxv.   Quizzes/Games/Puzzles: 5%
    xxvi.   Personality Assessment: 10 %

Course Content:

UNIT I   **(3 hours)**

Theoretical Framework of Business Environment

- Basic concepts: economy, circular flow, production and consumption
- Concept, significance and nature of business environment;
- Elements of environment – internal and external, micro and macro
- changing dimensions of business environment
- Environmental analysis and forecasting

UNIT II   **(7hours)**

Economic Environment of Business:

- Significance and elements of economic environment
- Economic planning in India
- Industrial development ; industrial policies pre and post reforms
- Economic reforms, liberalization and structural adjustment programmes.

UNIT III   **(3 hours)**

Political and Legal Environment of Business:

- Political institutions; rationale and extent
- MRTP Act, Competition Act, FEMA and licensing policy
- Consumerism in India; Consumer Protection Act 1986

UNIT IV   **(3 hours)**

Socio-Cultural Environment:

- Cultural environment: nature and impact
- social orientations of business, responsibilities to different sections, Social responsibility of business;

UNIT V   **(4hours)**

International Environment:

- Multinational corporations: role , importance and debates
- Economic institutions – International Monetary Fund (IMF) , World Bank, Asian Development Bank and WTO

Prescribed Text Books:

1. Fernando. A.C (2011) Business Environment. Pearson Education, New Delhi
2. Cherunilam Francis (2008) Business Environment Text and Cases, 18th Edition, Himalaya Publishing House, Mumbai.
3. Aswathappa .K, (2011) Essentials of Business Environment, 11th Edition, Himalaya Publishing House, Mumbai.

Supplementary Reading

1. Adhikary M. (2009) Economic Environment of Business, Sultan Chand & Sons, New Delhi.
2. Ahluwalia I.J. (1985) Industrial Growth in India, Oxford University Press, Delhi.
3. Dhingra I.C. (2002) Indian Economy, Sultan Chand & Sons, New Delhi.
4. Cherunilam Francis (2003) International Business Environment, Himalaya Publishing House, New Delhi.
5. Saleem Shaikh (2005) Business Environment, Pearson Education, New Delhi.
6. Sundharam K.P.M. and Datt Ruddar (2001) Indian Economy, S. Chand & Sons, New Delhi.
7. Paul Justin (2010) Business Environment-Text and Cases, 3rd Edition, Tata McGraw Hill, New Delhi.
8. Misra S.K. & Puri V.K. (2009) Indian Economy, 27th Edition, Himalaya Publishing House, Mumbai.

Basic Terms and Concepts in Economics

Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
PO BOX: 21, DHARAMSHALA, DISTRICT KANGRA – 176215, HIMACHAL PRADESH
www.cuhimachal.ac.in

Course Code: ECN 445
Course Name: Basic Terms and Concepts in Economics
Faculty: Mr. Amit Kumar Basantaray

Credit Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objective:
- To enable students understand the commonly used economic basic concepts and terms.

Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 per cent attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
   i.   Class Participation and Attendance: 5%
   ii.   Assignment: 10%
   iii.   Presentation : 5%
   iv.   Quiz/ Class Test: 5%

Course Content

Unit I
Microeconomics:
Meaning of Economics; Scarcity and Choice; Positive Economics; Normative Economics; Utility: Cardinal utility, Ordinal utility, Rationality; Trade-off; Demand; Supply; Equilibrium Price; Elasticity; Consumer surplus; producer surplus; Dead weight loss; Opportunity Cost; Sunk Costs; Long run; Short run; Fixed and Variable Costs; Capital widening, Capital deepening; Technology; Production Possibility frontier; Price Controls; Licences; Marginal analysis; Competitive market: Perfect

competition, Monopoly, Monopolistic completion, Price discrimination; Efficiency; Pareto optimality; Efficient Markets hypothesis.

Unit II

Macroeconomics:

National Accounts: Value added, Gross Domestic Product (GDP), Net Domestic Product (NDP), Gross National Product (GNP), Net National Product (NNP), GDP Per Capita, Disposable Income; Real Changes: Real Income, Real Wage, Real Interest Rate; Stock; Flow; Full Employment; Frictional Unemployment, Structural Unemployment; Labour force; Economic Growth; Saving, Investment, Capital and Capital formation; Business Cycle: Depression, Recession, Expansion; Price Stability: Inflation, Deflation; Market-Clearing; Aggregate Price Level: Price Index, Consumer Price Index, Producer Price Index, Inflation Rate, GDP Deflator; Effective demand; Marginal Efficiency of Capital; Natural Rate of Unemployment.

Unit III

Public Finance and Monetary Economics:

Taxation: incidence, Proportional tax, Progressive tax, Regressive tax; Laffer curve; Tax Base, Tax buoyancy; Tax elasticity; Tax incidence; Goods and Service tax (GST); Budget: Revenue receipts, Capital receipts, Revenue expenditure, Capital expenditure; Deficit: Budget deficit, revenue deficit, Fiscal deficit, Primary deficit. Money; Money and Interest Rate; Supply of Money: Basics of money supply, creation of money; Money multiplier process; Definitions of interest rate; Stabilization Policies: Fiscal Policy, Monetary policy.

Unit IV

Banking and International Trade:

Risk Management in Banks: Basel Norms, Capital Adequacy Ratio, Asset Liability Management, and Interest rate risk; Operational Risk management in global banks; Reserve Bank of India: Instruments of RBI (bank rate, repo rate, reverse repo rate, open market operation, discount rates, reserve requirement), Targets and goals of RBI; Shares and debentures; Stock market index: SENSEX; Nifty.

Gains from Trade: Absolute Advantage, Comparative Advantage, Specialization; Purchasing Power Parity (PPP); Nominal Exchange rate; Real exchange rate; Balance of payments; Current account deficit; Capital account deficit; Current account convertibility; Capital account convertibility, WTO.

Unit V

Public Economics and Development Economics:

Market failure: imperfections, decreasing costs, externalities; Information asymmetry, Theory of second best; Public goods and market failure, Free rider problem; Public goods-pure and impure public goods; Club goods; Private good; Merit goods; Property rights. The Coase theorem; Carbon Trading; Polluter pay principal.

Meaning of Development; Absolute poverty; Relative poverty; Human Development Index (HDI); Trickledown effect; Inclusive growth; Planned economy; Market economy; Mixed economy; Liberalization; Convergence; Planning; Cost benefit analysis; Present value of future earnings; Rate of discount;

Prescribed Text Books:

1. Samuelson, P.A. and W.D. Nordhaus (2010). *Economics, 10th Edition*, New Delhi: Tata McGraw-Hill.
2. Black, John, Nigar Hashimzade, Gareth Myles (eds.) (2012). *Oxford Dictionary of Economics 4th Edition*. New Delhi: Oxford University Press.
3. Gupta, Suraj B. (1982). *Monetary Economics- Institutions, Theory and Policy. New Delhi:* S. Chand Publishers.

School of Tourism, Travel & Hospitality Management

Department of Tourism & Travel Management

School of Tourism, Travel & Hospitality Management
Name of the Department: Department of Tourism and Travel Management
Name of the Programme of Study: MBA (Travel and Tourism)

Courses for Semester 1

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisite/ Co-requisites if any	Teacher
1.	TTM 403	Travel and Tourism Principles and Practices	2	NA	Dr. Suman Sharma
2.	TTM 423	Geography of Tourism	2	NA	Dr. Suman Sharma
3.	TTM 422	Introduction to Hotel Management	2	NA	Mr. Debasis Sahoo
4.	TTM 436	Housekeeping in Hospitality Operations	4	NA	Mr. Debasis Sahoo
5.	TTM 410	Event Management	2	NA	Mr. Arun Bhatia
6.	TTM 407	Introduction To Tourism Marketing	2	NA	Mr. Arun Bhatia
7.	TTM 414	Environment Ecology and Tourism	2	NA	Dr. Bharti Gupta
8.	TTM 404	Tourism Resources Part I	2	NA	Dr. Bharti Gupta
9.	TTM 426	Practical Tourism - Field Study Tour of identified circuits of India and Abroad - Viva Voice	2	NA	All Faculty of the Department

Courses for Semester 3:

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisite/ Co-requisites if any	Teacher
1.	TTM 525	Geography of Tourism - II	4	NA	Dr. Suman Sharma
2.	TTM 509	Airline Ticketing and Cargo Management	2	NA	Dr. Suman Sharma
3.	TTM 409	Itinerary Preparation and Costing	2	NA	Dr. Suman Sharma

4.	TTM 437	Front Office Operations in Hotels	4	NA	Mr. Debasis Sahoo
5.	TTM 510	Resort Management	2	NA	Mr. Debasis Sahoo
6.	TTM 438	Food & Beverage Service	4	NA	Mr. Debasis Sahoo
7	TTM 522	Strategic Management for Travel and Tourism	2	NA	Mr. Arun Bhatia
8	TTM 515	Sales Marketing and PR in service Industry	2	NA	Mr. Arun Bhatia
9	TTM 529	Sales Promotion and Public Relations In Tourism	2	NA	Mr. Arun Bhatia
10	TTM 405	Tourism Impact	2	NA	Dr. Bharti Gupta
11	TTM 439	Emerging Impacts in Tourism	2	NA	Dr. Bharti Gupta
12	TTM 435	Tourism Products of India	4	NA	Dr. Bharti Gupta
13	TTM 450	Tourism Practices : Field Practicum and Viva Voce	4	NA	All Faculty of the Department

University Wide Courses

Sr. No.	Course Code	Course Name	Credits	Code No. of Pre-requisitie/ Co-requisites if any	Teacher
1.	TTM 410	Event Management	2	NA	Mr. Arun Bhatia
2.	TTM 510	Resort Management	2	NA	Mr. Debasis Sahoo

Travel and Tourism principles and practices

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: TTM403

Course Name: Travel and Tourism principles and practices

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- This course shall introduce learner to tourism's growth and development.
- The course also highlights the role of tourism as an economic intervention and its significance in economy
- Course discusses the global nature of tourism, tourism product and emerging trends in tourism industry.
- It is also important to appreciate the future of tourism.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10%
   - Assignments: 5%

Course Contents:

UNIT - I: Introduction to Travel & Tourism   (5 Hours)

- Tourism; an overview: Elements, Nature and Characteristics
- Typology of Tourism – Classification of Tourists
- Tourism network - Interdisciplinary approaches to tourism
- Historical Development of Tourism - Major motivations and deterrents to travel.

