## 1.0 Introduction

### *1.1 Introducing Noakhali Science and Technology University (NSTU)*

The creation of a band of skilled manpower equipped with latest knowledge of science and technology is a must to achieve a prestigious position in this modern world. As a part of ensuring quality education, with immense expectations of the southern coastal inhabitants of Bangladesh, a new university named Noakhali Science and Technology University (abbreviated as NSTU) was established on 15 July 2001 enacting the Noakhali Science and Technology University Act 2001. Finally, it started its academic activities on 22 June 2006. The inclusion of the study of humanities implies the urge felt by the concerned authority to create leaders who will fashion a more humane and just world. The university not only engages itself in teaching and research but also provides societal services for the benefit of rural and urban populations.

At present the University consists of 5 Faculties, 28 Departments, 2 Institutes, 5 dormitories, The number of teachers 317 and students 7301.

The main purpose of the University was to create new areas of knowledge and disseminate this knowledge to the society through its students. Since the inception, University of Dhaka has a distinct character of having distinguished scholars as faculties who have enriched the global pool of knowledge by making notable contributions in the fields of teaching and research.
Presently, the University enrolls more than 1200 students, on merit basis, in the undergraduate programs of different Departments under the Faculties and the Institutes. Besides conducting teaching courses in the 4-year Bachelor and 1-year Master Program, the University also trains up many researchers in different disciplines.

### *1.2 Introducing Faculty of Business Administration (FBA)*

The Faculty of Business Administration is renowned for our approachable faculty and the quality of our graduates. Our connections with local and international business leaders and entrepreneurs, our active student body and our highly skilled and knowledgeable faculty means we deliver high-quality programs. We are committed to the success of our students and the advancement of the greater community. Our staff is skilled at providing the best support for students, and our faculty draws upon their rich and varied research to create a one-of-a-kind learning experience with impact.
At the inception of the faculty there was one department named department of Business Administration. During the academic session 2017-2018, two Departments were also added to this Faculty namely, the Department of Tourism & Hospitality Management and the Department of Management Information Systems (MIS).At present there are 19 teachers, 7staffs and500 students in the 3 Departments under the Faculty of Business Administration.

Plan for your success with undergraduate and graduate programs offered by three of NSTU's most reputed business departments!

### *1.3 Introducing Department of Management Information Systems*

Management Information Systems (MIS) is an academic discipline which is dealing with the study of people, technology, organizations and the dynamic inter-dependencies among these.

MIS broadly refers to the modern technologies and technology-enabled systems those are providing Appropriate tools and mechanisms to the managers for ensuring effective and efficient way of managing business processes within an organization. The primary responsibility of the MIS managers is to maximize organizational Excellency by applying appropriate technology to solve business problems. On the other hand,

information is considered as vital antecedent of a business problem solving process, but information will not worth enough if it cannot serve the purpose for deeply, accurately and with utmost reliability. Within Here, MIS graduates learn how to ensure these characteristics of information to guarantee operational righteousness of the organizations. They also learn how to manage various information systems so that they can best serve the needs of appropriate stakeholders of an organization. Furthermore, they learn how to create and operationalize a full-fledged and automated system for gathering, sorting and storing data. Furthermore, they also must learn how to ensure information systems security, how to build a network essential for sharing data among the users and sophisticated business analytics for data analysis.
On the backdrop of this necessity affiliated with the dynamism of modern technologies, a proposal of establishing Department of Management Information Systems (MIS) was put before the University authority for approval. In 2017, therefore, Department of Management Information Systems (MIS) sailed its flagship under the Faculty of Business Administration (FBA), Noakhali and Technology University and brought a breakthrough into the field of business studies in Bangladesh.

### *1.4 Bachelor of Business Administration (BBA) Program*

BBA in MIS is an undergraduate program of 150 credit hours in four years divided into eight semesters. It is a terminal degree. For theory course, there will be 3 hours class in a weak equivalent to 3 credit hours but 2 hours class in a weak for 2 credit hours and for session (lab/field work/project) courses there would have 1 or 2 hours course work in a weak on the basis of the credit of the course in the term. Each semester is of 19 weeks of which 15 weeks are for class-teaching, 1 week is for break and 3 weeks are for holding the semester final examinations. Total weight of each course is equivalent to 100 marks. There are three in-course tests (a.k.a. mid-term/class test exams) of minimum one-hour duration each carrying 25weightages (three exams both carrying total 25%), while a class performance/ quizzes/attendance carry 5% weight age. The final examination carries70% weight age, whereas the scripts are evaluated by two examiners. When the difference of marks given by two examiners is more than 20%, then the scripts will be forwarded for evaluation to third and further examiners. The session (Lab/ Field work) courses marks will be distributed 10% class participation /contact with teacher, 70 % international criticism/evaluation/observation and 20 % on final jury/viva-voce. The thesis/ project course mark will be distributed on the basis of Evaluation 60%, Viva-Voce 20% and Presentation 20%.

The students of BBA program are exposed to various business and information technology related courses in order to enable them to deal with the application of modern tech-based knowledge in business and society.

### *1.5Vision of Bachelor of Business Administration (BBA) Program*

Bachelor of Business Administration (BBA) in MIS undergraduate program will teach information and management students, who will design, develop, maintain and manage the information systems to support managerial decision making at all levels.

### *1.6 Mission of Bachelor of Business Administration (BBA) Program*

The mission of Bachelor of Business Administration (BBA) in MIS is to develop and implement the most contemporary education and research program by closely monitoring innovations in business field. The program will act as pioneer in IS implementation and educate students who will produce nationally and internationally competitive state of the art research to add value to the industry.

### *1.7 Objectives of Bachelor of Business Administration (BBA) Program*

This program aimsfor meeting the needs for skilled human resource of our nation based on the available material and financial resources. The general objectives are:

- To develop and promote quality and market-driven competitive academic and professional output to fill up the gap of skilled human resource demand in Bangladesh as well as world especially in business.
- Students will be educated with IT skills to develop information systems in companies and with management skills to manage these systems.
- The students will be able carry on the pioneering research in the MIS area through proper utilization of educational resources and latest development of technology from diverse fields of expertise to meet the needs of society at local and international levels
- The graduates will obtain the skills to immediately assume responsibility in the information systems area in an organization after receiving a globally valid undergraduate education.

## 2.0 Curriculum and Course Structure

### *2.1 Curriculum of BBA Program*

**Table 2.1 Course Structure of BBA Program**

(Effective from the academic session of 2017-18)

**Term Wise Syllabus**

**Year -I, Term- I**

| Course Code | Course Title | Class Hours/ Week | | Credits |
|---|---|---|---|---|
| | | Theory | Lab | |
| MIS – 1101 | Introduction to Business | 3 | | 3 |
| MIS – 1103 | Financial Accounting | 3 | | 3 |
| MIS – 1105 | Principles of Management | 3 | | 3 |
| MIS – 1107 | Computing fundamentals | 3 | | 3 |
| BLWS – 1109 | History of the Emergence of Independent Bangladesh | 3 | | 3 |
| | **Total** | | | **15** |

**Year- I, Term- II**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS-1201 | Fundamentals of Management Information Systems | 3 | | 3 |
| MIS-1203 | Business Communication | 3 | | 3 |
| MIS-1205 | Marketing Management | 3 | | 3 |
| MIS-1207 | Mathematics for Business | 3 | | 3 |
| MIS-1209 | Microeconomics | 3 | | 3 |
| BANG-1101 | Bengali Language and Literature | 3 | | 3 |
| MIS-1206 | Viva Voce | | | 2 |
| | **Total** | | | **20** |

**Tear – II, Term- I**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS – 2101 | Programming Fundamentals | 3 | | 3 |
| MIS – 2102 | Structured programming Lab | | 1 | 1 |
| MIS – 2103 | Financial Management | 3 | | 3 |
| MIS – 2104 | Field work | | 2 | 2 |
| MIS – 2105 | Corporate and Business Law | 3 | | 3 |
| MIS – 2107 | Human Resource Management | 3 | | 3 |
| MIS – 2109 | Macro Economics | 3 | | 3 |
| | **Total** | | | **18** |

**Year- II, Term - II**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| MIS-2201 | Data Structure and Algorithm | 3 | | 3 |
| MIS- 2202 | Data Structure and Algorithm Lab | | 1 | 1 |
| MIS-2203 | Business Applications Programming | 3 | | 3 |
| MIS-2204 | Object Oriented Programming Lab | | 1 | 1 |
| MIS -2205 | Advance Information systems | 3 | | 3 |
| MIS- 2207 | Organizational Behavior | 3 | | 3 |
| MIS- 2209 | Taxation &Auditing | 3 | | 3 |
| MIS- 2206 | Viva Voce | | | 2 |
| | **Total** | | | **19** |

**Year-III, Term-I**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS – 3101 | Database Management | 3 | | 3 |
| MIS – 3102 | Database Management Lab | | 1 | 1 |
| MIS – 3103 | Statistics for Business | 3 | | 3 |
| MIS – 3104 | Statistics for Business Lab | | 1 | 1 |
| MIS – 3105 | Production & Operations Management | 3 | | 3 |
| MIS – 3107 | IT Governance & Project Management | 3 | | 3 |
| MIS – 3109 | International Business | 3 | | 3 |
| | **Total** | | | **17** |

**Year-III, Term-II**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS-3201 | Management Science | 3 | | 3 |
| MIS-3202 | Management Science Lab. | | 1 | 1 |
| MIS-3203 | Data &Telecommunications Management | 3 | | 3 |
| MIS-3204 | Data and Telecommunications lab. | | 1 | 1 |
| MIS-3205 | Electronic Banking & Insurance Management | 3 | | 3 |
| MIS-3207 | Business Research Method | 3 | | 3 |
| MIS-3209 | Management Accounting | 3 | | 3 |
| MIS-3206 | Viva Voce | | | 2 |
| | **Total** | | | **19** |

**Year-IV, Term-I**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS – 4101 | Business Analytics | 3 | | 3 |
| MIS – 4102 | Business Analytics lab | | 1 | 1 |
| MIS – 4103 | Entrepreneurship & Innovation Management | 3 | | 3 |
| MIS – 4104 | Research Project and Thesis | | 2 | 2 |
| MIS- 4105 | Information Security | 3 | | 3 |
| MIS – 4107 | Supply Chain Management and Logistics | 3 | | 3 |
| MIS – 4109 | Knowledge Management Systems | 3 | | 3 |
| | **Total** | | | **18** |

**Year-IV, Term-II**

| Course Code | Course Title | Theory | Lab | Credits |
|---|---|---|---|---|
| MIS-4201 | Business Intelligence | 3 | | 3 |
| MIS-4202 | Business Intelligence Lab | | 1 | 1 |
| MIS-4203 | E-Business and Digital Marketing | 3 | | 3 |
| MIS-4204 | Digital Marketing Lab with project | | 2 | 2 |
| MIS-4205 | Decision Support System | 3 | | 3 |
| MIS-4207 | IT Investment Management | 3 | | 3 |
| MIS-4209 | Strategic Management & Information Systems | 3 | | 3 |

| | | | | |
|---|---|---|---|---|
| MIS-4206 | Viva Voce | | | 2 |
| | **Total** | | | **20** |
| **MIS- 4200** | **Industrial Attachment and Thesis (100 Marks)** | | 4 | **4** |
| **Total** | | | | **150** |
| | | | | |

***2.2 BBA Course Descriptions***

**Lesson Plan**

| Subject: | Topic: | Class:<br>BBA (Hon's) | Class Duration: | |
|---|---|---|---|---|
| Learning Objectives: | | | | |
| Lesson Development Phase | Teacher Activity | Learner Activity | Resources used | Assessment |
| Beginning | | | | |
| Development | | | | |
| Ending | | | | |
| Name & Signature of the Course Teacher | Name & Signature of the Course Coordinator | | | |

**MIS-1101: INTRODUCTION TO BUSINESS**
**Type : Compulsory**
**Term : I**
**Credit : 3**
**Course Description:** This course provides understanding to the students about the business especially in areas in business ownership, organization and functions, and the systems. It also supplements in learning how to controlcan be established to achieve the outcomes of the business organizations.

**Course Objectives:** The Objectives of the course are as follows:

- Study the concepts, principles and operations of private enterprise.
- Compare and contrast sole proprietorships, partnerships, and corporations – and the advantages and disadvantages of each.
- Explore the functions of modern business management, marketing, and ethics and social responsibility that can improve or tarnish a brand.
- Look at the human resource management side of running a business, and learn how employers can motivate their employees.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| After completing this course, the students will be able to:<br>Exhibit an understanding of the concepts, principles, and | Lecture | Final Exam, Class test, |

| | | |
|---|---|---|
| operation of the private enterprise system. | | Quiz |
| Evaluate and contrast major economic systems in businesses throughout the world. | Lecture | Final exam, class test |
| Describe the various legal forms of business ownership such as sole proprietorship, partnership and corporation, the nature of each, the processes involved in creating each and the advantages and disadvantages of each | Lecture + Group discussion | Final exam, presentation, case solving, class test |
| Demonstrate the importance of business ethics and social responsibility to the long-term success of businesses and society's well-being. | Lecture + Discussion | Final exam, Case solving, quiz |
| Evaluate the importance of EPZ and Stock exchange | Lecture | Final exam+ class test |
| Demonstrate the importance of import and export and its procedure | Lecture+ Group Discussion | Final exam+ Class test |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Understanding Business:**<br>Definition, Characteristics, Elements, Objectives, Economic System, Scope of Business, Principles of Business, Environment of Business. | 6 |
| Chapter-2 | **Forms of Business:**<br>Factors Affecting Selection of The Forms of Business, Sole Proprietorship, Partnership, Company, State Enterprise, Co-Operatives, Other Types of Ownership, Joint Ventures and S Corporations, Mergers and Acquisitions. | 5 |
| Chapter-3 | **Organizing Business and Entrepreneurship:**<br>The Nature Of Entrepreneurship and Small Business, Advantages of Small-Business Ownership, Disadvantages of Small-Business Ownership, Starting a Small Business. | 5 |
| Chapter-4 | **Business Ethics and Responsibilities:**<br>Definition, Business Ethics and Social Responsibility, the Role of Ethics in Business, the Nature of Social Responsibility, Responsibilities to Stakeholders. | 5 |
| Chapter-5 | **Business Out of Border: International Business:**<br>The Role of International Business, International Trade Barriers, Trade Agreements, Alliances, And Organizations, International Business Strategies, Developing Strategies. | 4 |
| Chapter-6 | **Motivating and Managing the Workforce:**<br>Nature of Human Relations, Theories of Employee Motivation, McGregor's Theory X and Theory Y, Theory Z, Variations on Theory Z, Equity Theory and Expectancy Theory, Strategies for Motivating Employees, Planning for Human Resources Needs, Recruiting and Selecting New Employees, Developing the Workforce, Compensating the Workforce and Financial Compensation, Morale among the Survivors and Benefits. | 4 |
| Chapter-07 | **Marketing and Marketing strategies:**<br>Developing a Marketing Strategy, Marketing Research and Information Systems, Buying | 4 |

| | | |
|---|---|---|
| | Behavior, The Marketing Environment, The Marketing Mix and strategies. Promotion Mix. | |
| Chapter-08 | **Understanding Accounting and Financing**<br><br>Understanding different financial statements, Calculation of cost of goods sold, gross profit, operating expenses, net profit or loss; The Role and Responsibilities of Financial Managers, the Financial Planning Process and Budgeting, Short-term and Long-term Financing. | 3 |
| Chapter-09 | **E-Business and Management Information Systems**<br><br>E-Business and the Nature of E-Business, E-Business Models, Introduction to Management Information Systems, Applications, Planning and Project Management, Business Practice of IT. | 3 |

**Recommended Books:**

- Steven J. Skinner and Johm. M. Ivancevich, ***Business for the 21st century***. IRWIN, IL. USA
- William G. Nickels, James M. McHugh and Susan M. McHugh, ***Understanding Business,*** McGraw-Hill Irwin, NY, USA
- Jeff Madura, ***Introduction to Busines,*** South-Western College Pub, Thomson Learning Inc.,USA
- Monjur Morshed Mahmud and Salim Uddin- ***Introduction to Business and Doing Business in Bangladesh.***

**MIS-1103: FinancialAccounting**
**Type : Compulsory**
**Term : I**
**Credit : 3**

**Course Description**
Students will learn how to make effective role of accounting systems for Decision-making and also ensures to evaluate financial statements based on the available reporting practices.

**Course Objectives**

The course gives students the necessary background to: (1) understand the concepts and measurements that underlie financial statements, (2) develop the skills needed to analyze financial statements effectively, and (3) gain an understanding of the choices enterprisesmake in reporting the results of their business activities.