UNIT - II: Historical Perspective of Tourism & Travel motivations   (4 Hours)

- Tourism Industry; Structure and Components:
- Attractions – Accommodation – Activities – Transportation - F&B – Shopping – Entertainment
- Infrastructure and Hospitality – Emerging areas of tourism - Rural, Eco, Medical, MICE, Literary, Indigenous, Wellness, Film, Golf, etc.,
- Ideals of Responsible Tourism - Alternate Tourism - Case Studies on International Tourism.

UNIT – III: Measurement of Tourism   (3 Hours)

- Tourist Transportation:
- Air transportation: The airline industry present policies, practices. Functioning of Indian carriers. Air Corporation Act, Air charters.
- Surface Transport: Rent-a-car Scheme and coach-Bus Tour, Transport & Insurance documents, All-India Permits
- Rail Transport: Major Railway Systems of World, (Euro Rail and Amtrak)
- General information about Indian Railways, Types of rail tours in India:, Palace-on-Wheels and Royal Orient, Deccan Odyssey, Toy Trains etc. Indrail Pass.
- Water Transport: Historical past, cruise ships, ferries, hovercrafts, river and canal boats, Fly-cruise.

UNIT - IV:Structure of Tourism Industry & Public sector Organizations (4 Hours)

- Tourism Organizations: Role and Functions of World Tourism Organization (WTO)
- Pacific Asia Travel Association(PATA)
- World Tourism &Travel Council (WTTC) - Ministry of Tourism, Govt. of India
- ITDC, Department of Tourism, Govt. of Himachal Pradesh.
- FHRAI, IHA, IATA, TAAI, IATO.

UNIT – V   Tourism planning & Environment   **(4 Hours)**

- Tourism Impacts - Tourism Area Life Cycle (TALC) - Doxey's Index - Demonstration Effect – Push and Pull Theory
- Tourism System - Mathieson and Wall Model & Leiper's Model - Stanley Plog's Model of Destination Preferences - Demand and Supply in tourism
- Tourism regulations - Present trends in Domestic and Global tourism – MNC's in Tourism Industry.

Prescribed Text Books:

1. Annual Report (2010-11), Ministry of Tourism, Government of India, New Delhi.
2. Burkart A.J., Medlik S. (1974), Tourism - Past, Present and Future, Heinemann, London.
3. Chuck Y. Gee, James C. Makens & Dexter J. L. Choy (1989), The Travel Industry, Van Nostrand Reinhold, New York.
4. Ghosh Bishwanath (2000), Tourism and Travel Management, Vikas Publishing House, New Delhi.
5. Holloway, J. C. (1994), The Business of tourism, Pitman Publishing, London.
6. Medlik, S. (1997), Understanding tourism, Butterworth Hinemann, Oxford.
7. Michael M. Coltman (1989), Introduction to Travel and Tourism- An International Approach, Van Nostrand Reinhold, New York.
8. Page J. Stephen & Brunt Paul (2007), Tourism- A Modern Synthesis, Thomson Publishers, London.
9. Ray Youell (1998), Tourism-an introduction, Addison Wesley Longman, Essex.
10. Sunetra Roday et al (2009),Tourism Operations and Management, Oxford University Press

Suggested Additional Readings:

1. Successful tourism management volume-II, Tourism Practices-Pran Nath Seth, sterling publishers

2. Successful tourism management volume-II,Tourism Practices-Pran Nath Seth, sterling publishers

3. Tourism The Business Of Travel,3/ed - Roy A. Cook, Laura J. Yale, Joseph J. Marqua, Pearson (2007)

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Course Code: **TTM-423**

Course Name: **GEOGRAPHY OF TOURISM**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- Introduce students to the Concept of Geography.
- The students should understand the various regions of the world.
- To clarify the Role of the Geography in Tourism to the students.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

- **Mid Term Examination: 25%**
- **End Term Examination: 50%**
- **Continuous Internal Assessment : 25%**
    - Presentations: 10 %
    - Class test: 10%
    - Assignments: 5%

Course Contents:

UNIT - I: Introduction-Tourism Geography   (3 Hours)

- Definition ,Scope and Contents of Geography,Importance of Geography in Tourism,Typology of Tourism,Patterns & linkages in Tourism Geography,Market, Destinations, models in Tourism Geography,(Lepier model ,Gravity Model, push & pull theory) TGR, TTR, TDR
- IATA traffic conference areas.
- Interpretation of Tourist flow in different regions of the world

UNIT - II: Understanding the geographical location of Tourist Destinations in Europe & America   (4 Hours)

- Reasons for Europe being the top continents in terms of Tourist arrivals & receipts
- Understanding UK, BENELUX, SCANDINAVIAN, EU, SCHENGEN Nations etc.,Understanding physical features of EUROPE through Atlas (Rivers, mountains, beaches, deserts, heritage site etc.)
- Understanding NEW ENGLAND REGION, NORTH AMERICA, CENTRAL AMERICA, SOUTH AMERICA, REGION OF GREAT LAKES, Latin America Etc.
- Understanding physical features of America through Atlas (Rivers, mountains, beaches, deserts, heritage site etc.)

UNIT – III: Understanding the geographical location of Tourist Destinations in Africa
                                              (4 Hours)

- Understanding HORN OF AFRICA.
- Understanding physical features of AFRICA through Atlas (Rivers, mountains, beaches, deserts, heritage site etc.)

UNIT - IV: Understanding the geographical location of Tourist Destinations in Australasia
                                              (4 Hours)

- Understanding Australia & New Zealand.
- Understanding physical features of AUSTRALASIA through Atlas
- (Rivers, mountains, beaches, deserts, heritage site etc.)

UNIT – V: Understanding the geographical location of Tourist Destinations in   Asia.
                                             (3 Hours)

- Understanding Asia, SAARC, ASEAN, EAST ASIA.
- Understanding physical features of ASIA through Atlas (Rivers, mountains, beaches, deserts, heritage site etc.)

Prescribed Text Books:

1. Brian Boniface and Chris Cooper (**2009**), **Worldwide Destinations - Casebook, The geography of travel and tourism,** Elsevier Butterworth-Heinemann, Oxford.

2. Brian G. Boniface and Chris Cooper (**2009**), **worldwide Destinations, The geography of travel and tourism,** Elsevier Butterworth-Heinemann, Oxford.

3. Orient Longman -World Altas.

Suggested Additional Readings:
1. Oxford atlas
2. Geography of Travel & Tourism,Lloyd E. Hudman ,(Author), Richard H Jackson (Author), Publisher: Delmar Pub
3. Understanding and Managing Tourism Impacts: An Integrated Approach (Contemporary Geographies of Leisure, Tourism and Mobility),C. Michael Hall (Author), Alan A. Lew Publisher: Routledge; 1 edition (August 20, 2009)
4. New Concise World Atlas,Keith Lye (Author), Stefan Chabluk,Publisher: Oxford University Press, USA; 2 edition (February 5, 2007)

Introduction to Hotel Management

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Course Code: TTM423

Course Name: Introduction to Hotel Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student aware of the evolution and growth of hotel industry across the world.
- To bring about an understanding of Hotel industry in India.
- To make student understand the basic concept of a Hotel and its operational departments.
- To make student familiar with the various sections and areas of rooms division and their day to day activities.
- To clarify the role of Food & Beverage department in contributing to the hotel revenue as well as guest satisfaction.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

3. **Continuous Internal Assessment : 25%**

- Presentations: 10 %

- Class test: 10 %
- Assignments: 5%

Course Contents:

UNIT - I: Origin and evolution of HOTEL INDUSTRY   (3Hours)

- Origin & evolution of accommodation units & Hotels.
- History & development of Hotel industry in India.
- Principles, concepts and objectives of a hotel.
- Types of Hotels, Classification of Hotels/star categorization
- Various departments/divisions of a hotel & Organization chart.

UNIT - II: Front Office Management   (4 Hours)

- Various areas of Front office department & their functions.
- Lay out of front office department & allied units.
- Organization chart & role of front office manager & Personnel.
- The front office activities & guest activities in a hotel.
- International Symbols: Travel symbols or signs, Room Tariffs, Plans etc.

UNIT - III: Accommodation operation in Hotels   (5 Hours)

- Role of housekeeping in Hospitality operation
- Types of rooms and accommodations.
- Sketch diagrams of rooms & suites. Various areas of a hotel: Public areas and back areas.
- Organization chart & Functions & duties of housekeeping staff members.
- Lay out of HK department & Floor pantry. Abbreviations used for room's status.
- Tools of the trade: tools & equipments used in housekeeping

UNIT - IV: Food & Beverage Service Management   (4 Hours)

- Types of catering establishments and their functions.
- Organization chart & role of F&B manager & staff members.
- Types of Menus & factors to be considered while planning a menu
- Various courses of Menu (French classical).
- Types of meals & types of service.
- Food &Beverage service outlets in Hotels and their operation techniques.

UNIT – V: Food Production Operation   (2 Hours)

- Kitchen Organization chart & role of executive chef and various kitchen personnel.
- Lay out of the food production department displaying its various sections.
- Small tools and Equipments used in kitchen
- Common Indian and International Menus followed in Hotels.

UNIT - VI: Non-Operational Departments (Miscellaneous)   (2 Hours)

- Brief discussion of various departments like Sales & Marketing, Engineering
  & maintenance, Public relation & HR etc.

Prescribed Text Books:

1. Professional Hotel Management: Jagmohan Negi; S. Chand Co., New Delhi.
2. Hotel Housekeeping Operations and Management: Raghubalan; Oxford University Press India.

Suggested Additional Readings:

1. Hotel & motel management operation: Gray and Ligouri; PHI, New Delhi, 2000.
2. Managing front office operations: Michael L. Kasavana, Richard M. Brooks
3. Hotel Front Office Training Manual: Sudheer Andrews
4. Front Office Management- S.K. Bhatnagar
5. Hotel, Hostel and Hospital Housekeeping: JC Branson, M.Lennox, Edward Arnold Publication.
6. Text book of hotel Housekeeping-Sudheer Andrews
7. Food & Beverage service : Lilicrap Cousings
8. Food production operation: P.S. Bali; Oxford publication
9. Theory of cookery : Krishna Arora
10. Professional Cooking : Wayne Gissslein

Housekeeping in Hospitality Operations

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Course Code: TTM436

Course Name: Housekeeping in Hospitality Operations

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student aware of the role of Housekeeping in Hospitality Operations.
- To bring about an understanding of the housekeeping department and its operations
- To make student understand the basic concept of various areas of a Hotel that comes under the housekeeping department and their maintenance procedures.
- To make student familiar with the various types of cleaning equipments & reagents.
- To give student a clear understanding of various guest room supplies and their importance.
- To bring about an understanding of allied departments of housekeeping like laundry, linen room, horticulture, pest control etc.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: Introduction & scope of Housekeeping department   (7 Hours)

- Classification of hotels and its various departments.
- Responsibilities of housekeeping department
- Scope of housekeeping in hotels, hospitals, corporate offices, hostels etc.
- Layout of the housekeeping department & its various sections.
- Organizational structure & role of Housekeeping staff members.
- Housekeeping co-ordination and control with other departments.

UNIT - II: Housekeeping Services: Cleaning & maintenance   (12 Hours)

- Types of guest rooms, lay out of rooms and floor pantry & maid's cart setup.
- Cleaning equipments: types, uses, selection criteria, care and maintenance.
- Cleaning agents – types, uses, selection criteria, storage, and safety rules.
- Cleaning of Guest rooms and public areas, Cleaning schedules & programme.
- Types of bed room and bath room linens, Housekeeping supervision

UNIT - III: Housekeeping operation & Management   (6 Hours)

- Daily routine operation of HK department.
- Types of Keys and key control procedures, Lost & found management.
- Cleaning of special surfaces like: Metals, floor surfaces, wall coverings & Glasses.
- Pest control: Pests, Types and pest control mechanisms.
- Organizing of Housekeeping staffs, shifts & duty Rota etc.

UNIT - IV: Linen, Uniform room & Laundry Operation   (5 Hours)

- Lay out of linen room, Types of linen, activities in linen room, equipments used.
- Records maintained in linen room, linen inventory, linen recycling & linen hire.
- Uniform room: Importance, Layout, records and registers maintained in uniform room.
- Sewing room: Role of sewing room, activities, tools & equipments used in sewing room.
- Laundry: Laundry symbols, Flow process, laundry aids & equipments.
- Stains: classification, generals rules of stain removal & stain removal agents.

UNIT – V: Allied responsibilities of Housekeeping Department   (10 Hours)

- Horticulture: study of different types of flowers, plants, foliages, Tools & fertilizers.
- Interior decoration: Elements & Principles of design, Colour wheel, Types of lighting, window treatment, Floor finishes & floor seals.

- Safety & security in HK: Fire, Accidents: Causes & prevention, handling of a sick guest.

- Budgetary control: Importance of budget, types, Preparation of budget & purchasing control.
- Case studies related to HK operation

Prescribed Text Books:

1. Hotel Housekeeping Operations and Management: Raghubalan; Oxford University Press India.
2. Hotel, Hostel and Hospital Housekeeping: Joan Cameron Branson, Margaret Lennox, Edward Arnold Publication, 1988.

Suggested Additional Readings:

1. Text book of hotel Housekeeping-Sudheer Andrews
2. Hotel & motel management operation: Gray and Ligouri; PHI, New Delhi, 2000.
3. Guide to Hotel Housekeeping: Mary E. Palmer
4. Hotel housekeeping training manual: Sudheer Andrews
5. Professional Management of Housekeeping Operations: Thomas J. A. Jones
6. Housekeeping management: Matt A Casado
7. The Professional Housekeeper: M. Schneider, G. Tucker, M.Scoviak, MSC Lerner
8. Housekeeping management for hotels and residential establishments: Rosemary Hurst
9. Managing housekeeping operations: Margaret M. Kappa, Aleta Nitschke, Patricia B. Schappert

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Course Code: TTM410

Course Name: Event Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To introduce students with elements of the Event Management.
- To make student realize that event planning & management has an extremely positive future.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**

    - Presentations: 10 %
    - Class test: 5%
    - Attendance:5%
    - Assignments: 5 %

Course Contents:

UNIT - I: **The Introduction**   **(4 Hours)**

- **Event & categorization based on size ,types of events**
- **Fairs & festivals organised in India**
- **Concept & Design**
- **Feasibility of the event**
- **Legal compliance**

UNIT - II: **Event Marketing, Promotion & financial management**   **(4 Hours)**

- **Process of event Marketing, Marketing –Mix & Sponsorship**
- **Elements of Promotion-Image branding/Advertising/publicity/PR.**
- **Financial Management-budget/Break even point/cash flow analysis etc.**

UNIT - III: **Event Planning/protocol & staging**   **(4 Hours)**

- Aims & objectives of an event, Planning Tools-Gantt charts, Run sheets.
- **Protocols for events**
- **Staging –event venue, theme, rehearsals, services.**

UNIT - IV: **Event staffing & management**   **(4 Hours)**

- **Developing organisation charts, job descriptions, recruitment & training**
- **Leadership skills, team management, group development & time management**
- Logistics ,Performance standards, functional areas

UNIT - V   **Risk Management, Security, Monitoring & Control systems**   **(4 Hours)**

- Risk management-related to natural, technology, legal, safety & security risk, occupational safety, crowd management & evacuation.
- Risk management process & standards for risk management.
- Monitoring control & evaluation.

Prescribed Text Books:

8. Lynn Van Der Wagen & Brenda R.Carlos (2011).Event Management-Pearson publishers
9. Meetings, Expositions, Events & Conventions: An Introduction to the Industry: International Edition, 3/E, George G. Fenich –Pearson Publishers
10. Event Management: A Professional and Development Approach by ASHUTOSH CHATURVEDI, Global India Publications.
11. Events Feasibility and Development By William O'Toole Published 14th December 2010 by Routledge.

Suggested Additional Readings:

4. Event Management: A Professional And Developmental Approach By Greg Damster, Dimitri Tassiopoulos, Peter de Tolly, Wren Dry, Jurgen Gasche, Debbie Johnson, John Knocker
5. Event Tourism Edited by Stephen J. Page, Joanne Connell, Published 29th October 2009 by Routledge.
6. Events Management by Glenn Bowdin, butterworth-heinemann publication, an imprint of Elsevier.

Introduction to Tourism Marketing

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Course Code: TTM 407

Course Name: Introduction to Tourism Marketing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student understand the basic concepts of Strategic Management in Tourism.
- To create awareness of Strategic Management in Indian Context and to make student familiar with the concepts of Strategy.
- To make student understand the role of Strategy can play in promoting the products in the service industry.
- To clarify Environmental Scanning, Strategy Formulation, Strategy Implementation and Evaluation and control

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
   - **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: INTRODUCTION TO TOURISM MARKETING   (5Hours)

- Introduction to Tourism Marketing, The concept of Services Marketing.
- Nature of Tourism Services, Reasons for the Growth of Tourism Services.
- Meaning of Tourism Market; Retailer; Wholesaler in Travel Trade.
- Managing the Tourism Services / Distinctive Features of Tourism Product; the Tourism Marketing Mix. Management of Three Additional P's of Tourism Marketing Mix.
- Strategic Issues in Marketing of Services, Innovations in Services Marketing.
- The Customer Gap, The Provider Gaps, Putting it all Together: Closing the Gaps.