**Upon successful completion of the course, a student will be able to:**

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Acquire knowledge about general aspects of business operations | Lecture | Final Exam, Class test, Quiz |
| Describe the role of accounting information system and its limitations | Lecture | Final exam, class test |
| Explain the concepts and procedures of financial reporting, including income statement, statement of retained earnings, | Lecture + Group discussion | Final exam, presentation, |

| | | |
|---|---|---|
| balance sheet, and statement of cash flows. | | case solving, class test |
| Identify the basic economic events most common in business operations and be able to report the events in a generally accepted manner, including the impacts of alternative accounting methods on financial statements. | Lecture + Discussion | Final exam, Case solving, quiz |
| Tabulate the basic differences between the Generally Accepted Accounting Standards (GAAP) in the United States and the International Financial Reporting Standards (IFRS). | Lecture + Internet Exercise | Final exam+ class test+ Presentation |
| Locate and analyze financial data from annual reports of corporations. | Lecture+ Internet Exercise | Final exam+ Class test+ Presentation |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Accounting in Action/ Accounting in Business:**<br>The activities and users associated with accounting. Building blocks of Accounting. Accounting equation, Effect of business transactions on the accounting equation, Four financial statements and how they are prepared. | 3 |
| Chapter-2 | **The Recording Process:**<br>Describe how accounts, debits and creditsare used to record business transactions, Journal, Ledger, Trial Balance. | 3 |
| Chapter-3 | **Adjusting the Accounts:**<br>Explain the accrual basis of accounting and the reasons for adjusting entries, Adjusting entries for deferrals, Adjusting entries for accruals, Adjusted ledger, And Adjusted Trial Balance. | 3 |
| Chapter-4 | **Completing the Accounting Cycle:**<br>Prepare worksheet, Prepare closing entries, Prepare Post-Closing entries, Accounting cycle. post-closing trial balance, the required steps in accounting cycle, correcting entries, Reversing entries, Income statement, Ownership statement, Classified balance sheet | 4 |
| Chapter-5 | **Accounting Information Systems**:<br>Basic concepts of an accounting information system, Subsidiary ledger, Special Journals. | 3 |
| Chapter-6 | **Accounting for Partnership:**<br>Discuss and account for the formation of a partnership, Prepare and analyze a comprehensive stockholders' equity section. Content of corporation income statements. | 5 |
| Chapter-7 | **Statement of Cash Flows:**<br>Discuss the usefulness and format of the statement of cash flows, prepare a statement of cash flows using indirect method, and analyze the statement of cash flows. | 5 |
| Chapter-8 | **Financial Statement Analysis:** | 5 |

| | | |
|---|---|---|
| | Apply horizontal and vertical analysis to financial statements, Analyze a company's performance using ratio analysis, Apply the concept of sustainable income. | |
| Chapter-9 | **Managerial Accounting:**<br>Features of managerial accounting and the functions of management, Classes of manufacturing cost and the differences between product and period cost, How to compute cost of goods manufactured and prepare financial statement, Trends of managerial accounting. | 4 |
| Chapter-10 | **Cost-Volume-Profit:**<br>Explain variable, fixed and mixed cost, Apply high-low method to determine the components of mixed cost, Prepare CVP income statement, Break-even point. | 4 |

***Recommended Books:***

1. Weygandt, Kimmel and Kieso- ***Accounting Principles***, 12th Edition.
2. Larson, Wild and Chiappetta, ***Fundamental Accounting Principles***, 17th Edition.
3. R, H Hermanson, J. D. Edwards and L.G. Rayburn***, Financial Accounting***.

**MIS-1105: PRINCIPLES OF MANAGEMENT**
**Type : Compulsory**
**Term : I**
**Credit : 3**
**Course Description:** This is an introductory course about the management of organizations. It provides learning on types of enterprises; basic management philosophy and decision making principles.

**Course objectives:**
The objectives of the course are as follows:

- Hold informed conversations with functional specialists and understand how to draw effectively on their expertise in managing organizations.
- Understand the relevance of the western management principles and theories, for local settings.
- Understand the Islamic perspective of managing businesses and organizations.
- Demonstrate empirical investigative skills by producing an in depth analysis of management situation usually presented through case studies.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to:<br>demonstrate their knowledge of business and management principles | Lecture | Final Exam+ Class test |
| demonstrate critical-thinking and problem solving skills | Lecture | Case Solving |
| Explain the four management functions: planning, organizing, leading, and, controlling. | Lecture + group discussion | Final Exam+ Class test |
| demonstrate a sense of responsibility and a capacity for service | Lecture | Final exam |
| Analyze and apply management theory | Lecture | CT+ Final exam |
| demonstrate an understanding of their personal interests, abilities, strengths, and weaknesses as the pertain to their chose career field | Lecture | Final exam + presentation |
| Utilize the appropriate approach and analytical skills to deal with issues that arise when one is employed. | Lecture | Final exam+ class test+ case solving |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction to Management:**<br>Definition of management, Nature, purpose and principles of management – Need for organizations and managers – Managerial responsibility – Types of management process – Skills – Managerial roles – Concept of productivity, effectiveness and efficiency – Managerial and organizational performance. | 5 |
| Chapter-2 | **Planning:**<br>Nature of Planning – Types of Planning – Steps in planning – Tools and techniques for planning – The planning process | 5 |
| Chapter-3 | **Objectives:**<br>Nature of objectives – Management by Objectives (MBO) – The process of MBO – Setting objectives – Benefits and weakness of MBO | 5 |
| Chapter-4 | **Decision Making:**<br>Decision making process – Problem and opportunity finding – Nature of managerial decision making – Other factors in decision making – Decision Support Systems | 5 |
| Chapter-5 | **Organization:**<br>Organizational Structure – Division of work – Span of management – Departmentation – Line and Staff – Delegation of authority – Centralization and decentralization – Coordination – Committee and group decision making | 5 |
| Chapter-6 | Human factors in managing – Relevant theories – Creativity and innovation – Motivation – Leadership. | 5 |
| Chapter-7 | **Staffing:**<br>Meaning and Importance of staffing – Selection – Training – Appraisal related issues on staffing. | 5 |
| Chapter-8 | **Controlling:**<br>Meaning and importance of control – Types of control methods – Control process – Requirements for effective controls – Information Systems and control. | 4 |

***Recommended Books:***

- Harold Koontz and Heinz Weihrich, ***Management,*** McGraw-Hill Book Company, New York, USA.
- James A.F. Stonner and R. Edward Freeman, ***Management,*** Prentice Hall of India Private Limited, New Delhi.
- R.W. Griffin, ***Management,*** A.I.T.B.S. Publishers and Distributor, New Delhi.
- John M. Ivancevich, James H. Donnelly, Jr. and James L. Gibson, ***Management: Principles and Functions,*** Richard D. Irwin Inc. Illinois, USA.

**MIS 1107: COMPUTING FUNDAMENTALS**
**Type : Compulsory**
**Term : I**
**Credit : 3**
**Course Description:**
This course provides a general introduction to computers, applications software, programming, hardware and overall computer information systems. Emphasis will be placed on computer literacy topics such as hardware, software, operating systems, programming languages, data communications, applications software and information systems. This course is suitable for students who wish to use the computer as a tool for problem solving in the context of modern business arena.

**Course Objectives:**

In whole, the course will help students to understand-

- the fundamentals of computing systems and the usage of computer devices
- the concepts regarding computer hardware and software, data processing, system ergonomics, security and ethical issues, data communication and networking, mobile computing, the Internet etc.
- the hands-on use of office applications and multimedia
- an in-depth concept of why computers are essential components in business, education and society.

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Explain the fundamental concepts of computing systems | Lecture | Quiz + Class Test + Term Final |
| Use an operating system software | Group Discussion | Class Test + Term Final |
| Describe the major components of applications software in the areas of word processing, spreadsheets, database management, presentation graphics, data communications, and Internet | Lecture + Team Work | Presentation + Project + Term Final |
| Analyze a problem, decide whether it can or should be solved by a computer, and provide an appropriate solution | Lecture + Case Study | Presentation + Class Test Term Final |
| Use Web browsers, search engines and e-mail and other forms of modern communication technology | Lecture+ Team work | Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction:**<br>Introduction to computations: early history of computing devices; computers; major components of a computer, processor, memory, I/O devices; software: Operating system, application software; basic architecture of a computer; Basic Information Technology; the Internet. | 6 |
| Chapter-2 | **Number Systems:**<br>Binary, octal, hexadecimal, decimal conversion; binary arithmetic, 1's complement 2's complement. | 5 |
| Chapter-3 | **Logic Gates:**<br>Primary gates, universal gates, de-morgan's law, karnaughmap, register, counter, encoder, decoder, multiplexer. | 5 |
| Chapter-4 | **Input & Output Devices:**<br>Keyboard, mouse, joystick, monitor, OCR, OMR, barcode reader. | 5 |
| Chapter-5 | **Operating Systems:**<br>Operating system structure, UNIX, windows, Mac and android operating systems. | 4 |
| Chapter-6 | **Database System:**<br>Introduction to concepts and methods for storing and manipulating data in stored form, File retrieval and organization, Database models and designing of database systems. | 4 |

| | | |
|---|---|---|
| Chapter-7 | **Software Engineering:**<br>Software engineering principles, life cycle models, sizing, estimation, planning, and control, requirements specifications, functional specification and design, integration and testing strategies, quality assurance, configuration management, software maintenance. | 4 |
| Chapter-8 | **Web Technologies:**<br>Browser and Web Document, static, Active and Dynamic pages, Programming paradigms and Web programming. | 3 |
| Chapter-9 | **Introduction to IT:**<br>IT for telecom networks, IT applications, intelligent systems and E-commerce, Information Technology and systems, Information Security, Multimedia, Management Information System (MIS) | 3 |

**Recommended Books:**

- **Introduction to Computer**- Peter Norton
- P. K. Sinha**, "Fundamentals of Computing"**, TMH New Delhi.
- V.Rajaraman, **"Fundamentals of Computers"**, Prentice-Hall of India.
- **Introduction to Computer Fundamentals** – Lutfur Rahman &Alamgir Hossain

**BLWS-1109: History of the Emergence of Independent Bangladesh**
**Type : Compulsory**
**Term : I**
**Credit : 3**
**Course Rationale:** History of the emergence of Independent Bangladesh is a basic part of our national history.It is a mandatory course for all Departments and Institutes of NSTU. This knowledge will be needed in various job sectors.

**Course Objectives:** The Objectives of the course are as follows:

1. To make the student knowledgeable about the emergence of Bangladesh.
2. To prepare them to face the question on Bangladesh Affairs in various job interviews.

| Learning Outcomes | Course Content | Teaching-Learning Strategy | Assessment Strategy | Contact Hours |
|---|---|---|---|---|
| Students will be able to:<br>• answer the scope and limitations of the course. | **Introducing:**<br><br>History of the Emergence of Independent Bangladesh and its Scope | • Delivering Lecture | • Oral Test | 5 |
| Students will be able to:<br>• narrate the geographical condition of Bangladesh.<br>• describe the anthropological identity of *Bengalis*and small ethnic groups of Bangladesh.<br>• write on the | **Description of the Country and its People**<br>• Description of the Country and its People<br>• Ethnical Composition<br>• Language | • Delivering Lecture<br>• Power Point (PP) projection<br>• Presenting through image, audio and video.<br>• Showing the evolution of Bangla fonts. | • Written Test<br>•<br><br>Assignment | 6 |

| | | | | |
|---|---|---|---|---|
| advancement of Bangla language. | | | | |
| Student will be able to:<br>• explain partition of the Sub-Continent 1947.<br>• differentiate the economic condition of two wings of Pakistan.<br>• write on the language movement of 1948 and 1952.<br>• discuss on the military rule of Ayub and Yahia Khan. | **Partition of the Sub-Continent 1947, Structure of Pakistan, Disparity, the Language Movement and the Rule of Ayub-Yahia Khan (1958-1971)**<br>• Lahore Resolution,1940<br>• The creation of Pakistan 1947<br>• Central and Provincial Structure<br>• Economic, Social and Cultural Disparity<br>• Misrule of Pakistan and Struggle for Democratic Politics<br>• The Language Movement : Context and Phases<br>• Rise of Nationalism and the Movement for Self-Determination<br>• Fall of Ayub Khan and Yahia Khan's Rule, Abolition of One Unit, Universal Suffrage, LFO | • Delivering Lecture<br>• Showing reverent images and videos. | • Written Test<br>• Oral test<br>• Assignment | 6 |
| Students will be able to:<br>• narrate the six point movement and its consequences.<br>• discuss about the Agartala Case and mass upsurge of 1969. | **Rise of Nationalism and the Movement for Self-Determination**<br>• The Six Point Movement of Sheikh Mujibur Rahman<br>• Reactions, Importance and Significance of the Six Point Movement<br>• The Agartala Case, 1968<br>• Students' 11-Points Movement<br>• The Mass-Upsurge of 1969 | • Delivering lectures<br>• Showing relevant image and video<br>• Group discussion | • Written Test<br>• Presentation<br>• Assignment | 6 |
| Students will be able to:<br>• analyze the election of 1970, non-cooperation movement of March 1971 and the declaration of Independence by Bangabandhu | **Election of 1970, Non-cooperation Movement of March 1971 and the Declaration of Independence by Bangabandhu**<br>• Election Result and Central's Refusal to Comply<br>• The Non-cooperation Movement, the 7th March Address, Operation Searchlight | • Delivering lectures<br>• Showing relevant image and video<br>• Panel discussion | • Written Test<br>• Short Question<br>• Assignment | 6 |

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| | • Declaration of Independence by Bangabandhu and His Arrest<br>• The Proclamation of Independence and the Formation of Bangladesh Government | | | |
| Students will be able to:<br>• analyze the formation and role of *Mukti Bahini, FF, Mujib Bahini,* local forces and other guerillas.<br>• narrate Crime Against Humanity being held in the Liberation War of Bangladesh.<br>• interpret the role of anti-Liberation forces in 1971.<br>• describe the trial of Bangabandhu and its reactions.<br>• explain the role of India as well as Indo-Bangladesh joint force in the Liberation War. | **The War of Liberation and Formation of Independent Bangladesh**<br>• The Spontaneous Early Resistance and Subsequent Organized Resistance (Mukti Fouj, Mukti Bahini, Guerillas and the Frontal Warfare<br>• Genocide, Repression of Women, Refugees<br>• Publicity Campaign in the War for Liberation (*Swadhin Bangla Betar Kendra*, the Campaigns Abroad and Formation of Public Opinion<br>• The Anti-Liberation Activities of the Occupation Army, the Peace Committee, AL-Badar, Al-Shams, Rajakars, Pro-Pakistan Political Parties and Pakistani Collaborators, Killing of the Intellectuals<br>• Trial of Bangabandhu in Pakistan and Reaction of the World Community<br>• The Contribution of India in the Liberation War and the Role of International Communities<br>• Formation of Joint Command and the Victory | • Delivering lectures<br>• Showing relevant images and videos<br>• Role play | • Written Test<br>• Assignment<br>• Presentation<br>• Debating | 5 |
| Students will be able to:<br>• analyze the role of Bangabandhu in reconstructing the war ravaged country.<br>• explain the formation of constitution.<br>• explain the assassination | **Reconstruction of Bangladesh after 1971**<br>• Bangabandhu's returning to Bangladesh 10 January 1972<br>• Formation of the Constitution<br>• Reconstruction of the War | • Lecture<br>• Demonstration<br>• Audio-video projection. | • Written Test<br>• Assignment<br>• Panel Discussion | 5 |

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| of Bangabandhu and its aftermath. | Ravaged Country<br>• Conspiracy of the Anti-Liberation Activists and the Murder of Bangabandhu | | | |

**Books Recommended**


Anthony Mascarenhas : *The Rape of Bangladesh*, New Delhi: Vikas, 1971.
Archer K Blood : *The Cruel Birth of Bangladesh: Memoirs of an American Diplomat,* Dhaka: UPL, 2002.
Sucheta Ghosh :*The Role of India in the Emergence of Bangladesh,* Calcutta: Minerva Associates Pvt. Ltd., 1983.

Avey †gvt †`‡jvqvi †nv‡mb : *¯^vaxb evsjv‡`‡ki Afz¨¨‡qi BwZnvm*
GBP wUBgvg : *evsjv‡`k miKvi 1971*
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bxnviiÄbivq : *ev½vjxi BwZnvm*, Avw` ce©
†ejvj †gvnv¤§` :*¯^vaxbevsjv †eZvi †K›`ª*

gl`y` Avn‡g` :*†kLgywReyiingv‡bikvmbKvj*
gC`yjnvmvb :*gyjaviv 71*
gybZvmxigvgyb :*¯^vaxbevsjv‡`‡kiAfz¨¨‡qi BwZnvm*
†gvnv¤§` dv‡qK D¾vgvb : *gywRebMimiKvi I evsjv‡`‡ki gyw³hy×*
†gvt gvneyei ingvb :*evsjv‡`‡kiBwZnvm, 1947-1971*
†kL gywReyi ingvb : *AmgvßAvZ¥Rxebx*
^mq` AvwZKzjBmjvg I Ab¨vb¨ :*¯^vaxbevsjv‡`‡kiAfz¨¨‡qi BwZnvm*

nviæb-Ai-iwk` :*ev½vwji ivóªwPšÍv I ¯^vaxbevsjv‡`‡kiAfy¨¨q*
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**MIS 1201: FUNDAMENTALS OF MANAGEMENT INFORMATION SYSTEMS**
**Type : Compulsory**
**Term : II**
**Credit : 3**
**Course Description:**
Information is needed in virtually every field of human thought leading to effective decision making. This course will prepare the candidate to understand and evaluate existing information systems and the challenges that managers face in implementing IT keeping in consideration the aims of the organization.