UNIT - II: GLOBAL PERSPECTIVE OF TOURISM MARKETING   (4 Hours)

- Tourism marketing at different levels of Economic Development.
- Significance of Tourism Marketing for National Economy.
- Marketing of Tourism Products at national and International Level events with relation to travel Trade Fairs like Satte; WTM; ITB Berlin; ITB Asia; Eibtm.
- Case Study of Honk Kong Disneyland, Timeshare – Well worth Buying and Enjoying

UNIT - III: MANAGERIAL ASPECTS OF TOURISM SERVICE SECTOR   (4 Hours)

- The Purchase Process of Tourism Services – Consumption Values, A purchase Model of Tourism Services, Pre Purchase Phase, The Service Encounter and Post Purchase Phase.
- Marketing of P's and C's in Travel Trade.
- Tourism Relationship Marketing, Managing Customer Emotions, Relationship Marketing in Consumer Segment vs Service Segment, Service Level Agreements (SLA).

UNIT - IV: MANAGING HUMAN ELEMENT AND QUALITY ASPECTS   (4 Hours)

- Importance and Role of Human element in Tourism Marketing , Building the Right Mind set – Developing Service Culture
- Tourism Service Quality; Definition of Quality; Service Encounters and Service Recovery.
- Determinants of Tourism Service Quality, Gaps Model of Tourism Service Quality.
- Bridging the Service Quality Gaps, The Reason for Gaps in Services, Managing to close the Service Quality Gaps, The concept of Total Quality Management (TQM).

UNIT – V: MARKETING TOURISM, TRAVEL, TRANSPORT AND HOSPITALITY SERVICES   (3 Hours)

o The concept of Travel and Transport, Customer Profile of Travel and Transport Services, Derived Demand

- o   Managing Marketing Mix for Tourism and Hospitality.
- o   Best Practices in Tourism Marketing.
- o   Case Study: Indore City Transport Service Limited.

Prescribed Text Books:

1. The Tourism Concepts and Practices; John R Walker Joweilyn T Walker Pearson.
2. Services Marketing, 2e Kenneth E Clow and David L Kuntz
3. Services Marketing – Concepts and Practices – Ramneek Kapoor, Justin Paul, Biplab Halder
4. Customer Relationship Management – Urvashi Makkar and Harinder Kumar Makkar
5. Marketing Management – Arun Kumar and N Meenakshi
6. Services Marketing – Valarie Zithami , Mary Jo Bitner, Dwayne D Gremler , Ajay Pandit
7. The business of Tourism Concepts and Strategies; A K Bhatia; Sterling Publishers.

Environment, Ecology and Tourism

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: 414

Course Name: Environment, Ecology and Tourism

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- To understand the basic concept of environment, ecology and their components.
- To understand the relationship between tourism and environment.
- To understand the environmental impacts of tourism on environment
- To create awareness about the importance of climate for tourism and implications of climate change on tourism
- To aware about the various initiatives in the tourism sector towards environmental orientation.
- To aware about the role of government, NGOs and environmental education.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: Environment and Ecology

Definitions: Environment and Ecology
Components of environment and ecology
Abiotic: Climatic factors and Edaphic factors
Biotic: Producers, Consumers and Decomposers
Food Chain
Food Web
Trophic Level
Function of ecosystem: Energy flow in ecosystem, Material cycles in Ecosystem

UNIT - II: Environment and Tourism Relationship

Environment as Tourism Resource
Adverse Impacts of Tourism Activities on Environment
Tourism as a Tool for Environment Conservation and Protection
Sustainable Tourism
Eco- Tourism

UNIT - III: Climate Change and Tourism

Definitions: Weather, Climate and Climate Change
Relationship between Climate, Weather an d Tourism
The importance of Weather forecasts and Climate Prediction for the tourism sector
Major Climate change impacts and implications for tourism destinations
Climate Change impacts on tourism supply
Implications of Climate change for tourism demand
Adaptation to Climate Change in tourism sector

UNI**T - IV:** **Environmental Initiatieves**

Green Globe
Blue Flag
Eco Labels
Green Key
Environmental Awards
Global Code of Ethics in Tourism

UNIT – V: **Role of Different Groups in Environment Protection**

Environment Protection Act
Role of Government in environment Protection
Role of Non-Government Organizations
Environment Education
Women Education and Environment

Prescribed Text Books: Nil

Suggested Additional Readings:

Tourism & The Environment : A Quest for Sustainability with special reference to Developing Countries, and Policy Analysis on Himacahal Pradesh By R.N. Batta (Publisher: M.L. Gidwani, Indus Publishing Company, New Delhi)

Environmental Economics : An Indian Perspective edited by Rabindra N. Bhattacharya (Publisher: Oxford India)

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: TTM 404

Course Name: Tourism Resources Part 1 (North India)

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:
1. To aware students about the forms of various resources.
2. To provide students the relevant information about the tourism resources from each state.
3. To make student confident in differentiating the resources according to the interest of the tourists.
4. To acquaint students about diversities of the tourism resources so that they may form a marketable composite products of tourism
5.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - **Presentations: 10 %**
   - **Class test: 10 %**
   - **Assignments: 5%**

Course Contents

UNIT 1 Tourism Resources: Jammu & Kashmir

Cultural Profile of Jammu, Kashmir and Ladakh.

Monuments: Gompas (monasteries in Ladakh), Hari Niwas Palace , Dogra Art Gallery, Hari Parbat Fort, Chingus Sarai, etc

National Parks and Sanctuaries: Dachigam National Park, Hemis Wild Life Sanctuary, Salim Ali National Park

Pilgrimage Destinations: Shri Mata Vaishno Devi, Amarnath Yatra, Hazratbal, Monasteries in Ladakh

Adventures Tourism: Trekking , skiing, mountaineering and river rafting

Fairs & Festivals of the three regions of J&K.

UNIT 2 Tourism Resources: Punjab and Haryana

Cultural Profile of Punjab and Haryana

Monuments: Summer Palace of Maharaja Ranjit Singh, Golden Temple 0r Harmandir Sahib, Mud Fort

Protected Areas for conservation: Harike wetland, Kanjli wetland , Zoological Park Chhatbir.

Pilgrimage Destinations: Golden Temple, Dera Baba Nank, Tarn Tarn, Anand pur sahib, Devi Talab Mandir in Jalandhar, Ram Tirath Temple, Durgiana Mandir, , Kali Devi Temple Rauza, Sharif, Sirhind, etc

Gardens of Punjab : Jallianwala Bagh, Amritsar, Bansar Garden, Sangrur, Ram Bagh Garden, Amritsar, Shalimar Garden, Kapurthala, Bara Dari Garden, Patiala, Rock Garden, Chandigarh, the capital of Punjab etc.

Fairs & Festivals

Borders of Punjab: Wagah Border

UNIT 3 Tourism Resources: Himachal Pradesh

Cultural Profile of Himachal Pradesh

Monuments: Kangra Fort, Monastery at Mcleod Ganj, Shri Chamunda Temple, Katoch Palace etc

Protected Areas for Conservation: Great Himalayan national park, Pin Valley national park, Chail wild life sancturary, simbalbara wildlife sanctuary etc.

Pilgrimage Destinations: Jwala ji , Adventures Tourism, Manikaran, Bijnath, Tabo monastery, kye monastery,, Rewalsar.

Fairs & Festivals

Mountain Railways of Kalka- Shimla

UNIT 4 Tourism Resources: Uttarakhand

Cultural Profile Uttarakhand

Monuments :Badrinath temple, Dandeshwar temple, Old cemetery, etc

Protected Areas for Conservation: Jim Corbett National Park, Nanda Devi National Park, Valley of Flowers National Park, Gangotri National Park, Raja ji National Park, Govind Pashu Vihar national park and sanctuary.

Pilgrimage Destinations : Gangotri, Yamunotri, Haridwar, Rishikesh etc

Adventures Tourism: River rafting, trekking ect.

Fairs & Festivals

UNIT 5 Tourism Resources: Uttarpradesh

Cultural Profile of Uttarapradesh

Monuments : Taj Mahal, Agra Fort, Fateh pur Sikri, Imam badars , etc

Protected Areas for Conservation: Dudhwa national park, Hastinapur wild life sanctuary, National Chambal Sanctuary etc

Pilgrimage Destinations: Varanasi, Allahabad, Mathura, Vrindhaban, Ayodhya, etc

Fairs & Festivals

UNIT 6 Tourism Resources: Rajasthan

Cultural Profile of Rajasthan

Monuments of Rajasthan: Amber Fort, Jaisal mer Fort, Junagarh Fort

Protected Areas for Conservation: Wild Ass Sancturay, Keoladeo National Park, Sariska Tiger Reserve

Pilgrimage Destinations: Ajmer, Palitana Temple Complex, Shri Somnath Mandir, Dwarakadeesh, etc

Palace on Wheels

Fairs & Festivals

Prescribed Text Books: Nil

Suggested Additional Readings:

India Travel Guide by Lonely Planet on each state of India.

Extensive use of World Wide Web .

Tourism Geography II

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: TTM525

Course Name: **TOURISM GEOGRAPHY II**

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to -

- Geography is the basic edifice of tourism.
- The knowledge of geography shall give an extra edge to the students in designing the itineraries for the travellers,
- Suggesting them various destinations to the clients for their travel etc.
-

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

3. **Continuous Internal Assessment : 25%**

  - Presentations: 10 %
  - Class test: 10 %
  - Assignments: 5%

Course Contents:

UNIT - I: **Importance of geography in Tourism** **(8 Hours)**

- Importance of geography in Tourism: Latitude, longitude, international date time.
- Times zone. Time differences, GMT variations.
- Major landforms as tourist resources
- Elements of weather and climate.
- Climatic regions of the world in brief.
- Impact of weather and climate on tourists and destinations.
- Map Reading and Practical Exercise.

UNIT - II: **Contemporary trends in international tourist movements** **(6 Hours)**

- Factors affecting global and regional tourist movements
- Demand and origin factors, destinations and resource factors.
- Contemporary trends in international tourist movements

UNIT - III: **Aviation Geography** **(8 Hours)**

- Aviation Geography
- IATA Traffic conferences
- Important tourist circuits and popular Itineraries of Malaysia, Singapore, Thailand, Japan

UNIT - IV: **Important tourist circuits and popular Itineraries** **(10 Hours)**

- Important tourist circuits
- Popular Itineraries of European countries like UK, France, Germany, Italy, Spain and Switzerland

UNIT - V **Itinerary Preparation** **(8 Hours)**

- Itineraries of selected countries like China, USA, Australia, UAE, Kenya and South Africa

Prescribed Text Books:

1. Boniface, B.G. and Chris Cooper, *The Geography of travel and Tourism* Oxford*:* Butterworth Heinemann.
2. Hall C.M. and Stephen, J. Page, *The Geography of tourism and recreation. Environment, place & space,* London: Routledge.
3. Pearce Douglas, *Tourism Today: A Geographical Analysis;* New York: Longman.
4. Singh R.L., *India- A Regional Geography*, Varanasi: National Geographical Society of India
5. Seth P.N., *Successful Tourism Management*, Sterling Publisher: New Delhi

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

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Course Code: **TTM- 509**

Course Name: **Airline Ticketing and Cargo Management**

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- The Travel & Tourism Ticketing course provides a student with an understanding of the Aviation industry
- The definite role of a travel professional in this industry
- The importance of exceeding customer expectations and how changing technology has an impact on the travel industry.
- The participants are also trained in related subjects such as Industry Regulations, Codes, World Geography,
- Air Fares and Ticketing including E-Ticketing, Visa and Health requirements, as well as Tour Packages

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10%
   - Assignments: 5%

Course Contents:

UNIT - I: Introduction to Airline Industry   **(5 Hours)**

- The Airline Industry: Origin and Growth
- Organization of the Air Transport Industry in the international context
- Schedule and non schedule air line services.
- Air taxis, multinational Air Transport regulations.
- Organization and working of DGCA. Air corporation Act Indian carries, operations, management performance.
- Marketing strategy of air India.

UNIT – II   Air Fares and Ticketing   **(4 Hours)**

- Air Fares and Ticketing: Tariffs manuals-Terms and definitions –currency regulations-Round and circle trip fares-journeys in different classes-special fares-taxes-ticketing instructions.
- Important foreign destinations for Indian tourists, their costs and detailed itineraries,
- Best potential market for outbound package and selling strategies.
- Effect of outbound promotion on domestic tourism

UNIT – III   Aircraft and Flight Services   **(4 Hours)**

- Airline Reservations, Domestic and International Ticketing
- Tariff Terminology and Fare Calculation
- Factors Affecting the Tour Cost and Procedure for Cost Determination
- Pricing Strategies and Calculation of Tour Price

- Aircrafts Configuration and Features
- Passenger Capacity and Aircraft Seating Plans
- Baggage Handling & Management
- Food & Beverage Services and Passenger Safety Plans

UNIT – IV: Automation in tourism industry   (3 Hours)

- Air Transport: Airline codes and definitions-Aircraft and in-flight services
- Airport facilities and special passengers
- Automation-Baggage-International regulations-Travel guides.

UNIT – IV: Growth and Evolution of Cargo Industry   (4 Hours)

- Growth and Evolution of Cargo Industry
- IATA Conference Areas. Time Zones, GMT variations, Elapsed /Flying /ground/transportation time .
- IATA 3-letter City / Apt. Codes, Country and Currency codes.

Prescribed Text Books:

1. IATA and IITM notes.

2. Travel Agency and Tour operation concepts and principles by Jagmohan Negi.

3. Encyclopaedia of Tourism Management by P.C. Binha.

4.Tourism and Travel Concepts and principles by Jagmohan Negi.

Itinerary Preparation and Costing

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Course Code: TTM- 409

Course Name: Itinerary Preparation and Costing

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- This will help Students develop ideas for tour
- An idea of what is already in the marketplace
- Careful planning is required when developing an itinerary for tour.
- Detailed information on terms and conditions and provide possible ideas for brochure design and content.

Evaluation Criteria:

- **Mid Term Examination: 25%**
- **End Term Examination: 50%**
- **Continuous Internal Assessment : 25%**
- Presentations: 10 %
- Class test: 10%
- Assignments: 5%

Course Contents:

UNIT - I: **Itinerary Development**   **(4 Hours)**

- Definition of Itinerary, various types of itineraries, tools, techniques
- Procedure involved in itinerary planning, constraints in itinerary preparation.

UNIT - II: **Preparation of Itineraries**   **(4 Hours)**

- Preparation of Itineraries for special interest tours like Buddhism in India
- Wildlife tours, Heritage tours cuisine, Yoga
- Photography and various adventure tour programmes in Himachal.

UNIT – III: **Itinerary and Its Linkages In Travel Trade**   **(4 Hours)**

- Linkages in Travel trade Industry with respect to Itinerary preparation (Procurement of the various services related to Itinerary preparation).

UNIT - IV: **Components of Tours Package**   **(5 Hours)**

- Tour packaging-types, components of standard tour package:
- The points to be considered while designing a tour package. Review of tour package offered by TCI, Thomas Cook, Cox & Kings and SOTC.
- Out bound packages.

UNIT – V: **Tour Packaging**   **(3 Hours)**

- Costing of a tour package, Techniques and tools of costing, cost sheet, calculation of supplementary services.
- Factors Affecting the Tour Cost and Procedure for Cost Determination.

REFERENCES;

1. Travel Agency and Tour operation concepts and Principals by Jagmohan Negi.

2. Encyclopaedia of Tourism Management by P.C. Sinha.

3. Tourism and travel Concepts and Principles by Jagmohan Negi.

4. Regional Development, Tourism Hotels & Travel Trade by Jagmohan Negi

Front office operation in Hotels

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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: TTM437

Course Name: Front office operation in Hotels

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student aware of the development of hotel industry & industry interlinkages.
- To bring about an understanding of front office's key role in hotel operation.
- To make student understand the various stages of Front office operation.
- To familiarize the students with the role of front office in providing guest services.
- To clarify the role of front office department in contributing to the hotel revenue as well as guest satisfaction.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: Introduction to Front office **(8 Hours)**

- Development of Hotel industry over the period & Industry interlinkages.
- International airlines, currencies, credit cards, Travel agencies, hotel chains, capitals etc.
- Role of front office department in hotels & function of its various sections.
- Contribution of Front office staff members to the departmental & hotel operation.
- Room Tariff structure: definition, factors affecting room tariff, types of room rates etc.
- Room tariff fixation methods: cost based and market based techniques

UNIT - II: Front Office operation **(9 Hours)**

- Product selling tools-Brochures, Tariff cards, summer package brochure, tent card etc.
- Guest cycle, comparative study Front office activities & guest activities.
- Reservation: Importance, Source & modes of Reservation and its various types.
- Systems of Reservations: diary system, whitney system, computerized reservation system
- Amendment and cancellation procedures for various systems of reservation
- CRS: Centralized reservation system, Group reservations, cancellations, overbooking etc.

UNIT - III: Front office Guest Services **(9 Hours)**

- Front office communication within the departments, Log book and its importance.
- Registration Process, forms and formats used, Handling FITs(with reservation & walk-in)
- Handling GIT (Group registration), handling Registration of foreigners (C-Forms)
- Mail & message handling, paging, Safe deposit locker procedure.
- Room key control process & Room change procedure
- SB check-in procedure & Wakeup call procedure.
- Handling Guest Complaints.

UNIT - IV: Front office accounting & audit **(8 Hours)**
- Guest check out procedure & Mode of bill settlement, C/O problems and solutions.
- Front office guest accounting: types of accounts, vouchers, folios, ledger etc.
- Front office accounting cycle.
- Night auditing: Importance, function of Night Auditor& the night auditing process

- Yield Management: Concept, tools, elements, benefits, strategies & challenges.
- Forecasting: benefits, data required, necessary records, RAF: formula.
- Budgeting: types, Budgetary control: Objectives, essentials, Advantages & limitations

UNIT - V: Role of Computers in FO operation & Case studies   **(6 Hours)**

- Computer Application in Front office: MIS, HIS, CRS, PMS
- Case studies related to Guest Handling in Front office

Prescribed Text Books:

1. Front Office Management: S.K. Bhatnagar, Frank Bros. & Co. Ltd.
2. Hotel front office operation and management: J R Tewari, Oxford University press India.