**Course Objectives**
The objectives of the course are as follows:

- To describe role of information systems in business process design
- To identify and apply the current technologies used for obtaining, storing, and communicating information in support of operations and decision-making within a business organization, and
- To acquaint with the concepts of networking, database tools and e commerce

**At the end of the course the students will be able to:**

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|

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|---|---|---|
| Acquaint with different components of the information Systems | Lecture | Final Exam Quiz+ Class Test |
| Acquire knowledge of interactions between Hardware, Software and End Users. | Lecture+ Group Discussion | Final Exam Quiz+ Class Test |
| Distinguish the basic knowledge of networking, different types of network and application of networking in business. | Lecture+ Group Discussion | Final Exam Quiz+ Class Test |
| Learn the knowledge of electronic commerce and business value of e-commerce. | Lecture | Final Exam Quiz+ Surprise Test |
| Capture basic concept of business intelligence and database | Lecture+ Group Discussion | Final Exam Quiz+ Class Test |
| Familiarize the concept of ERP and enterprise application | Lecture | Final Exam Quiz+ Class Test |
| Know how information systems help to achieve competitive advantage | Lecture | Final Exam Quiz+ Presentation |
| Recognize how the information systems can be applied for better business decision making | Lecture | Final Exam Quiz+ Case Solving |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| **01** | **Introduction to MIS**<br><br>Systems, data and information and knowledge, Importance of MIS in the competitive business environment | **6** |
| **02** | **Introduction to Information Technology**<br><br>Foundations of Business Intelligence, Database Management System, Networking, Systems & Application Software | **4** |
| **03** | **Decision Making & Types of Information Systems**<br>Management information systems, transactions processing systems, decisions support systems, expert systems, office automation systems and knowledge-based systems, Structured decision making, unstructured decision making and semi structured decision making. | **5** |
| **04** | **Information Systems Analysis & Design**<br><br>Stages of SDLC, Feasibility study, systems study and systems design, Resource utilization, implementation, audit, operation, maintenance and modification | **5** |
| **05** | **Functional Information Systems**<br><br>Marketing, Finance, HR, Production/Operations information systems. | **5** |
| **06** | **Enterprise Resource Planning**<br><br>Process Mapping, Implementation Management, ERP System | **4** |
| **07** | **Managing a Digital Organization**<br><br>E-Business, Telecommunications, the Internet and Wireless Technology, Digital Markets, Digital Goods | **4** |

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|---|---|---|
| **08** | **Cloud Computing**<br><br>Basics, Applications, Structure and Issues | **3** |
| **09** | **Security, Ethical, and Societal Challenges**<br><br>Security Management, Managing Data Resources, Risk Management | **3** |

***Recommended Books:***

- Laudon K C, and Lane P. Laudon, ***Management Information Systems:Managing the digital firm,*** Prentice Hall, India.
- James O'brien, ***Introduction to Information Systems,*** McGraw–hill, USA
- Haag, S and Cumming, M. ***Management Information System,***Mcgraw-Hill, USA
- Robert C. Nickerson ,***Business & Information Systems***, , 2nd Edition

**MIS-1203: BUSINESS COMMUNICATION**
**Type : Compulsory**
**Term : II**
**Credit : 3**
**Course Description:**
Global workplaces in the 21st century require employees who can communicate effectively in a range of challenging circumstances. This practical course offers students critical knowledge about the complexities of modern communication in organizations especially in business context. Students will have the opportunity to develop and practice their verbal, nonverbal, written and digital communication techniques in a range of simulated workplace situations as well as thorough discussions. These skills will be particularly relevant for students in shifting to the edge of global competitive workplace and further in advancing their career prospects.

**Course Objectives:**
The course will help students to understand-

- the effective use of oral, written and digital communication modes geared in business contexts
- the idea of the power of constructive negotiation and conflict management skills
- the importance of cross cultural communication, team work and analysis of team process
- business etiquette and relationship building skills
- the way of individual skills audit and professional development plan for transition-to-work and career progression purposes.

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Apply business communication strategies and principles to prepare effective communication for domestic and international business situations. | Lecture | Quiz + Class Test + Term Final |
| Identify ethical, legal, cultural, and global issues affecting business communication. | Lecture + Case Study + Group | Group Presentation + Term Final |

| | | |
|---|---|---|
| | Discussion | |
| Effective written communication within a business setting. | Lecture + Case Study + Team Work | Class Test + Term Final |
| Participate in team activities that lead to the development of collaborative work skills. | Case Study + Team Work | Presentation + Class Test + Term Final |
| Compose, revise and deliver accurate business documents using computer technology. | Lecture + Lab | Lab Exam + Term Final |
| Deliver an effective oral business presentation. | Video Case Study + Group Discussion + Team Work | Presentation + Peer Rating + Term Final |
| Utilize analytical and problem solving skills appropriate to business communication. | Video Case Study + Group Discussion + Team Work | Presentation + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Elementary English Skills:**<br><br>Parts of Speech, Sentence, Paragraph, Punctuation, Spelling. | 8 |
| Chapter-2 | **Introduction to Business Communication:**<br><br>Importance of Communication and Roles in Business Context, Responsibilities of Participants, Forms & Barriers, Electronic Communication, Cultural Difference at Home and Abroad, Effective Cross-Cultural Communication, Working Effectively in Teams | 6 |
| Chapter-3 | **Non-Verbal Communication:**<br><br>Definition, Nature, Importance and Techniques | 6 |
| Chapter-4 | **Business Writing Skills:**<br><br>Planning Letters and Memos, Choosing the right words, appropriate tone, Business Letter Writing: *Letters of Request, Appointment, Order, Transmittal, Adjustment Request, Favorable reply, Unfavorable reply, Acknowledgment, Writing notice, agenda and minutes of meetings.*<br>Report Writing: *Informational and analytical, Planning business, Organizing business, Writing style.* | 6 |
| Chapter-5 | **Employment Communications:**<br><br>Preparing a CV/Resume, Writing and application letter, Completing an application form. | 6 |
| Chapter-6 | **Communication at Organizational Level:**<br><br>Interpersonal communication, Oral and written communication, Formal and informal communication, Problems of organizational communication in the business enterprises and suggestions for improvement, Commercial Terms and Abbreviations. | 7 |

**Recommended Books:**

- Tom Means, ***Business Communication***, McGraw-Hill Publishers, USA

- Raymond V. Lesikar, John D. Petitt, Jr. and Marie E. Flatley, ***Basic Business Communication,*** Irwin, Chicago, USA.
- M.J. Burnett and A. Dollar, ***Business English : A Communication Approach,*** Allyn and Bacon, Inc.,
- **Barron's TOEFL** and **Cliffs TOEFL.**

**MIS-1205: MARKETING MANAGEMENT**
**Type : Compulsory**
**Term : II**
**Credit : 3**
**Course Description:** In this course topics related to planning, pricing, promoting, and distributing goods and services with a challenge to satisfy present and potential customers. The course incorporates current developments in marketing to acquaint students with the present-day challenges of marketing activities.

**Course Objectives:** The overall aim of the course is to prepare students for a future career in a market environment. The objectives of the course are as follows:

- Creation of Demand
- Customer Satisfaction
- Market Share
- Generation of Profits
- Creation of Goodwill and Public Image

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to: Communicate effectively in a variety of organizational settings. | Lecture | Final Exam+ Class test |
| Use creative, critical and reflective thinking to address organizational opportunities and challenges | Lecture | Case Solving |
| Demonstrate ethical and socially responsible behavior. | Lecture + group discussion | Final Exam+ Class test |
| Develop self-leadership strategies to enhance personal and professional effectiveness. | Lecture | Final exam |
| Assess business processes relative to organizational goals | Lecture | CT+ Final exam |
| Examine the role of consumers as purchasers and users of goods and services using various theories and models of consumer behavior. | Lecture | Final exam + presentation |
| Knowledge of society and culture, and skills relevant to civic engagement | Lecture | Final exam+ class test+ case solving |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Marketing and Marketing Management Process:**<br>Marketing functions and their characteristics, Marketing's role - facilitating exchange in society, Marketing institutions, Marketing culture, The marketing management process. | 6 |

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|---|---|---|
| Chapter-2 | **The Strategic Role of Marketing:**<br><br>Corporate, business and marketing strategies – different issues at different organizational levels, Strategic decisions at the corporate and the business unit level, Marketing implications in business strategies. | 5 |
| Chapter-3 | **Analyzing the Marketing Environment and Buying Behavior:**<br><br>Conducting Marketing research and forecasting demand: Marketing research, Marketing Research Process, Measuring Marketing Productivity, and forecasting and demand measurement. | 5 |
| Chapter-4 | **Market Segmentation:**<br><br>Segmentation, Targeting, and Positioning, Managing segmentation process, Targeting strategies, Positioning decisions. | 5 |
| Chapter-5 | **Industry and Competitor Analysis:**<br><br>Identification of industry groups and potential competitors, The importance of individual competitor analysis. | 4 |
| Chapter-6 | **Marketing Research:**<br><br>Market research types and process, Market measurements, Absolute and relative market potentials. | 4 |
| Chapter-7 | **Business Strategies, and Marketing Planning:**<br>The Marketing Planning Process, The fit between business and marketing strategies, Marketing Mix Decision (Product, Price, Place, Promotion). | 4 |
| Chapter-8 | **Business and Marketing Strategies Implementation:**<br>Business and marketing strategies implementation issues, Strategy, structure and process, Marketing actions. | 3 |
| Chapter-9 | **Monitoring and Controlling Marketing Programs:**<br>The control process, The marketing audit. | 3 |

**Recommended Books:**

1. P. Kotler and K.L. Keller, ***Marketing Management***, Perarson, Prentice Hall, USA.
2. P. T. Kotler and G. Armstrong, ***Principles of marketing***, Pearson, Prentice Hall, USA.
3. M. McDonald and H. Wilson, ***Marketing Plans: How to prepare them to use them***, Pearson, Prentice Hall, USA.

**MIS-1207: MATHEMATICS FOR BUSINESS**
**Type : Compulsory**
**Term : II**
**Credit : 3**
**Course Description:** This course equips students understanding of the basic mathematical concepts covering such topics as percentages, interest, trade, bank and cash discounts, payroll, time value of money, and business loans.

**Course Objectives:**

- Communicate mathematics effectively.
- Demonstrate a computational ability in solving a wide array of mathematical problems.
- Differentiate between valid and invalid mathematical reasoning.
- Develop mathematical ideas from basic concepts.
- Utilize mathematics to solve theoretical and applied problems.
- Identify applications of mathematics in other disciplines and in society.

| Learning Outcome | Teaching Learning | Assessment |
|---|---|---|

| | Strategy | Strategy |
|---|---|---|
| Define basic mathematics including addition, subtraction, multiplication, division, decimals, fractions, and percentages to solve business application problems | Lecture | Final Exam Assignment |
| Explain basic methods of Number System, linear Equations, types and methods of Quadratic Equations, Straight lines , Determinants & Matrices etc. | Lecture | Final Exam Assignment |
| Solve the problems of Number System, linear Equations, types and methods of Quadratic Equations, Straight lines, Determinants & Matrices etc. | Lecture | Final Exam Class Test |
| Apply acquired knowledge and skills with practical problems in business practices. | Lecture | Final Exam Class Test |
| Reconcile and analyze various banking statements and services. | Lecture | Final Exam Class Test |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Number System**<br>Introduction, prime, rational, Irrational number, even and odd numbers and their properties. Imaginary and Complex numbers; sequence, series, Divergence of a sequence, sigma notation, Sum of natural numbers. | 6 |
| Chapter-2 | **Indices and Logarithms**<br>Indices, law of indices, positive and Fractional indices, operation with power function. Introduction, law of operations, use of logarithms tables, Anti-logarithms, Exponential series, logarithmic series | 5 |
| Chapter-3 | **Theory of Sets**<br>Different types of sets, union, difference intersection, Cartesian products, Venn diagram, Application in Business Problems | 5 |
| Chapter-4 | **The straight lines and Linear Equations**<br>Different forms of Equations-Parallel and perpendicular form of Equations-Point of Intersection of lines-Interpretation of Slope of different business problems and Marginal Concept analysis, Solution of linear equations, Solutions of Simultaneous linear equations | 5 |
| Chapter-5 | **Quadratic Equations**<br>Relationship between roots+- and coefficient of quadratic equation, Nature of roots, Solution of quadratic equations, formation of quadratic equations with given roots. Curve sketching of different linear and non-linear equations | 4 |
| Chapter-6 | **Permutations and Combinations**<br>Fundamental principles of permutations, permutations of things, all different and things, not all different, repeated and circular permutations. Combinations, relationships between permutation and combinations. | 4 |
| Chapter-7 | **Progression**<br>Introduction, Sum of series in AP and GP, Use of concept of progression to find the present value and future value, Business problem solving. | 4 |
| | **Differentiation and Integration** | |

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| Chapter-8 | Differentiation of Algebraic functions, transcendental function. Definition of transcendental functions-Geometric interruption of dy/dx and marginal concept analysis. Introduction, different rules of integration. Indefinite and Definite integrals. Determination of maxima and minima of different function using differentiation rules. Business problem solution. Conditions of maxima and minima, Test for maxima and minima. Point of inflexion | 3 |
| Chapter-9 | **Matrices and Determinants**<br><br>Introduction, Types of matrices, operation on matrices. Solution of simultaneous linear equations. Introduction, properties of determinants, operations on determinants. Expansions of determinants, Sarrus diagrams and crammers rule and use and use in business. Leontiff input input-output modal analysis. Application to business problems. | 3 |

***Recommended Books:***

- *Dr.Md. Rafiqul Islam, Dr.M. Osman Gani,* ***Mathematics for Business****, Bangladesh*
- *P.MARIAPPAN,* ***Mathematics for Business****, PEARSON.a*
- *Kashyap Trivedi, Chirag Trivedi,* ***Mathematics for Business,*** *PEARSON*

**MIS-1209: MICROECONOMICS**
**Type : Compulsory**
**Term : II**
**Credit : 3**
**Course Description:** This Course focuses on fundamentals of demand and supply analysis, salient facts about the economy's performance; measures of economic activity, determinants of trends in economic growth and business cycle fluctuations; fiscal, monetary and international trade policies and their effect on domestic and foreign business cycles and growth.

**Course Objectives:** The objectives of studying microeconomics are as follows:

- Full employment
- Price stability
- A high, but sustainable, rate of economic growth
- Keeping the balance of payments in equilibrium.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| After completing this course, the students will be able to:<br>Identify different economic systems and basic elements of economics | Lecture | Final Exam+ Class test |
| Understand and evaluate marginal utility of consumers | Lecture | Final exam +class test |
| Perform supply and demand analysis to analyze the impact of economic events on market | Lecture + group discussion | Final Exam+ Class test +Assignment |
| Understand and analyze the behavior of consumers in the market | Lecture | Final exam |

| | | |
|---|---|---|
| Understand, analyze and evaluate factors affecting the behavior of producers | Lecture | CT+ Final exam |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br><br>Microeconomics vs Macroeconomics – Scope of economics – Meaning of economic theory – Some basic concepts: Product, commodity, want, utility, consumption, factors of production, opportunity cost | 5 |
| Chapter-2 | **Utility Analysis**<br><br>Indifference Curve Analysis: Utility functions – Indifference curves and maps – Budget constraints – Utility Maximization. | 6 |
| Chapter-3 | **Demand**<br><br>Law of demand – Factors determining demand Shifts in demand functions – Deriving demand curves – Substitution and income effects – Deriving aggregate demands – Various concepts of demand – elasticity and measurements – Methods of estimating demand functions and demand forecasting. | 4 |
| Chapter-4 | **Supply**<br><br>Law of supply and supply function – Determinants of supply – Shifts in supply – Elasticity of supply – Market equilibrium. | 5 |
| Chapter-5 | **Production**<br><br>Production functions – Total, Average and marginal products – Law of diminishing marginal physical products – Production isoquants - Marginal Rate of Technical substitution (MRTS) – Optimal combination of inputs – Expansion path returns to scale – Estimation of production function and efficiency criterion. | 5 |
| Chapter-6 | **Cost**<br><br>Concepts of cost – Short-run costs – Relation between short-run costs and production – Long-run costs – Economics and Diseconomies of scale – Relation between short-run and long run costs – Cost function and estimation of cost function. | 4 |
| Chapter-7 | **Markets and Revenue**<br><br>Meaning of market – Different forms of market – Concepts of total, average and marginal revenue- Relation between AR and MR curves – Relation between different revenues and elasticity of demand – Equilibrium of the firm. | 4 |
| Chapter-8 | **Price and Output**<br><br>Price and output determination under perfect competition, monopoly, monopolistic competition and oligopoly – profit maximization – Price discrimination – Plant shutdown decision – Barriers to entry. | 3 |

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| Chapter-9 | **Market for the factor of production**<br><br>the demand for labor, supply of labor, equilibrium in the labor market, other factor of production . | 3 |

***Recommended Books:***

- Samuelson P. and W. Nordhaus, ***Economics,*** McGraw Hill Book Co., New York, USA.
- Mankiw, ***Principles of Microeconomics,*** Macmillan Press, UK
- K. K. Dewett; ***Modern Economics Theory,*** S. Lac Charitable Trust, New Delhi.
- R. J. Ruffin and P. R. Gregory, ***Principles of Microeconomics,*** Scott Foreguson & Company, Illinois,USA
- S. Charles, Mauriceand Charles and W. Smithsons, ***Managerial Economics: Applied Microeconomics for Decision Making,*** Richard D. Irwin inc, Illionis, USA

**BANG-1101: evsjv fvlv I mvwnZ¨(Bangla Language and Literature)**
**Type : Compulsory**
**Term : II**
**Credit : 3**

**†Kvm©wUi †hŠw³KZv (Rationale):** cÖv‡qvwMK Rxe‡b evsjv fvlvi h_vh_ e¨envi, ï× evsjvi PP©v I weKv‡k †Kvm©wU †hgb Kvh©Ki, †Zgwb evsjv mvwnZ¨ Z_v KweZv, Mí I cÖeÜ Aa¨q‡bi gva¨‡g wkÿv_©x‡`i myMfxi Rxeb‡ev‡a RvwiZ K‡i gvbweK g~j¨‡eva RvMÖZ Kivi cÖvmw½KZvq †Kvm©wU †hŠw³K wfwËi cÖwZwôZ|
**†Kvm©wUi D‡Ïk¨ (Course Objectives) :**
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| **wkLb cÖvwß (Learning Outcomes)** | **wkLb c×wZ (Teaching Learning Strategy)** | **g~j¨vqb c×wZ (Assessment Strategy)** |
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| *aŸwb I Aÿ‡ii g‡a¨ cÖv_©K¨ wbY©q|<br>*¯^iaŸwb I e¨ÄbaŸwbi †gŠwjK ˆewkó¨ wba©viY| e³e¨ Ges kÖæwZMÖvn¨ evsjvaŸwb cÖhyw³ mn‡hv‡M Dc¯’vcb | †kÖwY-Dc¯’vcbv I `jMZ Av‡jvPbv |
| *evsjv aŸwbi ï× D”PviY e¨envi-wewa m¤úwK©Z aviYv jvf| | e³e¨ Ges kÖæwZMÖvn¨ evsjv aŸwb cÖhyw³ mn‡hv‡M Dc¯’vcb | †kÖwY-Dc¯’vcbv I `jMZ Av‡jvPbv |
| *k‡ãi msÁv, cÖK…wZ, ˆewkó¨ I evsjv kãMVb m¤úwK©Z aviYv jvf|<br>*ev‡K¨i msÁv, cÖK…wZ, ˆewkó¨ I evK¨ MVb m¤úwK©Z aviYv jvf| | e³e¨ Dc¯’vcb | †kÖwY cixÿv-01 |
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| * evsjvi BwZnvm, HwZn¨, ms¯‹…wZ I evOvwji RvZxqZv †PZbvi weKvk jvf| | e³e¨ Dc¯’vcb | `jMZ Av‡jvPbv |
| * †QvUM‡íi msÁv I wbg©vY‰ewkó¨ m¤ú‡K© Rvbv<br>* mgvRev¯ÍeZv, cyiælZš¿ I bvixi gb¯ÍË¡ m¤ú‡K© aviYv jvf | e³e¨ Dc¯’vcb | `jMZ Av‡jvPbv |
| * mgvRev¯ÍeZv, cyiælZš¿ I bvixi gb¯ÍË¡ m¤ú‡K© aviYv jvf | e³e¨ Dc¯’vcb | †kÖwY cixÿv-02 |
| * RxebmsMÖvg, `vwi`ª¨, `ywf©ÿ I gvbweK wech©q m¤ú‡K© Ávb jvf<br>* gyw³hy×Kvjxb ev¯ÍeZv, msL¨vjNy wbh©vZb I gyw³hy‡×vËi ev¯ÍeZv m¤ú‡K© Rvbv | e³e¨ Dc¯’vcb | A¨vmvBb‡g›U |
| *cÖe‡Üi Abyl‡½ mvwn‡Z¨i avivµ‡gi mv‡_ †hvMv‡hvM ¯’vc‡bi ga¨ w`‡q mgvRe¨e¯’vi bvbv ÎæwUwePz¨wZ Zz‡j a‡i Zv †_‡K mgvav‡bi c_ wbY©q| | e³e¨ Dc¯’vcb | A¨vmvBb‡g›U |
| * agx©q †Muvovwg, Kzms¯‹v‡ii wecix‡Z Amv¤úª`vwqK †PZbvi weKvk jvf<br>* Rxeb I K‡g© †hŠeba‡g©i cÖK…Z Zvrch© Dcjwä Kiv| | e³e¨ Dc¯’vcb | †kÖwY cixÿv-03 |
| *†Kvm©wU m¤ú‡K© mvgwMÖK aviYv cÖ`vb | e³e¨ Dc¯’vcb | cÖkœ-DËi ce© |

| **†Kv‡m©i welq<br>(Course Content)** | | | |
|---|---|---|---|
| অধ্যায়<br>**(Chapter)** | **cÖ_g LÐ<br>(First Part)** | **†Kv‡m©i welq<br>(Course Content)** | **mgq** |
| **1** | Fvlv I aŸwbweÁvb | * fvlv: msÁv, cÖK…wZ I ˆewkó¨<br>*evsjv fvlvi cÖv_wgK cwiPq ˆewkó¨ I i*ƒ*c‰ewPÎ¨<br>* evsjv aŸwb I Aÿ‡ii cÖv_wgK cwiPq<br>* ¯^iaŸwb I e¨ÄbaŸwbi ˆewkó¨ I †kÖwYweb¨vm | **4 NÈv** |
| **2** | aŸwbweÁvb | * D”PviY¯’vb I D”PviYixwZ Abyhvqx evsjv aŸwb we‡kølY | **4 NÈv** |
| 3 | k‡ãi †kÖwYwefvM I kãMVb | *evsjv kã I ev‡K¨i cÖv_wgKcvV Ges evsjv kã I ev‡K¨i MVbcÖwµqv<br>* evsjv evbv‡bi ms¯‹v‡ii avivµg: wek¦fviZx, KjKvZv wek¦we`¨vjq cwðge½ evsjv AvKv‡`wg, evsjv GKv‡Wwg | **4 NÈv** |
| 4 | evsjv evbv‡bi wbqg | cÖwgZ evsjv evbv‡bi wbqg, hwZwPý ev weivgwPý | **4 NÈv** |
| 5 | **wØZxq LÐ : mvwnZ¨** | * KweZvi msÁv I wbg©vY‰ewkó¨, Ôe½evYxÕ I ÔwbS©‡ii ¯^cœf½Õ, KweZvi Kwe-cwiwPwZ, welqweb¨vm, wbg©vY‰kjx | **4 NÈv** |
| 6 | **KweZv** | *Ôwe‡`ªvnxÕ ÔebjZv †mbÕ I ÔAvgvi cwiPqÕ KweZvi Kwe-cwiwPwZ, welqweb¨vm, wbg©vY‰kjx | **4 NÈv** |

| | | | |
|---|---|---|---|
| 7 | **Mí** | *ÔAvgvi cwiPqÕ KweZvi Kwe-cwiwPwZ, welqweb¨vm, wbg©vY‰kjx<br>* †QvUM‡íi msÁv, wbgv©Y-†KŠkj, | **4 NÈv** |
| 8 | **Mí** | Ôkvw¯ÍÕ I ÔKzô‡ivMxi eDÕ M‡íi welqweb¨vm, wbg©vY‰kjx | **3 NÈv** |
| 9 | **Mí** | ÔbqbPvivÕ I ÔNi‡Miw¯'Õ M‡íi welqweb¨vm, wbg©vY‰kjx | **4 NÈv** |
| 10 | **Mí** | *cÖe‡Üi msÁv I wbgv©Y‰ewkó¨|<br>*Ôˆ ZjÕ cÖe‡Üi †cÖÿvcU, welqe¯‘, eZ©gvb ev¯ÍeZv | |
| 11 | **cÖeÜ** | Ôgw›`i I gmwR`Õ Ges Ô †hŠe‡b `vI ivRwUKvÕ cÖe‡Üi †cÖÿvcU, welqe¯‘ I eZ©gvb ev¯ÍeZv | **4 NÈv** |

**mnvqKMÖš':**
AvLZviæ¾vgvb Bwjqvm : wbg©vY-wewbg©vY
AvaywbK evsjv Kve¨-cwiPq| `xwß wÎcvVx
AvaywbK fvlvZË¡ | Aveyj Kvjvg gbRyi †gvi‡k`
Avkvi Qj‡b fzwj : †Mvjvg gyiwk`
KvRx bRiæj Bmjvg : Kwe I KweZv | Ave`yj gvbœvb ˆmq`
†QvUM‡íi `k©b I wb`k©b | gvmy` ingvb
Rxebvb›` `v‡ki KweZv : b›`bZvwË¡K wePvi| gvneye mvw`K
aŸwbweÁvb I evsjv aŸwbZË¡ | gyn¤§` Ave`yjnvB
aŸwbweÁv‡bi f~wgKv| RxbvZ BgwZqvR Avjx
bRiæ‡ji Rxeb I K‡g© †cÖg | P›`b Av‡bvqvi
ev½vjv fvlvi BwZe„Ë| gyn¤§` knx`yjøvn&
evsjv fvlv I mvwn‡Z¨i BwZnvm| †mŠif wmK`vi
evsjv fvlvi kÎæwgÎ| ûgvqyb AvRv`
evsjv mvwn‡Z¨i BwZnvm | myKzgvi †mb
evsjv mvwn‡Z¨i BwZnvm | Avwbmy¾vgvb m¤úvw`Z
exiej I evsjvmvwnZ¨ | AiæYKzgvi gy‡Lvcva¨vq
†eMg †iv‡Kqv: mgq I mvwnZ¨ | †gvi‡k` kwdDj nvmvb
fvlv I mvwn‡Z¨i hyMjew›`| P›`b Av‡bvqvi I ï‡f›`y mvnv (iPbv I m¤úv`bv)
fvlv-cÖKvk ev½vjv e¨vKiY| mybxwZKzgvi P‡Ævcva¨vq
fvlvi BwZe„Ë| myKzgvi †mb
gvwbK e‡›`¨vcva¨v‡qi †QvUMí : mgvR‡PZbv I Rxe‡bi i*ƒ*cvqY| ˆmq` AvwRRyj nK
gymwjg mvwnZ¨ mgvR : mgvRwPšÍv I mvwnZ¨Kg© | †Lv›`Kvi wmivRyj nK
iex›`ª †QvUM‡íi mgvRZË¡ | †ÿÎ ¸ß
iex›`ªmvwn‡Z¨i f¸wgKv : bxnviiÄb ivq
iæ`ª gyn¤§` kwn`yjøvn : ¯§viKMÖš'| wn‡gj eiKZ m¤úvw`Z
kvgmyi ivngvb : wbtm½ †kicv : ûgvqyb AvRv`
mvaviY fvlvweÁvb I evsjvfvlv | iv‡gk¦i k
†mwjbv †nv‡m‡bi K_vmvwn‡Z¨ †`k-Kvj-RvwZ | gvmy`y¾vgvb I e‡i›`y gÐj m¤úvw`Z
ˆmq` kvgmyj n‡Ki mvwnZ¨Kg© : †gv¯Ídv ZvwiKzj Avnmvb
ˆmq` lqvjxDjøvn& : Rxeb I mvwnZ¨| ˆmq` Aveyj gKmy`
nvmvb AvwRRyj n‡Ki K_vmvwnZ¨ : welqweb¨vm I wbg©vY‡KŠkj | P›`b Av‡bvqvi

**MIS-1206: Viva Voce**
**Type : Compulsory**
**Term : II**
**Credit : 2**
**Course Description:** This course is designed to judge the over all understanding of students during last year. It will enable students to review the previous courses that were learned during 1st and 2nd semester. Multiple Learning venues and formats, intense and focus éducation method will be applied to judge the depth of

knowledge of the students. Both structured and unstructured question methods will be followed. An observatory board including both internal and external faculties will physically execute the viva voce.

**Course Objectives :**

- ✓ prepare the candidates to face interview both at the academic and practical purpose.
- ✓ test the student's basic comprehensivenessin the 1st year courses.
- ✓ justify the candidate's acquaintance with the basic literature of the practical implications of that subjects.
- ✓ détermine wheather the students' knowledge and skills are sufficient or not.
- ✓ clarify the students lacking and expertise areas.

**Learning Outcomes:** At the end of the course students will be able to

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Balance theoretical knowledge with practical application | Lecture + Workshop | Viva Voce |
| Identify the skills and areas of development | Lecture + Tutorial | Viva Voce |
| Develope the skill of decession making capability | Workshop | Viva Voce |
| Develope the manner, attitude, Outlooking and smartness | Lecture + Workshop | Viva Voce |
| improve adaptability, power and maturity | Lecture + Tutorial | Viva Voce |

**MIS-2101: PROGRAMMING FUNDAMENTALS**
**Type : Compulsory**
**Term : III**
**Credit : 3**
**Course Description:** Programming skill represents a generic problem solving ability, and is considered essential for anyone involved in the development and maintenance of software systems. In this course the student will gain a broad understanding of modern computer programming, the nature and the history of computer programming; an introductory skills in problem analysis, solution design, and program construction, through practical programming activities.

**Course Objectives:**
More specifically, the course aims at providing the understandings of-

- problem solving skills by developing algorithms to solve problems incorporating the concept of data abstraction in a computer program
- program designing methods according to specifications by creating flow charts, IPO charts and pseudo code
- program development methods by writing the code, testing the code and debugging the program

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand basic blocks of programming | Lecture | Quiz + Class Test + Term Final |

| | | |
|---|---|---|
| Apply pseudo-code and visual modeling (Flow-chart) to prepare clear and accurate program documentation and models. | Lecture | Term Final |
| Apply appropriate techniques to create entry-level programs from models. | Lecture | Class Test+ Term Final |
| Develop projects that utilize logical algorithms from specifications and requirements statements. | Lecture + Team Work | Project Presentation + + Class Test + Term Final |
| Apply computer programming concepts to new problems or situations. | Lecture + Case Study | Presentation + Class Test + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>History of Programming Languages; Programming Environment; Complier and Interpreter; | 6 |
| Chapter-2 | **Structural Programming**<br>Structural Programming concepts: Programming fundamentals | 5 |
| Chapter-3 | **Operators & Expression**<br>Data types, operators, expressions | 5 |
| Chapter-4 | **Control Statements**<br>If else, else if, switch case statement | 5 |
| Chapter-5 | **Loop Statements**<br>While, Do-while, for statement | 4 |
| Chapter-6 | **User Defined Functions**<br>Functions and program structure, Header files; Preprocessor; | 4 |
| Chapter-7 | **Arrays**<br>Arrays; Multidimensional array | 4 |
| Chapter-8 | **Input & Output Functions**<br>Input and Output, file access; Variable length argument, | 3 |
| Chapter-9 | **User defined data Types**<br>Structures, Type of f, Structures vs Class | 3 |

**Recommended Book:**

- ***Programming with C***- Byron Gottfried (Schaum‟s Outline Series)
- Herbert Schidt, "***C Made Easy***", McGraw Hill.
- ***How to Program- Deitel / Deitel***, C (Prentice Hall)
- ***Progamming in ANSI C- E Balagurusamy***

- Peter Van Roy and SeifHaridi, ***Concepts, Techniques, and models of Computer Programming***, The MIT Press, USA.

**MIS-2102: STRUCTURED PROGRAMMING LAB**
**Type : Compulsory**
**Term : III**
**Credit : 1**
**Course Description:**

Programming skill represents a generic problem solving ability, and is considered essential for anyone involved in the development and maintenance of software systems. In this course the student will gain a broad understanding of modern computer programming, the nature and history of computer programming; an introductory skills in problem analysis, solution design, and program construction, through practical programming activities.

**Course Objectives:**

More specifically, the course aims at providing the understandings of-

- To develop problem solving skills incorporating the concept of programming language.
- Program designing methods according to proper specifications and statements.
- Develop required methods by writing, debugging and testingcode.