Suggested Additional Readings:

1. Professional Hotel Management: Jagmohan Negi; S. Chand Co., New Delhi.
2. Hotel front office management: James A. Bardi, Wiley India publication
3. Hotel & motel management operation: Gray and Ligouri; PHI, New Delhi, 2000.
4. Managing front office operations: Michael L. Kasavana, Richard M. Brooks
5. Hotel Front Office Training Manual: Sudheer Andrews
6. Text book of front office Management and operation: Sudheer Andrews
7. Check-In Check-Out: Managing Hotel Operations: Vallen Gary K., Vallen

Resort Management

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
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PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
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Course Code: TTM 510

Course Name: Resort Management

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student aware of the evolution and growth of resort industry across the world.
- To bring about an understanding of the basic concept of resort and its various types.
- To make student understand the various factors involved in its planning & development.
- To familiarize the students with the various sections and areas of resort operation.
- To acquaint them with the techniques of establishing a resort business.
- To make the student aware of the future trends in the resort sector.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

3. **Continuous Internal Assessment : 25%**

    - Presentations: 10 %
    - Class test: 10 %
    - Assignments: 5%

Course Contents:

UNIT - I: Resort Concept   (3 Hours)

- Introduction to the resort industry
- Historical Prospective: Origin, development & growth over the centuries.
- Characteristics feature of resorts
- Types of resorts like residential, time share, condominium, destination clubs etc.
- Major resort developments like second home, mixed use, single family developments etc.
- Industry trends: various trends that followed the development of resorts

UNIT - II: Resort Planning & Development   (8 Hours)

- Business management theories applicable to resorts
- Changing market and competitive conditions over the period
- Integration of human activities & seasons in resort planning
- Governance: significance of policy and procedure in resort business
- Planning and financial management in resort development
- Marketing issues for resorts like place marketing, product, season, branding, service etc.
- Environment and site management issues related to resort planning
- Case studies on developing mountain based resort / Beach resort.

UNIT - III: Resort Operation   (5 Hours)

- Basic areas of resort operation: guest activities, recreational amenities, retailing etc.
- Recreational amenities: creation strategies, development and impact on operation.
- Case study on developing recreational amenities like spa, pool and indoor water parks.
- Guest activities: Programming model, significance, planning & designing of guest activities.
- Retailing: role of shopping and retail in resort operation
- Identifying tourist motivation and developing strategies for meeting them.
- Case study of "Time share Resorts": a unique way of operation.

UNIT - IV: Future trends in Resort market   (4 Hours)
- Ecotourism: Eco-lodges, comparative study of traditional lodges Vs eco-lodges.
- Nature based environmental activities, Eco-tourism designs, operation and trends.
- Adventure resorts: market profile, adventure travel offerings like wilderness tours, hard adventurers, soft adventurers, activities etc.
- Floating resorts: cruise ships: Destination, marketing, operation management etc.

- The Gaming resorts: Casinos: Changing trends in casino market, determining profit potential.
- Casino management, organizational structure, potential solution to financial problems etc.

Prescribed Text Books:

1. Resorts: Management and Operation: Robert Christie Mill, John Willey & Sons Inc (2nd edition)
2. The business of Resort management: Peter Murphy, Butterworth Heinemann Publisher

Suggested Additional Readings:

1. Resort Development and Management: Chuck Y. Gee, Educational Institute of the American Hotel Motel Association (2nd edition)
2. Resort Development Handbook: Mr.   Schwanke, Dean, Urban Land Institute, Washington DC
3. World of Resorts: Chuck Kim Gee, The American Hotel & Lodging Educational Institute (AHLEI), Pierson publication
4. Managing Coastal Tourism Resorts A Global Perspective: Sheela Agarwal, Gareth Shaw, Channel View Publications

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Course Code: TTM438

Course Name: Food & Beverage Service

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to
- To make student aware of the role of catering establishment in travel & tourism industry
- To bring about an understanding of Food &Beverage service operation in hotels.
- To make student understand the basic forms of alcoholic & non-alcoholic beverages.
- To make student familiar with the various types of fermented & distilled alcoholic beverages.
- To clarify the various aspects of bar establishment, operation & management.

Attendance Requirement:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: Introduction to the catering industry   (7 Hours)

- Role of catering establishment in travel & tourism industry
- Types of F&B Outlets & catering establishments
- F & B department hierarchy chart in various f&b outlets & role of F&B personnel.
- Layout of food service areas: factors to be considered while planning a layout,
- Layout of various f & b outlets like coffee shop, fast food restaurant, Banquet, Still room etc.
- Restaurant equipments & tools, types of crockery, tableware, glassware, linen, furniture etc.
- Care & maintenance of restaurant equipments, Types of vending machines and usage.

UNIT - II: F & B Operation   (5 Hours)

- Menu: origin, types of Menus, menu planning: consideration & constraints.
- Various courses of Menu (French classical & modified), Indian & International menus
- Various types of meals provided in wide variety of f&b outlets.
- Types of services followed in catering establishments.
- F & B Control System: Necessity and function, F&B Control Cycle, Role of cashier
- Cash handling equipment, KOT & BOT Procedure, Computerized F&B Accounting.
- Food &Beverage service operation in hotels: various forms & techniques
- Laying of covers as per the menus & arrangement of side boards

UNIT - III: Beverages (Part-I)   (13 Hours)

- Introduction, Definition, Classification of beverages,
- Non Alcoholic Beverages : Classification (Water, Nourishing, Refreshing, Stimulating)
- Tea & Coffee – Origin, manufacturing, types of brands, preparation and serving methods.
- Alcoholic beverages, various types of alcoholic beverages.
- Brewing & Fermentation process, Distillation process: pot still & patent still methods
- Fermented Beverages: Manufacturing process, Brands & servicing of **Beer**, cider, Perry, sake etc.
- **Wines:** Introduction, manufacturing process, aging, types of wine, testing of wines.
- Storage & service of wines, reading labels & Brands, Food & Wine harmony, Wine Terminology
- Wine regions of France, Sparkling wine: **Champagne**, Wine regions of Italy

UNIT - IV: Beverages (Part-II)   (11 Hours)

- **Distilled beverages:** Production, types, servicing methods & Brands of **Rum, Gin, Vodka**
- Production, types, servicing methods & Brands of **Brandy** & **Whisky**
- **Aperitifs, liqueurs & bitters:** Processing, types, production, brands & service.
- Mixed drinks: introduction, types, **cocktails** & **mock tails** (conventional & innovative)
- **TOBACCO:** Types, Production, processing, quality variations.

- **Cigar** & Cigarettes: various parts, quality, sizes, Brands, Storage & Service

UNIT - V: Bar operation & management (4 Hours)

- **BAR :** Introduction, Types, Licenses & Regulations, bar Layout: Planning & Designing
- Bar equipments & Tools, crockeries & cutleries used in bar
- Bar organisation, Job Descriptions, Bar Menu: planning, designing & Costing
- Beverage Control Methods & Inventory procedure.

Prescribed Text Books:

1. Food & Beverage service : Dennis Lilicrap, J. Cousins, R. Smith, ELST Publication, (5th edition)
2. The Beverage Book: John A. Cousins, Andrew Durkan: Hodder Arnold H&S Publication

Suggested Additional Readings:

1. A textbook of F & B Management: Sudhir Andrews, TMH Publication
2. Food & beverage service management – Brian Verghese, Mac Milan Publication
3. F & B service - Vijay Dhawan, Frank Bros Publication
4. Fundamentals of menu planning: Paul J. McVety, Bradley; John Wiley Publication
5. Modern restaurant service – John Fuller
6. Food service operation – Peter Jones & Cassel
7. Wine production: Keith Grainger & Hazel Tattersall, Blackwell Publishing
8. Malting & brewing science: D.E. Briggs; Chapman & Hall publication
9. The world atlas of wine: Hugh Johnson, Mitchell Beazley; Octopus Publishing group ltd
10. The ultimate encyclopedia of wine, Beer, Spirit & Liqueurs: S. Walton, B. Glover; Hermes Houses
11. The bar & beverage book: Costas Katsigris & Thris Thomas; John Wiley Publication
12. Principles of food, beverage & labour cost control: Paul R. Dittmer; John Wiley publication

Strategic Management for Travel and Tourism

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: TTM 522

Course Name: Strategic Management for Travel and Tourism

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student understand the basic concepts of Strategic Management in Tourism.
- To create awareness of Strategic Management in Indian Context and to make student familiar with the concepts of Strategy.
- To make student understand the role of Strategy can play in promoting the products in the service industry.
- To clarify Environmental Scanning, Strategy Formulation, Strategy Implementation and Evaluation and control.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

   - **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

UNIT I: STRATEGIC MANAGEMENT AN OVERVIEW

- Introduction to Strategic Management, Historical Origins of Strategy and Strategic Management.
- Nature of Srategy , Mintzbergs five P'S
- Benefits of Strategic Management, The elements of strategy, Levels of strategic decisions.
- Mission and mission statements, Strategic Management Process – Steps of Strategic Management Process.
- Important Definitations :- Organisational Philosophy , Mission , Objectives , Policies, Procedures , Rules , Programmes, Goal, Strategy, Budget

UNIT II: STRATEGIC MANAGEMENT IN HOSPITALITY AND TOURISM

- Introduction, Defining the Hospitality and Tourism Context.
- Types of Hospitality and Tourism Organizations.
- Characteristics of Hospitality and Tourism Organizations.
- The Case for Strategic Management in Hospitality and Tourism Organizations.
- Applying Strategic Management in the Hospitality and Tourism Organisations.