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand basic blocks of programming and its environment | Lab | Quiz + Lab Exam + Term Final |
| Apply pseudo-code and visual modeling (Flow-chart) to prepare clear and accurate program documentation and models. | Lab + Team Work | Lab Exam + Quiz +Presentation + Term Final |
| Apply appropriate techniques to create entry-level programs from models. | Lab + Team Work | Lab Exam + Quiz + Term Final |
| Develop projects that utilize different programming types & statements (for example, branching, loops, arrays and pointers) from specifications and requirements. | Lab + Team Work | Lab Exam + Quiz + Project Presentation + Term Final |
| Apply computer programming concepts to new problems or situations. | Lab + Case Study | Presentation + Lab Exam + Term Final |

**Course Contents:**



| Chapter | Topics | Contact |
|---|---|---|

| | | Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>History of Programming Languages; Programming Environment; Complier and Interpreter; | 2 |
| Chapter-2 | **Structural Programming**<br>Structural Programming concepts: Programming fundamentals | 2 |
| Chapter-3 | **Operators & Expression**<br>Data types, operators, expressions | 1 |
| Chapter-4 | **Control Statements**<br>If else, else if, switch case statement | 2 |
| Chapter-5 | **Loop Statements**<br>While, Do-while, for statement | 1 |
| Chapter-6 | **User Defined Functions**<br>Functions and program structure, Header files; Preprocessor; | 1 |
| Chapter-7 | **Arrays**<br>Arrays; Multidimensional array | 1 |
| Chapter-8 | **Input &OutputFunctions**<br>Input and Output, file access; Variable length argument, | 2 |
| Chapter-9 | **User defined data Types**<br>Structures, Type of f, Structures vs Class | 1 |

**Recommended Book:**

- ***Programming with C***- Byron Gottfried (Schaum‟s Outline Series)
- Herbert Schidt, "***C Made Easy***", McGraw Hill.
- How to Program- ***Deitel / Deitel***, C (Prentice Hall)
- ***Programming in ANSI C- E Balagurusamy***
- Peter Van Roy and SeifHaridi, ***Concepts, Techniques, and models of Computer Programming***, The MIT Press, USA.

**MIS-2103: Financial Management**
**Type : Compulsory**
**Term : III**
**Credit : 3**

**Course Description:**
This course is designed to introduce students to the fundamental issues of financial management and to the quantitative techniques used to address them. We will consider questions of concern for both corporate financial managers and investments managers

**Course Objectives**:
The objective of this course is to inform the students about the basic concepts of financial management and contemporary theory and policy in order to master the concepts, theories and technique of financial management, what represents the condition of profitable business operations and survival respectively development of business subjects and the economy as a whole. Students should acquire the basic knowledge by means of combining theoretical cognitions and practical attitudes to enable them the understanding of financial problems in business practice after completed the vocational studies.

**Upon successful completion of this module students should be to:**

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand both the theoretical and practical role of financial management in business corporations | Lecture | Final Exam, Class test, Quiz |
| Analyse the finances of individual corporations both in terms of their performance and capital requirements | Lecture | Final exam, class test |
| Evaluate the role and importance of shareholders within modern corporations | Lecture + Group discussion | Final exam, presentation, case solving, class test |
| Have a greater appreciation and understanding of the importance of risk within the context of financial decision making | Lecture + Discussion | Final exam, Case solving, quiz |
| Access financial information from a wide variety of sources and use this information to research and assess corporations | Lecture + Internet Exercise | Final exam+ class test+ Presentation |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Nature of Financial Management**<br>Introduction, Finance and Related Disciplines. Scope of Financial Management, Objectives of Financial Management, Organization of Finance function. | 3 |
| Chapter-2 | **The Financial Environment**<br>An overview of Financial Markets, Institutions, interest rates and taxes. | 3 |
| Chapter-3 | **Basic Financial Concepts**<br>Time Value of Money, Valuation of Long-Term Securities | 3 |

| | | |
|---|---|---|
| Chapter-4 | **An Analysis of Financial Statement**<br>Introduction, Meaning and Rationale of ratio analysis, importance and limitations of ratio analysis. | 4 |
| Chapter-5 | **Risk and Uncertainty**<br>Description and Measurement of Risks, Risk Evaluation Techniques: Risk Adjusted Discount Rate approach, Certainty Equivalent approach, Probability Distribution approach, Decision- tree approach. | 3 |
| Chapter-6 | **Capital Budgeting: Principles and Techniques**<br>Nature of Capital Budgeting, Data requirements, Evaluation Techniques, Project selection under capital rationing. | 5 |
| Chapter-7 | **The Cost of Capital**<br>Definition, Significance of cost of capital, Specific costs of capital: debt, preference stock, equity, retained earnings, weighted average cost of capital. | 5 |
| Chapter-8 | **Operating, Financial and Combined leverage**<br>Nature of Leverage, Leverage in Business. | 5 |
| Chapter-9 | **Designing Capital Structure**<br>Introduction, Profitability Aspects, Liquidity Aspects, Controlling process. | 4 |
| Chapter-10 | **Working Capital Management**<br>Nature, Sources, Forecasting the working capital need. | 4 |

**Recommended Books:**

- E.F. Brigham, ***Financial Management: Theory and Practice,*** Dryden Press, Hinsdale, USA.
- M. Y Khan and P. K. Jain; ***Financial Management: Text and Problems,*** Tata Mcgraw – Hill Publishing Company Limited, New Delhi, INDIA
- Brearley, R. A. & S. C. Myers: ***Principles of Corporate Finance,*** McGraw-Hill Book Company, USA

**MIS-2104: Field Work**
**Type : Compulsory**
**Term : III**
**Credit : 2**
**Course Description:** This course is based on Sustainable Development Goals. The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. This Course aims to respond to emerging challenges to climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. The goals are interconnected – often the key to success on one will involve tackling issues more commonly associated with another.

**Course Objectives:**

- To meet urgent needs for professionals who are able to apply multi-disciplinary approach to problem solving, with in-depth understanding and responsiveness to the various needs of women and men.
- To train and produce highly skilled professionals in diversified fields to make them prepare to respond to different situation.

- To develop skills to generate ideas regarding sustainable production, consumption and development.

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Know Different goals of SDGs | Field work + Counseling | Report + Presentation + Viva |
| Support to governments to integrate the SDGs into national development plans and policies. | Field work + Case Study + Group Discussion | Field work + report + Group Presentation + Viva |
| Develop ideas to promote prosperity while protecting the environment. | Case Study + Field work +Counseling | Field work+ Report + Presentation + Viva |
| Help the government and stakeholders to make the SDGs a reality | Field Work + Counseling | Report + Presentation+ Viva |

**MIS-2105: CORPORATE AND BUSINESS LAW**
**Type : Compulsory**
**Term : III**
**Credit : 3**
**Course Description:**
This course introduces the student to the legal and ethical framework of business in Bangladesh and Global setting. Upon completion of the course the student will be able to identify the legal framework of business and the basic principles of law that apply to business operations, legal and ethical issues that arise in business decisions and influence decision making.

**Course Objectives:**
- To identify the legal framework of business and the basic principles of law that apply to business operations
- Legal and ethical issues that arise in business decisions and influence decision making.

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Discuss the legal system of the state and how it applies to regulate business. | Lecture | Quiz + Class Test + Term Final |
| Apply the legal principles to practical business situations. | Lecture + Case Study + Group Discussion | Group Presentation + Term Final |
| Describe how to foresee and avoid legal difficulties in the business world and in personal dealings. | Lecture + Case Study + Team Work | Class Test + Term Final |
| Identify laws, conditions and regulations in international work environments. | Lecture | Presentation + Class Test + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|

| | | |
|---|---|---|
| Chapter-1 | **Law of Contract**<br><br>The essential element of contract, Offer and acceptance, Intention to create legal relations, Consideration, Void and Voidable Agreement, Capacity of parties, Free Consent, Legality of the Objects, Contingent Contracts, Performance of contracts, Quasi-Contracts, Termination or discharge of contracts. | 8 |
| Chapter-2 | **The Law Relating to The Sale of Goods**<br><br>Definition, Transfer of ownership, The law of Partnership, Nature of partnership, Rights and liabilities of partners. | 8 |
| Chapter-3 | **Company law**<br><br>Introduction, The Memorandum and Articles of Association, The Formation of a Company, Capital share and shareholder, Directors, Company management, Control over companies, Obliteration | 8 |
| Chapter-4 | **Partnership Business Law**<br><br>Introduction, Characteristics, Types, Registration and Formation, Obliteration | 8 |
| Chapter-5 | **ICT ACT, Bangladesh**<br><br>Introduction, Importance and Application, Sections in Details, Amendments. | 4 |
| Chapter-6 | **Labor Act, Bangladesh**<br><br>Introduction, Importance and Application, Sections in Details, Amendments. | 3 |

**Recommended Books:**

- A.K. Sen, ***Handbook of Commercial Law,*** A Mukherjee & Co. (PVT) Ltd. Calcutta.
- M.C. Shukla, ***A Manual of Mercantile Law,*** Chand & Company.
- Companies Act 1994, Bangladesh
- Partnership Act 1932, Bangladesh
- ICT Act 2006, Bangladesh
- Labor Act 2006, Bangladesh.
-

**MIS-2107: HUMAN RESOURCE MANAGEMENT**
**Type : Compulsory**
**Term : III**
**Credit : 3**
**Course Description:** The focus of this course is to equip the student with an understanding of the personnel-related issues involved in effective management of his/her employees. Topic areas discussed include human resources planning, recruitment, selection and training/development, Equal Employment Opportunity laws and their application, performance evaluation, and quality of work life and labor management relations.

**Course Objectives:** The objectives of the course are as follows:

- Cognitive Skills and Processes
- Knowledge of Theory, Practice, and Application
- Professional Development

| ➢ Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to: | Lecture | Final Exam, |

| | | |
|---|---|---|
| Explain the importance of human resources and their effective management in organizations | | Class test, Quiz |
| Demonstrate a basic understanding of different tools used in forecasting and planning human resource needs | Lecture | Final exam, class test |
| Analyze the key issues related to administering the human elements such as motivation, compensation, appraisal, career planning, diversity, ethics, and training | Lecture + Group discussion | Final exam, presentation, case solving, class test |
| Describe appropriate implementation, monitoring and assessment procedures of training | Lecture + Discussion | Final exam, Case solving, quiz |
| Evaluate training programs using appropriate design and data collection procedure | Lecture | Final exam+ class test |
| Evaluate strategies to integrate human resources planning with the strategic initiatives of senior management to achieve overall business objectives | Lecture+ Group Discussion | Final exam+ Class test |

**Course Contents:**

| Chapter | Topics | Contact Hour |
|---|---|---|
| Chapter-1 | **Development of Human Resource Management**<br>The concept of human resource management - Early stages of development - Contemporary developments - Human resource management as a profession. | 4 |
| Chapter-2 | **Considerations in Managing Human Resources**<br>The organization as a system - Responsibility and authority within the organization - Organization structures - The human resource department in an organization - The personnel program. | 4 |
| Chapter-3 | **Job Requirements**<br>The role of jobs - Job design - Job analysis - Job requirements and personnel functions - Job descriptions.<br>**5** | 4 |
| Chapter-4 | **Recruitment and Selection**<br>Human resource planning - Recruiting within the organization - Recruiting outside the organization - EEO in recruitment, The steps in recruitment - exit interview - Reaching a selection decision - Considerations that shape selection policies | 4 |
| Chapter-5 | **Job Evaluation**<br>The reasons of job evaluation schemes - Problem areas - Procedure - Techniques - Non-analytical methods - Analytical methods - New methods - Other methods. | 4 |
| Chapter-6 | **Compensation Systems**<br>Job choice - The influence of compensation on behaviors - Compensation and satisfaction - Administration - Types of Systems - Compensation evaluation - Incentive pay systems. | 5 |
| Chapter-7 | **Training and Development** | 5 |

| | | |
|---|---|---|
| | The purpose of training - The identification of need - Training programs - Types of training - Management development - Evaluation - Government intervention - Psychological principles of learning, Phases of a career development program - Career development program for special groups - Personal career development. | |
| Chapter-8 | **Evaluation and Improving Performance**<br>Objectives of Performance evaluation programs - Performance evaluation methods - Feedback of evaluations - Improving performance. | 5 |
| Chapter-9 | **Safety and health Management**<br>Concepts, programs, Occupational diseases & their preventive measure | 4 |

***Recommended Books:***

- Gary Dessler, ***Human Resources Management***, Prentice Hall of India Pvt. Ltd. New Delhi, India.
- Wendell French, ***Human Resource Management***, Houghton Miffin Co., Boston, USA.
- David A. DeCenzo and Stephen P. Robbins, ***Personnel / Human Resource Management,*** Prentice-Hall, Inc, Englewood chiffs, USA.
- Herbert J. Chruden and Arthur W. Sherman Jr., ***Management of Human Resources***, South-Western Publishing Co.
- R.L. Mathis and J. H. Jackson, ***Human Resource Management***, Thomson Asia Private Ltd., Singapore.

**MIS-2109 : MACROECONOMICS**
**Type : Compulsory**
**Term : III**
**Credit : 3**
**Course Description :** Macroeconomics is concerned with issues, objectives and policies that affect the ac nation's economy in perspective of the world economy. All economic analysis that refers to aggregates is macro. The Bangladesh unemployment rate, the Bangladesh inflation rate, the rate of economic growth in the Bangladesh; these are all Bangladesh aggregates and therefore macro issues.
**Course Objectives :**

- Full employment
- Price stability
- A high, but sustainable, rate of economic growth
- Keeping the balance of payments in equilibrium.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to:<br>Evaluate macroeconomic performance using indicators that include output measures and unemployment | Lecture | Final Exam+ Class test+case solving |
| Evaluate macroeconomic performance using indicators that include inflation | Lecture | Case Solving |
| Model the macro economy over the short and long terms | Lecture + | Final Exam+ |

| | | |
|---|---|---|
| | group discussion | Class test |
| Identify, compare, and apply key features of Neoclassical and Keynesian economic models | Lecture | Final exam |
| Use an understanding of the strengths and weakness of fiscal and monetary policy to determine an appropriate stabilization policy for a given macroeconomic situation | Lecture | Class test+ Final exam+ presentation |
| Understand what government budgets consist of, and how fiscal policy affects the economy | Lecture | Final exam + presentation |
| Explain the role of money, banking and monetary policy in the economy | Lecture | Final exam+ class test+ case solving |

**Course Contents :**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br><br>Macroeconomics - Meaning of economic models - Goals of economic policy - Definition of macro-economic variables: inflation, unemployment, Productivity, production capacity, input, output, business cycle - Aggregate demand and aggregate supply. | 4 |
| Chapter-2 | **National Income**<br><br>Gross National Income (GNP) - Circular flow of income - The expenditure approach - The income approach - The output approach - Other income concepts - Real vs nominal GNP - Limitation of GNP as measure of human welfare. | 4 |
| Chapter-3 | **Market Economy**<br><br>Determination of AD, AS., Markets and prices - Operation of Market economy - Economic decisions in market economy. | 4 |
| Chapter-4 | **Income Determination**<br><br>Savings and investment - Consumption schedule: household and national - Average and marginal propensity to consume - Multiplier effect - Impact of government tax and expenditure. | 4 |
| Chapter-5 | **Inflation**<br><br>Measures of inflation - Causes of inflation - Source of inflationary pressure - | 4 |

| | | |
|---|---|---|
| | Consequences of inflation - deflation. | |
| Chapter-6 | **Money and Monetary Policy**<br><br>Meaning of money - Different concepts of money (M1, M2, M3) - Credit creation by banking system - Function of money - Demand for and supply of money - Velocity of money - Long-run impact of money on prices - Short-run impact of money on output- Changes in income velocity - Monetary policy. | 5 |
| Chapter-7 | **Fiscal Policy**<br><br>Theory of fiscal policy - Relationship of fiscal policy to monetary policy - Problems in implementing fiscal policy. | 5 |
| Chapter-8 | **Employment**<br><br>Labor demand schedule - Real wage rate and aggregate demand for and supply of labor - Inflation and the equilibrium - real wage rate and employment - Impact of market power on employment and prices - The effect of aggregate demand and supply on output and prices- Phillips Curves - Price and wage control - Unemployment and its types - Removing unemployment. | 5 |
| Chapter-8 | **Open Economy**<br><br>Exchange rate regimes, Balance of payments, Fiscal and monetary policy. | 4 |

***Recommended Books:***

- Lloyed G. Reynolds, ***Macro economics: Analysis and Policy,*** Richard D. Irwin, Inc, USA.
- Samuelson P. and W. Nordhaus :***Economics,*** Mcgraw-Hill Publishing, USA.
- H. L. Ahuza, ***Modern Economics,*** S. Chand & Co. Ltd. New Delhi, India.
- Mankiw, ***Principles of Microeconomics,*** Macmillan Press, UK

**MIS 2201: DATA STRUCTURE AND ALGORITHMS**
**Type : Compulsory**
**Term : IV**
**Credit : 3**
**Course Description:**

This course introduces a comprehensive concept about data structures, algorithms and its application to business problem solving and decision making. It gives us corresponding concepts about different data types and algorithms to enhance programming capability.

**Course Objectives:**

It gives knowledge about structure of data and algorithm which will be taught here to make student competent for the present business demand in the digital context.

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand about data structure | Lecture | Quiz + Class Test + Term Final |
| Learn elementary data structures: arrays, lists, stacks, queues, trees, graphs. | Lecture | Class Test + Term Final |
| Learn advanced data Structures: heaps, Fibonacci heaps, B-trees. Also learn recursion, sorting and searching | Lecture + Case Study | Class Test+ Term Final |
| Learn methods for the design of efficient algorithms: divide and conquer,greedy method, dynamic programming. | Lecture + Case Study | Class Test + Term Final + Presentation |
| Learn spanning tree and shortest path | Lecture+ Case Study | Presentation + Class Test + Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction**<br>Data Structures, Algorithms and Data Structure vs Algorithm, Flow algorithms | 3 |
| Chapter-2 | **Data Structures**<br>Internal data representation; Abstract data types; Elementary data structures: arrays, linked-lists, doubly linked list, circular linked list stacks, queues, heaps, Fibonacci heaps. | 3 |
| Chapter-3 | **Asymptotic Analysis**<br>Techniques for analysis of algorithms; Methods for the design of efficient algorithms | 3 |
| Chapter-4 | **Greedy Algorithms**<br><br>Greedy algorithm, travel salesman problem | 4 |
| | | 3 |

| | | |
|---|---|---|
| Chapter-5 | **Divide & Conquer**<br><br>Divide & conquer, merge sort, quick sort | |
| Chapter-6 | **Searching & Sorting**<br>Basic search and traversal techniques; linear search, binary search, bubble sort, insertion sort, , shell sort | 5 |
| Chapter-7 | **Recursion**<br><br>Recursion, factorial, Fibonaaci Series, Tower of Hanoi. | 5 |
| Chapter-8 | **Dynamic Programming**<br>Dynamic programming, greedy v dynamic programming, longest common subsequence | 5 |
| Chapter-9 | **Graph & Tree Structures**<br>Trees, Graphs, Prim's &Kruskal's spanning trees, Dijkstra'sshortest paths, Topological sorting; Connected components.<br>[ ***Data Structure and Algorithm***- Schaum‟s Outline Series] **chapter 5 & 8** | 4 |
| Chapter-10 | **Advanced data Structures & Algorithms**<br><br>Algebraic simplification and transformations; Lower bound theory; NP-completeness, NP-hard and NP-complete problems, hasing, hashing, storage management, back tracking, branch and bound, approximation Parallel algorithms | 4 |

**Recommended Books:**

- ***Data Structure and Algorithm***- Schaum‟s Outline Series
- ***Fundamentals of Data Structures***- Horowitz E. and Sahni, S Galgotia
- ***Data Structures and Program Design in C***- Kruse/Tondo/Leung (Prentice-Hall)
- ***Algorithms in C***- Sedgewick, R (1990) (Addision Wesley)
- Wirth N, ***Algorithms + Data Structures= Programs***, Prentice Hall
- ***Intoductions to Algorithms***- Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, Prentice-Hall, India

**MIS 2202: DATA STRUCTURE AND ALGORITHMS LAB**
**Type : Compulsory**
**Term : IV**
**Credit : 1**
**Course Description:**

This course introduces a comprehensive concept about data structures, algorithms and its application to business problem solving and decision making. It gives us corresponding concepts and practical experience about different data types and algorithms.

**Course Objectives:**

It gives practicalknowledgeabout structure of data and algorithms which will be taught here to make student competent for the present business demand in the digital context.

**Learning Outcomes:**

At the end of the course students will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Understand about data structure | Lab | Quiz + Lab Exam + Term Final |
| Implementelementary data structures: arrays, lists, stacks, queues, trees, graphs. | Lab | Lab Exam + Term Final |
| Implement advanced data Structures: heaps, Fibonacci heaps, B-trees. Also learn recursion, sorting and searching | Lab + Case Study | Lab Exam+ Term Final |
| Apply distinctmethods for the design of efficient algorithms: divide and conquer,greedy method, dynamic programming. | Lab + Case Study | Lab Exam + Term Final + Presentation |
| Apply spanning tree and shortest path | Lab + Case Study | Presentation + Lab Exam + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>Data Structures, Algorithms and Data Structure vs Algorithm, Flow algorithms. | 2 |
| Chapter-2 | **Data Structures**<br>Internal data representation; Abstract data types; Elementary data structures: arrays, linked-lists, doubly linked list, circular linked list stacks, queues, heaps, Fibonacci heaps. | 2 |
| Chapter-3 | **Asymptotic Analysis**<br>Techniques for analysis of algorithms; Methods for the design of efficient algorithms. | 1 |
| Chapter-4 | **Greedy Algorithms**<br>Greedy algorithm, travel salesman problem. | 2 |
| Chapter-5 | **Divide & Conquer**<br>Divide & conquer, merge sort, quick sort. | 1 |
| Chapter-6 | **Searching & Sorting**<br>Basic search and traversal techniques; linear search, binary search, bubble sort, | 1 |

| | | |
|---|---|---|
| | insertion sort, , shell sort. | |
| Chapter-7 | **Recursion**<br><br>Recursion, factorial, fibonaaci series, tower of hanoi. | 1 |
| Chapter-8 | **Dynamic Programming**<br><br>Dynamic programming, greedy v dynamic programming, longest common subsequence. | 2 |
| Chapter-9 | **Graph & Tree Structures**<br><br>Trees, Graphs, Prim's&Kruskal's spanning trees, Dijkstra's shortest paths, Topological sorting; Connected components. | 1 |
| Chapter-10 | **Advanced data Structures & Algorithms**<br>Algebraic simplification and transformations; Lower bound theory; NP-completeness, NP-hard and NP-complete problems, hasing, hashing, storage management, back tracking, branch and bound, approximation Parallel algorithms. | 2 |

**Recommended Books:**

- Data Structure and Algorithm- Schaum‟s Outline Series
- Fundamentals of Data Structures- Horowitz E. and Sahni, S Galgotia
- Data Structures and Program Design in C- Kruse/Tondo/Leung (Prentice-Hall)
- Algorithms in C- Sedgewick, R (1990) (Addision Wesley)
- Wirth N, Algorithms + Data Structures= Programs, Prentice Hall

**MIS-2203: BUSINESS APPLICATIONS PROGRAMMING**
**Type : Compulsory**
**Term : IV**
**Credit : 3**
**Course Description:**
This course introduces a comprehensive concept of structured programing and its application to business problem solving and decision making. It includes designing, coding, debugging, testing, and documenting programs using a high-level programming language.

**Course Objectives:**
An advance level of programing skill and knowledge will be taught here to make student competent for the present business demand in the digital context.

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Understand advance programming environment | Lecture | Quiz + Class Test + Term Final |

| | | |
|---|---|---|
| Apply visual modeling to prepare vibrant and precise program documentation and models. | Lecture | Term Final |
| Apply appropriate techniques to create professional-level programs from models. | Lecture | Class Test+ Term Final |
| Develop projects that utilize logical algorithms from specifications and requirements statements. | Lecture + Team Work | Project Presentation + + Class Test + Term Final |
| Apply advance computer programming concepts to new problems or situations. | Lecture + Case Study | Presentation + Class Test + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>History of Programming Languages; Programming Environment; Complier and Interpreter; | 4 |
| Chapter-2 | **Object Oriented Programming**<br>Features of Object Oriented Languages, Procedural vs. Object Oriented, Effects of OO Approach, Basic OO Design. | 4 |
| Chapter-3 | **Class & Template**<br>Data types, operators, expressions, dynamic binding, class and function templates, Dynamic Memory Allocation, Pointers to Classes, I/O STREAM, Constants, Scope, & Linkage. | 4 |
| Chapter-4 | **Control & Loop Statements**<br>If else, else if, switch case, while, do-while, for statement | 4 |
| Chapter-5 | **Overloading**<br>Functional & Operational Overloading, Overriding | 4 |
| Chapter-6 | **User Defined Functions**<br>Functions and program structure, constructors & destructors. | 5 |
| Chapter-7 | **Arrays**<br>Arrays; Multidimensional array | 5 |
| Chapter-8 | **Inheritance & Encapsulation**<br>Inheritance, polymorphism, extends and super keywords | 5 |
| Chapter-9 | **Interfaces**<br>Data Abstraction, Interfaces | 4 |

**Recommended Books:**

- Kathy Sierra and Bert Bates, ***Head First Java*** , O‟reilly publication
- E. Balagurusamy, ***Object Oriented Programming with C++*** -
- Herbert Schildt Java -***The Complete Reference***.
- Balagurusamy TMH, ***Programming in C++*** .
- Patrick Naughton, ***Complete JAVA reference***.
- D.Samantha ,***Learning Object oriented Programming with C++ and JAVA***, Prentice-Hall of India pvt ltd.

**MIS-2204: OBJECT ORIENTED PROGRAMMING LAB**
**Type : Compulsory**
**Term : IV**
**Credit : 1**
**Course Description:** This course introduces a comprehensive concept of object oriented programing and its application to business problem solving and decision making. It includes designing, coding, debugging, testing, and documenting programs using a high-level programming language.

**Course Objectives:**

An advance level of programming skill and knowledge will be taught here to make student competent for the present business demand in the digital context.

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand advance programing environment | Lab | Quiz + Lab Exam + Term Final |
| Apply visual modeling to prepare vibrant and precise program documentation and models. | Lab + Team Work | Lab Exam + Term Final |
| Apply appropriate techniques to create professional-level programs from models. | Lab + Team Work | Quiz + Lab Exam + Term Final |
| Develop projects that utilize logical algorithms from specifications and requirements statements. | Lab + Team Work | Lab Exam + Project Presentation + Term Final |
| Apply advance computer programming concepts to new problems or situations. | Lecture+ Case Study | Presentation + Lab Exam + Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction**<br>History of Programming Languages; Programming Environment; Complier and | 1 |

| | | |
|---|---|---|
| | Interpreter; | |
| Chapter-2 | **Object Oriented Programming**<br>Features of Object Oriented Languages, Procedural vs. Object Oriented, Effects of OO Approach, Basic OO Design. | 2 |
| Chapter-3 | **Class & Template**<br>Data types, operators, expressions, dynamic binding, class and function templates, Dynamic Memory Allocation, Pointers to Classes, I/O STREAM, Constants, Scope, & Linkage. | 2 |
| Chapter-4 | **Control & Loop Statements**<br>If else, else if, switch case, while, do-while, for statement | 2 |
| Chapter-5 | **Overloading**<br>Functional & Operational Overloading, Overriding | 2 |
| Chapter-6 | **User Defined Functions**<br>Functions and program structure, constructors & destructors. | 1 |
| Chapter-7 | **Arrays**<br>Arrays; Multidimensional array | 1 |
| Chapter-8 | **Inheritance & Encapsulation**<br>Inheritance, polymorphism, extends and super keywords | 1 |
| Chapter-9 | **Interfaces**<br>Data Abstraction, Interfaces | 1 |

**Recommended Books:**

- Kathy Sierra and Bert Bates, ***Head First Java*** , O‟reilly publication
- E. Balagurusamy, ***Object Oriented Programming with C++ -***
- Herbert Schildt Java -***The Complete Reference***.
- Balagurusamy TMH, ***Programming in C++***.
- Patrick Naughton, ***Complete JAVA reference***.
- D.Samantha ,***LearningObject oriented Programming with C++ and JAVA***, Prentice-Hall of India pvt ltd.

**MIS-2205: ADVANCED INFORMATION SYSTEMS**
**Type : Compulsory**
**Term : IV**
**Credit : 3**
**Course Description:**
The course introduces the student to information systems and communication technologies; information system evaluation and development processes; information technology applications for problem solving and

management decision making; and use of information technologies to transaction processes and customer service. Appropriate application software will be used to get hands-on experience, analyze cases, and complete the class project.

**Course Objectives:**

- Enable to understand the role of information systems in decision making.
- Enable to analyze and synthesize business information
- Enable to understand effectively communicate strategic alternatives to facilitate decision-making.
- Evaluate a computer-based system, process, component, or program to meet desired needs.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| Understand the leadership role of Management Information Systems in achieving business competitive advantage through informed decision-making | Lecture | Final Exam Quiz+ Class Test |
| Analyze a problem in information technology and identify and define the computing requirements appropriate to its solution, with a focus on how to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs | Lecture+ Group Discussion | Final Exam Quiz+ Class Test |
| Apply Management Information Systems knowledge and skills learned to facilitate the acquisition, development, deployment, and management of information systems. | Lecture+ Group Discussion | Final Exam Quiz+ Class Test |
| Effectively communicate strategic alternatives to facilitate decision-making. | Lecture | Final Exam Quiz+ Surprise Test |
| Evaluate a computer-based system, process, component, or program to meet desired needs. | Lecture+Group Discussion | Final Exam Quiz+ Class Test |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Building Information Systems**<br>Systems development and organizational change, business process management tools. | 6 |
| Chapter-2 | **Securing Information Systems**<br>System vulnerability and abuse, business value of security and control, Establishing a framework for security and control, technologies and tools for protecting information resources. | 6 |
| Chapter-3 | **Achieving Operational Excellence and Customer Intimacy: Enterprise Applications**<br>Enterprise systems, supply chain management, customer relationship management systems, and enterprise applications. | 5 |
| Chapter-4 | **E- Commerce: Digital markets, Digital Goods**<br>E-Commerce: Business and Technology | 6 |
| Chapter-5 | **Managing Knowledge**<br>The knowledge management landscape, enterprise-wide knowledge management systems, knowledge work systems. | 6 |

| | | |
|---|---|---|
| Chapter-6 | **Telecommunications, the Internet and Wireless Technology**<br>Telecommunications and Networking in today's business world, communications networks, the global internet. | 5 |
| Chapter-7 | **Managing Global Systems**<br>Developing an international information systems, organizing international information systems, managing global systems. | 5 |

***Recommended Books:***

- Valacich, J. and Schneider, C. ***Information System Today: Managing the Digital World.***Prentice-Hall, USA
- Laudon K C, and Lane P. Laudon, ***Management Information Systems: Managing the digital firm***, Prentice Hall, India.
- James O'brien, ***Introduction to Information Systems***, McGraw–hill, USA

**MIS-2207: ORGANIZATIONAL BEHAVIOR**
**Type : Compulsory**
**Term : IV**
**Credit : 3**
**Course Description:** Students study the behavior of individuals and groups as part of the social and technical system in the workplace. They examine individual and group behavior, communication, conflict and various management styles, motivational techniques and coordination in the work environment and apply these concepts to the development of an organization's human resources.

**Course Objectives:** The main objective of Organizational Behavior is to understand the human interactions in an organization find what is driving it and influence it for getting better results for attaining business goals. The objectives of studying organizational behavior are as follows:

- Finding the Right People
- Organizational Culture
- Leadership and Conflict Resolution
- Understanding the Employees Better
- Understand how to Develop Good Leaders
- Develop a Good Team
- Higher Productivity

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to:<br>Analyze the behaviour of individuals and groups in organizations in terms of the key factors that influence organizational behavior. | Lecture | Final Exam+ Class test |
| Assess the potential effects of organizational-level factors (such as structure, culture and change) on organizational behavior | Lecture | Final exam+ class test |
| Critically evaluate the potential effects of important developments in the external environment (such as globalization and advances in technology) on organizational behavior. | Lecture + group discussion | Final Exam+ Class test |
| Analyze organizational behavioral issues in the context of | Lecture | Final exam+ |

| | | |
|---|---|---|
| organizational behavior theories, models and concepts. | | case solving |
| Raise the student's awareness of the centrality of organizational behavior to understanding organizational functioning, focusing particularly on the individual and group/team level. | Lecture | Class test+ Final exam+ presentation |
| Discuss organizational processes from different theoretical perspectives. | Lecture | Final exam + presentation |
| Understand human behavior in organizations via the disciplinary bases of psychology, sociology and anthropology. | Lecture | Final exam+ class test+ case solving |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Fundamental of Organizational Behavior**<br>Working with People, Social Systems, Communications and Group dynamics, Interpersonal relations, Organizational Controls. | **4** |
| Chapter-2 | **Managing Diversity in Organizations**<br>Diversity, Levels of diversity, demographic and Biographical Characteristics of workforce, Attracting, Selecting, developing and retaining diverse employees, Effective Diversity Programs. | **4** |
| Chapter-3 | **Attitudes and Job Satisfaction**<br>Attitudes, Components of attitudes, Major job attitudes, measurement of employee attitudes. | **3** |
| Chapter-4 | **Emotions and Moods**<br>Basic sets of emotions, aspects of emotions, moods as positive and negative effect, sources of emotions and mood, emotional labor, Emotional Intelligence, OB applications of Emotions and moods. | **4** |
| Chapter-5 | **Personality and Values**<br>Determinants of Personality, Traits measuring Personality, Major personality attitudes influencing OB, Importance of Values, Types of Values, loyalty and ethical behavior. | **3** |
| Chapter-6 | **Perception and Individual Decision Making**<br>Definition, the link between perception and individual decision making, influences on decision making: individual differences and organizational constraints. | **3** |
| Chapter-7 | **Motivation Concepts** | **3** |

| | | |
|---|---|---|
| | Motivating Employees, Job satisfaction, developing a sound organizational culture. | |
| Chapter-8 | **Fundamentals of Group Behavior**<br>Group classification, stages of group development, group properties, group decision making. | **3** |
| Chapter-9 | **Understanding Work Teams**<br>Group and team, types of team, creating effective teams, teams and quality management. | **3** |
| Chapter-10 | **Leadership and its Developments**<br>The leadership role, effective supervision, development of participative decision making. | **3** |
| Chapter-11 | **Power and Politics**<br>Leadership and power, bases of power, the key to power, power tactics coalitions. | **3** |
| Chapter-12 | **Managing Change And Stress Management**<br>Forces for change, managing planned change, resistance to change, work stress and its management. | **3** |

**Recommended Books:**

- S.P. Robbins, ***Organizational Behavior,*** Prentice-Hall India Ltd., New Delhi, India.
- K. Davis, ***Human Behavior at work,*** McGraw Hill Book Company, New York, USA.
- Robert Kreitner and Angelo Kinicki, ***Organizational Behaviour,*** Irwin McGraw - Hill, Boston, USA.