UNIT III: THE HOSPITALITY AND TOURISM INDUSTRY CONTEXT – ENVIORNMENTAL SCANNING

- Internal Analysis in Hospitality and Tourism, Components of Internal Analysis - Resources, competences, core competences and competitive Advantage.
- Characterising the External Environment Understanding the Macro Environment.
- The Task Environment and Influence of Industry Structure. The Dynamics of Competition and Strategic Groups Environmental Scanning and the Hospitality/Tourism Firm The External Environment in the International Perspective, The Five Forces Model.
- The Organisational Context -Identifying Different Stakeholders, Organisational Functions.The Influence of Organisational Structure, Influence of Leadership, Influence of Organisational Culture. The Organisational Context in the International Perspective.

UNIT IV: TOURISM BUSINESS, CORPORATE AND NETWORK LEVEL STRATEGIES

- **BUSINESS TOURISM STRATEGY:** Introduction to business level strategy, The Parameters of Competitive Strategy, What Is the Basis of a Good Strategy? Positioning and Generic Strategies, the Industry Life Cycle and Competitive Dynamics

Resources, Capabilities, and Competencies Business-Level Strategy in the International Perspective.

- **CORPORATE TOURISM STRATEGY** : Introduction to Corporate Strategy, The Portfolio Approach, Corporate Strategy and Adding Value, The Core Competence Approach, Creating and Sustaining the Multibusiness, Advantage Corporate-Level Strategy in the International Perspective.
- **NETWORK TOURISM STRATEGY:** Introduction to network strategy, Strategic Alliances, Franchising, Management Contracts, Joint Ventures, Wholly Owned Subsidiaries, Strategic Alliance, and Formation in the International Context.

UNIT V: - THE STRATEGY PROCESS

- Introduction, Strategy Formation—Strategy Formulation and Implementation.
- Strategy Implementation and Change, Introduction toward an Implementation Framework Barriers and Resistance to Strategy Implementation, Strategy Implementation and Change in the International Context, Synthesis, Relating Content, Context, and Process Introduction.
- The Challenge of Strategic Management in the H&T Context ,The Dynamics of Content, Context, Process, and Outcome Sustaining Competitiveness Managing Change and Creating Learning Organizations Strategic Management in an International Context.

UNIT VI: - CASE STUDIES

- Global Hotels and Resorts: Building Long-Term Customer Relationships.
- The Implementation Process of a Revenue Management Strategy in Britco Hotels.

Prescribed Text Books:

1. Strategic Management in Tourism: Luiz Moutinho Department of Management Studies University of Glasgow Glasgow UK.
2. Strategic Management for Hospitality and Tourism: Fevzi Okumus; Levent Altinay; Prakash Chathoth.
3. Strategic Management for Travel and Tourism: Nigel Evans; David Campbell and George Stonehouse.
4. Concepts in Strategic Management and Business Policy: Thomas L.Wheelan and J. David Hunger.
5. Strategic Management: P Subba Rao.

Sales Marketing and PR in service Industry

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: TTM 515

Course Name: Sales Marketing and PR in service Industry

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student understand the basic concepts of Sales Promotion and PR in Tourism.
- To create awareness of Sales Promotion and PR in Indian Context and to make student familiar with the concepts of Strategy.
- To make student understand the role of PR can play in promoting the products in the service industry.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

- **Continuous Internal Assessment : 25%**
- Presentations: 10 %
- Class test: 10 %
- Assignments: 5%

UNIT I: NATURE AND ROLE OF MARKETING

- Concepts(Need, Want, Demand, TQM, Product, Customer value, Customer satisfaction, Exchange &Transaction, Market)
- Difference between marketing and Selling,
- Marketing Orientation(Product concept, Production concept, Selling concept, Marketing concept , Societal marketing concept),
- Modern marketing concepts (Green marketing, Mobile marketing, Cross-cultural marketing, Web marketing , Tele marketing , Relationship marketing, Buzz marketing)
- Case Study discussion

UNIT II: MARKETING CONCEPTS AND PRINICIPLES

- Marketing Management- Market Segmentation-Targeting and Positioning (Steps in STP, Bases of segmentation, Market coverage strategies, Steps in positioning, positioning strategies) ,
- Marketing Mix Elements- 7 P's of marketing –Product (Levels, Classification, Branding, Packaging, and PLC), Place (Distribution channels Definition, Intermediaries and Uses, Channel functions.
- Marketing intermediaries in hospitality industry) Price (Definition, Marketing strategies , Initiating price change) , Promotion(Definition, Functions, Promotion mix – Advertising , Sales Promotion , Personal Selling , Public Relations), People , Processes , Physical Evidence
- Sales Management- Definition, sales person's role , prospect management , Buying process , AIDA's theory of selling, personal selling process , closing strategies , function of sales management.
- Case study discussion Sales Management- Definition, sales person's role , prospect management , Buying process , AIDA's theory of selling, personal selling process , closing strategies , function of sales management,
- Case study discussion

UNIT III: THE TRAVEL AND TOURISM INDUSTRY AND PR'S ROLE

- The Industry's Scope
- PR Tools and Special Audiences/Publics
- Standard PR Tools and Most Common Travel/Tourism PR Tools
- Factors Leading to PR's Prominence in the Industry
- 10 Ways to Manage COMMUNICATIONS IN a Crisis
- What PR Is, and What It Is Not PR Is Not Publicity, Propaganda, Marketing,or Advertising
- In-House PR vs. Outside Agency Support

- PR's Rich Hundred-Year Heritage
- Marketing and PR Synergies

UNIT IV: DESTINATION AND TOURIST ATTRACTION PR

- Domestic Travellers and International Visitors
- CVBs and State Tourism Offices
- Working with Travel Writers
- The Importance of Truth in Crisis Communications
- Tour Operators and Wholesalers
- "Niche Tourism" PR for Amusement/Theme Parks and Attractions

UNIT V: WHAT TRAVEL AND TOURISM EMPLOYERS SHOULD UNDERSTAND

- About PR
- The Value of PR Hiring an In-House Practitioner
- Employing Outside PR Firms/Consultants
- What You Should Know About the RFP Process
- Selecting the Best Proposal for Your Organization
- PR Firm Compensation
- A Promising Future

Prescribed Text Books:

1. Travel and Tourism: An Introductory Guide for Hospitality Managers: Dennis E. Deuschl, APR University of Glasgow Glasgow UK.
2. Public Relation as a tool of Tourism Marketing: Melis Ceylan
3. The Tourism Concepts and Practices; John R Walker Joweilyn T Walker Pearson.
4. Services Marketing, 2e Kenneth E Clow and David L Kuntz
5. Services Marketing – Concepts and Practices – Ramneek Kapoor, Justin Paul, Biplab Halder

Sales Promotion and Public Relations in Tourism

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: TTM 529

Course Name: Sales Promotion and Public Relations in Tourism

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives: The course is designed to

- To make student understand the basic concepts of Sales Promotion and PR in Tourism.
- To create awareness of Sales Promotion and PR in Indian Context and to make student familiar with the concepts of Strategy.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
   - **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

UNIT I: THE TRAVEL AND TOURISM INDUSTRY AND PR'S ROLE

- The Industry's Scope
- PR Tools and Special Audiences/Publics
- Standard PR Tools and Most Common Travel/Tourism PR Tools
- Factors Leading to PR's Prominence in the Industry

- 10 Ways to Manage COMMUNICATIONS IN a Crisis
- What PR Is, and What It Is Not PR Is Not Publicity, Propaganda, Marketing,or Advertising
- In-House PR vs. Outside Agency Support
- PR's Rich Hundred-Year Heritage
- Marketing and PR Synergies

UNIT II: PR AT HOTELS AND LODGING ESTABLISHMENTS

- PR Tools and Audiences or Publics
- Special Hotel PR Publics
- More PR Tools
- Abundant Messages/News Hooks.
- Bed-and-Breakfast (B&B) PR
- How to Use PR to Grow an Award-Winning Bed & Breakfast (B&B)
- An Essential, Cost-Effective PR Tool in the Travel Biz.

UNIT III: RESTAURANT PUBLIC RELATIONS AND TRANSPORT PUBLIC RELATIONS

- Fast-Food vs. Individual Restaurants.
- Long-Term PR Efforts Are Key to Success.
- Typical Messages and Media Targets.
- Communicating in the Language of Food and Beverage.
- Airline PR for 'Round-the-Clock Turbulence.
- Cruise Line PR.
- Relations Case Study.
- PR at Other Selected Transportation Services.