**MIS-2209: TAXATION AND AUDITING**
**Type : Compulsory**
**Term : IV**
**Credit : 3**
**Course Description:** Overview of basic income tax principles and tax planning techniques. Focuses on the income tax treatment of individuals.Auditing include principles and practices used by public accountants and internal auditors in examining financial statements and supporting data. Special emphasis is given to assets and liabilities.
Course Objectives:
1. The objectives of the Bangladesh taxation and audit system,
2. The conceptual standards for evaluating taxation and auditing policies and systems,
3. Bangladeshi tax laws for income recognition, expense deduction, and property transactions.
4. Toequip the students with the latest knowledge of auditing.
5. To develop awareness of International Auditing Standards.
6. To equip the students with latest tools and techniques in internal & external auditing.

At the end of the course, the students will be able to:

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Be aware of tax law and regulations of Bangladesh | Lecture | Quiz + Class Test + Term Final |
| Apply practical knowledge of taxation and auditing. | Lecture | Term Final |
| Be aware of international auditing principles | Lecture | Class Test+ Term Final |
| Prepare tax return for their own income | Lecture + Team Work | Project Presentation + + Class Test + Term Final |
| Contribute to the national taxation policy development and auditing | Lecture + Case Study | Presentation + Class Test + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction and Internal Check or Control**<br>Objectives - Advantages - Different classes of audit,: Definition and purpose - Internal check and internal audit - Auditors duty in regard to internal check- Audit program | 4 |
| Chapter-2 | **Vouching**<br>Meaning and importance-Vouching of cash transactions - Vouching of trading transactions | 4 |
| Chapter-3 | **Verification and Valuation of assets and Liabilities**<br>Principles and methods of verification and valuation and verification | 4 |
| Chapter-4 | **The Audit of Limited Companies**<br>Qualifications, appointment and removal of auditor-Rights, powers and duties of auditors-Forms of income statement and balance sheet - Auditor's Report | 4 |
| Chapter-5 | **Income- Tax**<br>Definition of income and income tax - Characteristics of income - Total income and total world income - Income year and assessment year - Role of income tax law in industrial development of Bangladesh. | 5 |
| Chapter-6 | **Classification of income and Heads of income**<br>Assessable and non-assessable income, Income from salary - income from interest on securities - income from house property-income from agriculture-income from business and profession - capital gains - income from other sources | 5 |
| Chapter-7 | **Tax assessment and recovery**<br>Assessment procedures-appeal, revision, recovery, refund and penalties, Role and legal power of income tax authorities, Assessment of individuals, partnerships and public limited companies . | 5 |
| Chapter-8 | **Value Added Tax (VAT):**<br>Introduction: Assessment and payment of Tax - Valuation - Accounting - Refunds - Drawbacks - Calculation of VAT - Controlling evasion of VAT. | 4 |
| Chapter-9 | **Program for tax calculation**<br>Application of computer program in calculation of Income Tax. | 4 |

***Recommended Books:***

- Tandon, B.N. ***A handbook of Practical Auditing***. S. Chand and Company ltd. New Delhi.
- Government of Bangladesh, The Income Tax Ordinance 1984 - Part1 & 2 along with modifications up-to-date.
- **Taxation Study Manual**, Vol. 1&2.
- Government of Bangladesh, Publications on VAT.

**MIS-2210: Viva Voce**
**Type : Compulsory**
**Term : IV**
**Credit : 2**
**Course Description:**
This course is designed to judge the over all understanding of students during second year. It will enable students to review the previous courses that were learned during 2nd semester. Multiple Learning venues and formats, intense and focus éducation méthodes will be applied to judge the in-depth of knowledge of the students. An observatory board consists of both internal and external faculties will physically execute the viva voce.

**Course Objectives :**

- ✓ to prepare the candidates to face interview both at the academic and practical purpose.
- ✓ test the student's basic comprehension of the 1st year courses.
- ✓ justify the candidate's acquaintance with the basic literature of the practical implications of that subjects.
- ✓ validate student's mental strength, communication skills, body language and physical appearance.
- ✓ Determine wheather the tudents knowledge and skills is sufficient or not.
- ✓ clarify the students lacking and expertise areas.

**Learning Outcome :** At the end of the course candidates will be able to-

| **Learning Outcomes** | **Teaching Learning Strategy** | **Assesment Strategy** |
|---|---|---|
| Balance theoretical understanding with practical implication | Lecture + Workshop | Viva Voce |
| Identify the skills and areas of development | Lecture + Tutorial | Viva Voce |
| Develope the skill of decession making capability | Workshop | Viva Voce |
| Develope the manner, attitude, Outlooking and smartness | Lecture + Workshop | Viva Voce |
| improve adaptability, power and maturity | Lecture + Tutorial | Viva Voce |

**MIS- 3101: DATABASE MANAGEMENT**
**Type : Compulsory**
**Term : V**
**Credit : 2**
**Course Description:**
Developing and managing efficient and effective database applications requires understanding of the fundamentals of database management systems, techniques for the design of databases, and principles of database administration. This course emphasized database concepts, developments, use and management in

three main sections: database concepts, practice, and emerging trends. Relational database systems are the main focus, but other types, including object- oriented databases, are studied. Practical design of databases and developing database applications using modern software tools will be emphasized.

**Course Objectives:**

- To provide the knowledge of Database fundamentals and administration
- To provide the knowledge of developing and managing efficient and effective database applications

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Analyze the data and data organization needs of organization | Lecture | Quiz + Class Test + Term Final |
| Discuss the physical database design process of producing an efficient and tuned database | Lecture | Quiz + Class Test + Term Final |
| Apply the Entity-Relationship (E-R) Model for building information systems' data models. | Lecture | Term Final |
| Transform an E-R diagram into a relational model, and use normalization to create a database relational schema | Lecture + Group Discussion | Class Test+ Term Final |
| Use vertical and horizontal partitioning for data distribution. | Lecture | Project Presentation + + Class Test + Term Final |
| Elaborate on data storage and indexing options, and perform query optimization | Lecture + case study | Presentation + Class Test + Term Final |
| Use SQL for database creation, manipulation, and control | Lecture | Presentation + Class Test + Term Final |
| Perform basic database administration tasks | Lecture + Case Study | Presentation + Class Test + Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction**<br><br>Introduction to concepts and methods for storing and manipulating data in stored form Physical & logical data Independence, File retrieval and organization, Database administration. Methods used for the storage, selection and presentation of Data. Database integrity and security. [ Silberschatz A., Korth H.F. &Sudarshan S., "***Database System Concepts*** ] **Chapter 1** | **6** |
| Chapter-2 | **Database Design**<br><br>Database models and designing of database systems. The principles of database management systems. Relational database management systems, Entity, Relation, ER Diagram, Generalization, Aggregiation. | **6** |

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| Chapter-3 | **Query Language**<br><br>Database design process relational model concepts relational algebra operations , Query formulation and language, queries in SQL , DML, DDL, table, view , create, insert , delete and update statements in SQL views in SQL, Joining table. | **7** |
| Chapter-4 | **Normalization**<br><br>Database design: functional dependencies, normal forms, general definition of second and third normal<br><br>Forms, Boyce-Codd normal form, multi valued dependencies and fourth normal form, join dependencies and fifth normal form, inclusion dependencies. [ Ramakrishnan R. &Gehrke J., "***Database Management Systems*** ] **Chapter 4 & 5** | 6 |
| Chapter-5 | **Transaction**<br><br>Transaction, ACID properties, Serializability, Lock-based Protocols, Time stamp based protocols. [ Jeffrey A. Hoffer, Mary Prescott, HeikkiTopi, '***Modern Database Management*** ] Chapter 6 & 7 | **7** |
| Chapter-6 | **Advanced Database Systems**<br><br>NOSQL, Data Cube, Map Reduce, OLTP and OLAP.[ Elmasri&Navathe, "***Fundamentals of Database Systems*** ] **Chapter 8 & 9** | **7** |

**Recommended Book:**

- Jeffrey A. Hoffer, Mary Prescott, HeikkiTopi, '***Modern Database Management*****,** Publisher: Prentice Hall, USA
- Elmasri&Navathe, "***Fundamentals of Database Systems***", Addison Wesley
- Ramakrishnan R. &Gehrke J., "***Database Management Systems***", McGraw Hill
- O'neil P. &O'neil E., "***Database Principles, Programming, And Performance***", Harcourt Asia, Morgan Kaufman
- Silberschatz A., Korth H.F. &Sudarshan S., "***Database System Concepts***", Tata McGraw Hill

**MIS- 3102: DATABASE MANAGEMENT LAB**
**Type : Compulsory**
**Term : V**
**Credit : 1**
**Course Description:**Developing and managing efficient and effective database applications requires understanding of the fundamentals of database management systems, techniques for the design of databases, and principles of database administration. This course emphasized database concepts, developments, use and management in three main sections: database concepts, practice, and emerging trends. Relational database systems are the main focus, but other types, including object-oriented databases, are studied. Practical design of databases and developing database applications using modern software tools will be emphasized.

**Course Objectives:**

- To provide the knowledge of Database fundamentals and administration
- To provide the knowledge of developing and managing efficient and effective database applications

**Learning Outcomes:**

At the end of the course students will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| Implement the data and materials as the needs of organization | Lab | Quiz + Lab Exam + Term Final |
| Apply the Entity-Relationship (E-R) Model for building information systems' data models. | Lab | Quiz + Lab Exam + Term Final |
| Perform basic database administration tasks | Lab + Team Work | Lab Exam + Quiz + Term Final |
| Use SQL for database creation, manipulation, and control | Lab + Team Work | Lab Exam + Quiz + Term Final |
| Transform an E-R diagram into a relational model, and use normalization to create a database relational schema | Lab | Quiz + Lab Exam + Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>Introduction to concepts and methods for storing and manipulating data in stored form Physical & logical data Independence, File retrieval and organization, Database administration. Methods used for the storage, selection and presentation of Data. Database integrity and security. | **2** |
| Chapter-2 | **Database Design**<br>Database models and designing of database systems. The principles of database management systems. Relational database management systems, Entity, Relation, ER Diagram, Generalization, Aggregiation. | **3** |
| Chapter-3 | **Query Language**<br>Database design process relational model concepts relational algebra operations , Query formulation and language, queries in SQL , DML, DDL, table, view , create, insert , delete and update statements in SQL views in SQL, Joining table. | **2** |

| | | |
|---|---|---|
| Chapter-4 | **Normalization**<br>Database design: functional dependencies, normal forms, general definition of second and third normal<br>Forms, Boyce-Codd normal form, multi valued dependencies and fourth normal form, join dependencies and fifth normal form, inclusion dependencies. \ | **2** |
| Chapter-5 | **Transaction**<br>Transaction, ACID properties, Serializability, Lock-based Protocols, Time stamp based protocols. | **2** |
| Chapter-6 | **Advanced Database Systems**<br>NOSQL, Data Cube, Map Reduce, OLTP and OLAP. | **2** |

**Recommended Book:**

- Jeffrey A. Hoffer, Mary Prescott, HeikkiTopi, '***Modern Database Management*****,** Publisher: Prentice Hall, USA
- Elmasri&Navathe, "***Fundamentals of Database Systems***", Addison Wesley
- Ramakrishnan R. &Gehrke J., "***Database Management Systems***", McGraw Hill
- O'neil P. &O'neil E., "***Database Principles, Programming, And Performance***", Harcourt Asia, Morgan Kaufman
- Silberschatz A., Korth H.F. &Sudarshan S., "***Database System Concepts***", Tata McGraw Hill

**MIS- 3103: STATISTICS FOR BUSINESS**
**Type : Compulsory**
**Term : V**
**Credit : 3**
**Course Description:** The aim of the course is to help you develop an understanding of the core quantitative techniques from statistics. A particular emphasis is placed on developing the ability to interpret the numerical information that forms the basis of decision-making in business. Most of the examples are drawn from a variety of business applications. This course introduces core business statistics and fundamental aspects of decision-making. It examines aspects of business and marketing with regards to basic statistical analysis. Students will be provided with the theoretical concepts, tools and methods of statistics as well as the opportunity to work through example problems.

**The objectives of the course are as follows:**

- Understand key concepts of statistics.
- Recognize statistical techniques appropriate to the analysis of particular business problems or situations.
- Select appropriate statistical techniques and evaluate their advantages and disadvantages.
- Calculate and interpret business statistics.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis | Lecture | Final Exam<br>Quiz+ Class Test |
| Critically evaluate the underlying assumptions of analysis tools. | Lecture + Group Discussion | Final Exam<br>Practical Exam |
| Understand and critically discuss the issues surrounding | Lecture + Team Work | Final Exam |

| | | |
|---|---|---|
| sampling and significance | | Class Test |
| Discuss critically the uses and limitations of statistical analysis | Lecture | Final Exam Class Test |
| Solve a range of problems using the techniques covered. | Lecture + Team work | Final Exam Class Test |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Business Statistics**<br>Introduction, Subdivision within statistics, Statistics and Business Decisions. | **3** |
| Chapter-2 | **Collection and Presentation of Data**<br>Statistical Data, Classification of data, Types of Classification, formation of frequency distribution, Tabulation of data, Charting data, graphs of frequency distribution. | **4** |
| Chapter-3 | **Measures of Central Tendency and Variations**<br>Mean, Median, Mode, Range, Quartiles, Percentiles, Variance, Standard deviation, Coefficient of Variations, Coefficient of variation. | **4** |
| Chapter-4 | **Correlation and Regression Analysis**<br>Coefficient of Correlation, limitations of correlation | **4** |
| Chapter-5 | **Time Series Analysis**<br>Definitions, Components, Trends, Variations in time series. | **4** |
| Chapter-6 | **Probability**<br>Meaning, Experiment, Sample space, Probability laws, Bayes law. | **4** |
| Chapter-7 | **Random Variable and Probability Distribution**<br>Definitions, Classifications, Probability Distribution. | **4** |
| Chapter-8 | **Discrete and Continuous Probability Distribution**<br>Binomial and Poison Probability distribution, Normal approximation to the binomial distribution. | **4** |
| Chapter-9 | **Sampling and sampling Distributions**<br>Definitions, principles, methods of sampling, sampling types, sampling distributions, the central limit theorem, sampling distribution of the sample mean and proportions. | **4** |
| Chapter-10 | **Tests of Hypothesis**<br>Introduction, procedure of Hypothesis Testing. | **4** |

**Recommended Books:**


- Douglas A. Lind and Rebert D. Mason, ***Basic Statistics for Business and Economics,*** Irwin McGraw – Hill, Boston USA.
- Richard I. Levin, ***Statistics for Management,*** Prentice-Hall of India Private Limited, New Delhi, India.
- S.P. Gupta and M.P. Gupta, ***Business Statistics.*** Sultan Chand and Sons, New Delhi, India.

- Muhammad Ali Miah and M. AlimullahMiyan, ***An Introduction to Statistics,*** Ideal Library, Dhaka.

**MIS-3104: STATISTICS FOR BUSINESS LAB**
**Type : Compulsory**
**Term : V**
**Credit : 1**
**Course Description:** Statistical methods are applied in all functional areas of business: accounting, finance, management, and marketing. Accounting uses statistical methods to select samples for auditing purposes and to understand the cost drivers in cost accounting.