UNIT IV: DESTINATION AND TOURIST ATTRACTION PR

- Domestic Travellers and International Visitors
- CVBs and State Tourism Offices
- Working with Travel Writers
- The Importance of Truth in Crisis Communications
- Tour Operators and Wholesalers
- "Niche Tourism" PR for Amusement/Theme Parks and Attractions

UNIT V: WHAT TRAVEL AND TOURISM EMPLOYERS SHOULD UNDERSTAND

- About PR
- The Value of PR Hiring an In-House Practitioner
- Employing Outside PR Firms/Consultants

- What You Should Know About the RFP Process
- Selecting the Best Proposal for Your Organization
- PR Firm Compensation
- A Promising Future

Prescribed Text Books:

1. Travel and Tourism: An Introductory Guide for Hospitality Managers: Dennis E. Deuschl, APR University of Glasgow Glasgow UK.
2. Public Relation as a tool of Tourism Marketing: Melis Ceylan

Tourism Impact

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
PO Box: 21, Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Course Code: 405

Course Name: Tourism Impact

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- To understand the nature of tourism and its relation to economic, socio-cultural and economic
  forms of environment.
- To sensitize students towards the various relevant tourism impacts related to the spheres of economy, society, culture and physical environment.
- To educate students the basic working style of tourism activities especially the planning and management that should create the positive tourism impacts for the sustainable development of tourism.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

3. **Continuous Internal Assessment : 25%**

- Presentations: 10 %
- Class test: 10 %
- Assignments: 5%

Course Contents:

UNIT - I: Conceptualizing Tourism and Understanding Impacts

Sustainable development in Tourism,

Tourism Conflicts, ,

Sources of Impacts

GATS & Responsible Tourism.

Tourism & the General Agreement on Trade in Services (GATS)

Tourism in India: Lessons for Domestic Regulation and GATS .

Impact assessment for developing countries.

UNIT - II: Tourism and its Economic Impacts

Economic impacts of tourism (Positive & Negative impacts): income and employment, multipliers of tourism, balance of payments, foreign exchange etc.

Economic Impact Analysis, Steps for conducting a tourism Impact Study

UNIT - III: Tourism and its Socio- Cultural Impacts

Social & Cultural Impacts of Tourism (Positive & Negative impacts): Changes in society & attitude; gambling, drugs, sex tourism; demonstration effect; staged authenticity, Xenophobia, Commoditization, Standardization, Loss of authenticity and staged authenticity, cultural clashes, begging, ethical issues etc.

UNIT - IV: Tourism and its Physical environmental Impacts

Environmental impacts of tourism (Positive & Negative impacts): Depletion of natural resources, pollution, Physical Impacts, conservation, landscaping, regeneration, building regulations, environmental awareness etc.

Environmental impacts with regard to caves, lakes, wildlife, Islands, National parks & Sanctuaries etc.

UNIT – V : Planning and Managing Tourism Impacts

Planning in Leisure, recreation and tourism. Management Issues in tourism.

Key players in Tourism Planning and Management.

Visitor Management.

Managing the natural resources of tourism.

Partnership and collaborations in tourism.

Tools and Techniques in tourism planning and management.

Prescribed Text Books:

Understanding and Managing Tourism Impacts by C.Michael Hall and Alan. A.Lew published by Routledge

Suggested Additional Readings:

Tourism: Changes, Impacts and Opportunities by Geoffrey Wall, Alister Mathieson by pearson Collgege Division .

Tourism Impacts, Planning and Mangagement by PeterMason published by Butterworth-Heinemann.

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Emerging Trends in Tourism

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: 439

Course Name: Emerging Trends in Tourism

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

1. To understand the need of the emerging trends in tourism in the context of the traditional tourism products.
2. To anticipate the potential of new tourism trends in India.
3. To develop the skill of creating new form of tourism on the basis of latent interests of the market.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**
2. **End Term Examination: 50%**
3. **Continuous Internal Assessment : 25%**
   - Presentations: 10 %
   - Class test: 10 %
   - Assignments: 5%

Course Contents:

UNIT - I: MICE Tourism

Definition of MICE tourism

Scope of MICE tourism,

Demand/market of MICE tourism

Dimensions of MICE

World Scenario of MICE tourism

MICE tourism in India

UNIT - II: Health and Medical Tourism

Definition of Health tourism and medical tourism.

Difference between health and medical tourism.

World famous destinations of health and medical tourism.

Health and Medical tourism in India.

UNIT - III: Dark Tourism

Meaning of dark tourism.

Forms of dark tourism

Ethical issues of dark tourism

Scope of dark tourism in world and india

UNIT - IV: Space Tourism

Meaning of space tourism.

Global initiatives in the space tourism.

Demand of space tourism.

UNIT – V : Electronic Tourism (E- Tourism)

Meaning of e- tourism

Dimensions of e-tourism

Virtual tourism

Challenges of e tourism

Limitations of e tourism.

Prescribed Text Books: Nil

Suggested Additional Readings:

1. MICE Industry - An Asia-Pacific Perspective. World Tourism Organization (UNWTO); 2012 edition (November 1, 2012), ISBN-10: 9284414350 . ISBN-13: 978-9284414352.
2. Health and Medical Tourism by Publication Date: January 10, 2010 | ISBN-10: 1845936604 | ISBN-13: 978-1845936600 | Edition: First
3. eTourism: Information technology for strategic tourism management by Dimitrios Buhalis Publication Date: December 27, 2003 | ISBN-10: 0582357403 | ISBN-13: 978-0582357402 | Edition: 1
4. eTourism case studies Roman Egger (Editor), Dimitrios Buhalis . Publication Date: October 23, 2008 | ISBN-10: 0750686677 | ISBN-13: 978-0750686679
5. Space Tourism: Do You Want to Go?: Apogee Books Space Series 49 by John Spencer. Collector's Guide Publishing, Inc. (September 1, 2004) ISBN-10: 1894959086 .ISBN-13: 978-1894959087.
6. Dark Tourism (Tourism, Leisure & Recreation) by Malcolm Foley and John Lennon (Dec 7, 2000). Publication Date: December 7, 2000 | ISBN-10: 0826450644 | ISBN-13: 978-0826450647 | Edition: 1

Tourism Products of India

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

[Established under the Central Universities Act 2009]

PO Box: 21, Dharamshala, District Kangra - 176215 (HP)

www.cuhimachal.ac.in

Course Code: TTM 435

Course Name: Tourism Products of India

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- To bring in the understanding about the meaning and nature of tourism products along with its process of creation and the various components involved.
- To make student aware about the various natural and manmade resources which can form part of the composite tourism product.
- To make student confident in the development of a tourism products.

Attendance Requirement:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. **Mid Term Examination: 25%**

2. **End Term Examination: 50%**

3. **Continuous Internal Assessment : 25%**

    - Presentations: 10 %
    - Class test: 10 %
    - Assignments: 5%

Course Contents:

UNIT 1 Conceptual Understanding of the Tourism Product

Definitions of Tourism Product as given by different thinkers

Elements of Tourism Product

Four levels of the Visitor Attraction Product

Characteristics of Tourism Product

Tourism Production Process

Product Life Cycle

Forms of Tourism Product: Natural Tourism Product , Man Made Tourism Products and

Mixed Tourism Products

UNIT 2 Natural Tourism Products of India

Wild Life Sanctuaries and National Parks

Beaches

Hill Stations

UNIT 3 Pilgrimage Destination of India

Hindu pilgrimage Destinations: Char Dhams, Char dams of Himalyan towns of Badrinath, Kedarnath, Gangotri and Yamunotri; Mathura, Varanasi, Vrindavan and Ayodhya; Kumbh Mela sites: Allahabad, Haridwar, Nashik and Ujjain; 12 Jyotirlingas; Shakti peethas: Kalighat and Kamakhya; Vaishno Devi, Amarnath, Shirdi, Tirupati.

Sikh Pilgrimage Destinations: Paonta Sahib, Golden Temple, Hemkund Sahib, Anand pur Sahib, Gurudwara Bangla Sahib, Sis Ganj gurudwara, Muslim Pilgrimage Sites

Muslim Pilgrimage Destinations: Ajmer Sharif, Haji Ali, Jama Masjid, Sheikh Salim Chisti, Tomb Fateh Puri Sikri.

Jain Pilgrimage : Dilwara temples, Mahavir Ji, Palitana, Shravanbelagola

Christian Pilgrimage Destinations: Churches in Goa, Mt. Mary Church, Sacred Heart and Vailankanni. Others.

UNIT 4 Museums and Monuments of India

Hawa Mahal, Taj Mahal, Mysore Palace, Victoria Memorial,

Charminar, Sanchi Stupa, Qutab Minar, Cellular Jail, Gateway of India,

Vidhana Soudha, Mucca Masjid, Lotus temple etc.

UNIT 5 Performing Art Forms of India

Dance forms in India:Bharatnatyam, Kuchipudi, Kathak, Kathakali, Manipuri, Mohiniyattam, etc

Theatres in India

Prescribed Text Books: Nil

Suggested Additional Readings:

Lonely Planet Book Series on Indian States.

Extensive World Wide Web based resources