**The objectives of the course are as follows:**

- Focus on data collection, data presentation, summarizing and describing data, basic probability, and statistical inference.
- Use computer algebra systems and spreadsheets as tools for performing statistical calculations, creating tables, and generating graphical representations of information.
- Emphasis is on applications of statistics in business.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| Understand the meaning and use of statistical terms used in business statistics. | Lecture + multimedia presentations | Quizzes + graded homework |
| Present and/or interpret data in tables and charts. | group discussions + spreadsheet assignments | Exam + graded homework |
| Understand and apply descriptive statistical measures to business situations. | Readings + group discussions | Case study + exam |
| Understand and apply probability distributions to model different types of business processes. | Lecture + multimedia presentations | Presentation + exam |
| Solve a range of problems using the techniques covered. | Multimedia presentations + Team work | Presentation + exam |

**Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Business Statistics**<br>Subdivision within statistics, Statistics and Business Decisions | **2** |
| Chapter-2 | **Collection and Presentation of Data**<br>Statistical Data, Classification of data, Types of Classification, formation of frequency distribution, Tabulation of data, Charting data, graphs of frequency distribution. | **2** |
| Chapter-3 | **Measures of Central Tendency and Variations**<br>Mean, Median, Mode, Range, Quartiles, Percentiles, Variance, Standard deviation, Coefficient of Variations, Coefficient of variation. | **1** |
| Chapter-4 | **Correlation and Regression Analysis**<br>Coefficient of Correlation, limitations of correlation | **1** |
| Chapter-5 | **Time Series Analysis**<br>Trends, Variations in time series. | **1** |
| Chapter-6 | **Probability** | **1** |

| | | |
|---|---|---|
| | Experiment, Sample space, Probability laws, Bayes law. | |
| Chapter-7 | **Random Variable and Probability Distribution**<br>Probability Distribution. | **1** |
| Chapter-8 | **Discrete and Continuous Probability Distribution**<br>Binomial and Poison Probability distribution, Normal approximation to the binomial distribution. | **1** |
| Chapter-9 | **Sampling and sampling Distributions**<br>Methods of sampling, sampling types, sampling distributions, the central limit theorem, sampling distribution of the sample mean and proportions. | **1** |
| Chapter-10 | **Tests of Hypothesis**<br>Procedure of Hypothesis Testing. | **2** |

***Recommended Resources:***

- Douglas A. Lind and Rebert D. Mason, ***Basic Statistics for Business and Economics,*** Irwin McGraw – Hill, Boston USA.
- Richard I. Levin, ***Statistics for Management,*** Prentice-Hall of India Private Limited, New Delhi, India.
- S.P. Gupta and M.P. Gupta, ***Business Statistics.*** Sultan Chand and Sons, New Delhi, India.
- Muhammad Ali Miah and M. AlimullahMiyan, ***An Introduction to Statistics,*** Ideal Library, Dhaka.

**MIS-3105: PRODUCTION&OPERATIONS MANAGEMENT**
**Type : Compulsory**
**Term : V**
**Credit : 3**
**Course Description:** Production and Operation Management is a subject relevant to all levels of the hierarchy in an organization. In the 'Productions and Operations Management' course an attempt will be made to integrate the courses studied by the students like statistics, economics, finance, organizational behavior and strategy into a consolidated production and operation related decisions.

**Course Objectives:** One of the most critical areas for success in any business enterprise is how Production and Operations are managed. The objectives of the course are as follows:

- To produce the goods as per the quality demanded by the customers in most economic manner.
- To sustain as well as to increase the level of customer satisfaction.
- To make improvement in existing goods and services by regular innovations.
- To maintain inventory at such levels that there may not be the blockage of working capital due toexcessive stock and the production may not hamper due to unavailability of stock.
- To ensure uninterrupted supply of goods and services in right quantity at right time and at rightplace.
- To produce the goods as per market demand.
- To keep proper maintenance of plant and machinery

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to:<br>Understand 'operations' and 'operations management' | Lecture | Final Exam+ Class |

| | | |
|---|---|---|
| | | test+case solving |
| Identify the roles and responsibilities of operations managers in different organizational contexts | Lecture | Final exam + Class test |
| Apply the 'transformation model' to identify the inputs, transformation processes and outputs of an organization | Lecture + group discussion | Final Exam+ Class test |
| Identify operational and administrative processes | Lecture | Final exam |
| Describe the boundaries of an operations system, and recognize its interfaces with other functional areas within the organization and with its external environment. | Lecture | Class test+ Final exam+ presentation |
| Understand Production base | Lecture | Final exam + Class Test |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Managing Process and Resource**<br>Introduction to Operations Management-Process Analysis-Application of Process Analysis-Monitoring a process using Control Charts-Optimization Resource allocation, operations Strategy and competitiveness | **4** |
| Chapter-2 | **Product Design and Process Selection**<br>Manufacturing and Services | **4** |
| Chapter-3 | **Managing Service System**<br>Coping with variability of Service System-Separating Vs. Pooling Servers-Simulating a Service system. | **4** |
| Chapter-4 | **Matching supply with demand: Inventory Management**<br>Management: EOQ and Newsvendor Model, Centralization and Postponement-Revenue Management | **4** |
| Chapter-5 | **Managing supply chain**<br>Inventory Management: EOQ and Newsvendor Model, Centralization and Postponement-Revenue Management . | **5** |
| Chapter-6 | **Core Operation**<br>Facility Location and layout, Production operations, Maintenance. | **5** |
| Chapter-7 | **Support operation**<br>Contracts and Procurement, Supply Chain Management, Logistics. | **5** |
| Chapter-8 | **Job Design**<br>Job Design and Work Measurement, Material Requirement Planning. | **4** |
| Chapter-9 | **Distribution**<br>Aggregate Sales and Operations Planning | **4** |

***Recommended Books:***

- Chase, Jacobs and Aquilano ***Operations Management for Competitive Advantage***, McGraw-Hill

Publications. USA

- Lee J. Krajewski and Larry P. Ritzman, ***Operations Management: Strategy and Analysis,*** Addison Wesly Publishing Company, USA.
- Schroeder, R.G. ***Operations Management: Contemporary Concepts and Cases,*** McGraw-Hill Publications, USA.

**MIS-3107: IT GOVERNANCE & PROJECT MANAGEMENT**
**Type : Compulsory**
**Term : V**
**Credit : 3**
**Course Description:**
The course presents an integrated approach to IT governance by guiding the participant through a comprehensive IT Governance framework and roadmap and its major components,
**Course Objectives:**
Strategic alignment of IT with the business • Responsible utilization of assets and resources • Ensures that IT delivers on its plans and commitments • Establishes and/or improves accountability of all constituents •Manage the project and risks • Improves project accountability, & audit-ability,

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcomes | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand the issues, challenges and growing importance of IT governance | Lecture | Quiz + Class Test + Term Final |
| Be able to plan, develop, deploy and sustain an effective IT governance policy, process, techniques and tools | Lecture+ Group Discussion | Quiz + Class Test + Term Final |
| Allocate IT resources to the highest business value add activities (e.g. portfolio investment management) | Lecture+ Case Study | Quiz + Class Test + Term Final |
| Establish and/or improve IT decision rights, ownership and accountability | Lecture | Quiz + Class Test + Term Final |
| Improve organizational performance, responsiveness, reliability , maturity and staff development | Lecture+ Group discussion | Quiz + Class Test + Term Final |
| Improve compliance and audit-ability | Lecture+ Case study | Class Test+ Term Final |
| understand the meaning of project management | Lecture | Project Presentation + Class Test + Term Final |
| understand the importance of project management as it effects strategy and business success | Lecture | Class Test + Term Final |
| Get familiar with the planning and execution phases of a project | Lecture + Group discussion +Lab | Presentation + Class Test + Term Final |
| understand the importance of strategic planning, of priority setting | Lecture + Group discussion | Presentation + Class Test + Term Final |

**Course Contents**

| **Chapter** | **Topics** | **Contact** |
|---|---|---|

| | | Hours |
|---|---|---|
| Chapter-01 | **Types of information systems projects**<br>Nine distinct types of IS project that may be encountered, Describe two key characteristics of each of these nine types of IS project, Describe the particular skills required by project managers to manage each of the types of IS project, Describe how to tailor the project management approach for smaller IS projects. | **3** |
| Chapter-02 | **Business strategy and information systems**<br>Explain how an organization's strategy impacts on the development of IS Projects, List the characteristics of a good strategy, List three business analysis tools used in strategy development, Describe a process for developing a strategy, Summarize how strategy interacts with other factors to determine an organization's effectiveness, Suggest some ways in which information systems can support the development of competitive strategies. | **2** |
| Chapter-03 | **The business case**<br>Describe the structure of a business case, Use the payback, discounted cash flow and the internal rate of return methods to calculate the financial implications of a business case, Differentiate between tangible and intangible costs and benefits. | **3** |
| Chapter-04 | **The organizational framework**<br>Prepare organizational structure charts for a functional organization structure, a project structure and a matrix structure, Identify the key roles and responsibilities in an IS project, Define programme and project management. | **2** |
| Chapter-05 | **The programme and project support office**<br>List the functions of a programme and project support office (PPSO), Summarize the advantages to an organization of using a PPSO, Categorize the activities of a PPSO during the main delivery stages of a project under the headings of data capture, data analysis and information presentation. | **2** |
| Chapter-06 | **Development lifecycles and approaches**<br>Identify four different development lifecycle models, Describe the stages of the waterfall, 'V' and spiral lifecycle models, List business and technical reasons for choosing a spiral or rapid application development lifecycle, Contrast 'traditional' and structured development approaches to systems development, List the common factors apparent in agile approaches, State the eight principles of DSDM, Describe the basic principles of the object-oriented and component-based approaches, Summarize the reasons for choosing a commercial 'off-the-shelf' package instead of developing a custom-built solution, Suggest an approach to systems development that specifically addresses the uncertainty of real-world situations and problems. | **2** |
| Chapter-07 | **The profile of a project**<br>Explain the stages of the generic process model, Explore the importance of the project start-up stage under the headings of what, why, who, how and when,Prepare a project initiation document, Describe the main activities of the development stage. | **3** |
| Chapter-08 | **Project planning: understanding the work**<br>Demonstrate your understanding of the need for project planning,Prepare a work breakdown structure, Prepare a product breakdown structure, Describe the | **2** |

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|---|---|---|
| | difference between product descriptions and work packages, Describe the importance of dependencies in project planning, Prepare a network diagram, Calculate a project's critical path, Draw a Gantt chart for sequential and parallel activities. | |
| Chapter-09 | **Project planning: estimating**<br>Suggest reasons why it is difficult to estimate accurately for IS projects, Identify six different estimating methods, List some of the tasks not amenable to normal estimating methods, Propose practical tips for improving the quality of estimating. | **3** |
| Chapter-10 | **Project planning: scheduling and resourcing**<br>Explain the difference between effort and elapsed time in the scheduling Process, From a simple network produce Gantt bar charts for single and multiple person teams, Define a project milestone, State the importance of using project milestones, Show how bar charts and milestones can be used to prepare resource requirements,List the headings for a comprehensive plan. | **3** |
| Chapter-11 | **Monitoring progress**<br>List the three perspectives against which projects should be managed, Define the structure for a project timesheet, Describe six kinds of quality control review, Explain how earned value analysis can be used to monitor progress. | **2** |
| Chapter-12 | **Exercising control**<br>Describe a generic model for controlling project work, List different kinds of corrective action to get a project 'back on course', Distinguish between change control and configuration management. | **3** |
| Chapter-13 | **Reporting progress**<br>Identify the stakeholders who should receive regular progress reports, Decide on the contents for progress reports, Structure a progress report presentation. | **2** |
| Chapter-14 | **Managing quality**<br>Define what 'quality' means in a project management context, Describe the five stages of the Software Maturity Model, Prepare a quality plan for a project, Distinguish between the contributions of testing and inspections to software quality, Show how testing and inspection fit into the software development lifecycle. | **2** |
| Chapter-15 | **Managing risk**<br>Describe the risk management process, List typical project risks, Assess risks and prepare a risk map, Create a risk register, List typical strategies for risk management. | **3** |
| Chapter-16 | **Selling the project**<br>Describe the buying process, Use a simple model to explore customer needs, Structure an effective proposal, Explore some key issues around negotiation. | **2** |

***Recommended Books*:**

- IT Governance: How Top Performers Manage IT Decision Rights for Superior Results Kindle Edition by Peter Weill Jeanne W. Ross
- IT Governance - Guidelines for Directors by Alan Calder, IT Governance Publishing
- James Cadle and Donald Yeates, ***'Project Management for Information Systems,*** Prentice-Hall, USA
- McManus, J. and Wood-Harper, T. ***Information Systems Project Management.*** Pearson education limited, London.
- Van Horn, R.L., Schwarzkoph, A.B. and Price, R.L. ***Information Systems Solution: A Project Approach,*** McGraw-Hill, USA

**MIS-3109: INTERNATIONAL BUSINESS**
**Type : Compulsory**
**Term : V**
**Credit : 3**
**Course Description:**Overview of the unique problems faced by firms engaging in international activities; the importance of understanding the foreign economic, social, political, cultural, and legal environment; the mechanics of importing and exporting; joint venture, franchising, and subsidiaries, international dimensions of management, marketing and accounting, international financial management; the special problems of multi-national corporations; recent problems of the international economic system; country-risk analysis; the increasing use of counter trade.

**Course Objectives:** The International Business **is** as follows:

- Preparing students for their management tasks and leadership roles in a multicultural entrepreneurial environment, in either national or multinational companies.
- Providing students with the in-depth knowledge and skills.
- Educating and preparing a diverse group of men and women with the knowledge, analytical ability, and management perspectives.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| After completing this course, the students will be able to:<br>Recognize challenges and opportunities in foreign markets by utilizing and understanding of the characteristics of high-performing organizations by building on the 4 processes that are linked within the management cycle: planning; organizing; leadership; and control. | Lecture | Final Exam+ Class test + case solving |
| Learn to critically analyze the risk and opportunities presented for businesses that operate in the global arena and develop financial models and strategic proposals to communicate this information for decision-making. | Lecture | Final exam + Class test |
| Develop interpersonal written, visual and oral communication skills underlying international business that includes sensitivity to foreign cultures. | Lecture + group discussion | Final Exam+ Class test |
| Gain an appreciation of the human diversity in organizations across values and cultures and learn how to effectively operate within an international business context. | Lecture | Final exam+ Class Exam |
| Focus on how to manage cultural interdependence, with a consideration of issues of corporate social responsibility, ethics, and sustainability. | Lecture | Class test+ Final exam |
| Analyze International business situations in keeping with professional standards and moral values and recommend appropriate courses of action. | Lecture + Group Discussion | Final Exam + presentation |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Basics**<br>Importance of international business in the world economy - Trends of | **5** |

| | | |
|---|---|---|
| | international business with reference to Bangladesh. | |
| Chapter-2 | **International trade and Investment**<br><br>The source of international business - comparative advantage, Economic gain, Effects of business quotas - Heckscher Ohlion Theorem , Mercantilism - Absolute advantage - comparative advantage -comparative advantage and money-modern firm-based trade theories -international investment theories-factors influencing FDI | **5** |
| Chapter-3 | **Protectionism and Free Business**<br><br>Arguments/economics of protectionism - Incitements of protectionism - Multilateral business negotiation - Removing barriers to free business - GATT as an initiative for liberalizing business. | **6** |
| Chapter-4 | **Monetary system and foreign exchange**<br><br>History of the international monetary system-The BOP Accounting system, Balance of international business - International financial system | **7** |
| Chapter-5 | **Issues of International Economics**<br><br>The Bretton Woods System - The International Monetary Fund (IMF) - The World Bank (WB) - World Business Organization (WTO), RTA (Regional Trade Agreement). | **5** |
| Chapter-6 | **Foreign Exchange markets**<br><br>Equilibrium exchange rates - Determinants of foreign exchange rate - Nominal and real exchange rates - Appreciation and depreciation of currencies - International balance of payments - Current accounts, capital accounts. | **6** |
| Chapter-7 | **Bangladesh and International Business**<br><br>Transportation models, Assignment models, Minimum Cost Network Flow Models, Shortest path models. | **5** |

***Recommended Books:***

- G. Jempa and A. Rhoen, ***International Trade, A Business Perspective.*** Addison Wesley Longman, Eurpoe. (Pearson Education Asia)
- Ricky W. Griffin: ***International Business: A Managerial Perspective;*** Addision - Wesly Publishing Co. New York, USA.
- Joha D. Danials, lee H. Radebangh, Daniel P. Sullivan, ***International Business: Environments and Operations.***Prentice-Hall, USA

**MIS-3201: MANAGEMENT SCIENCE**
**Type : Compulsory**
**Term : VI**
**Credit : 3**
**Course Description:** This course covers teaches approaches to solving business problems from managerial point of view. Various optimization techniques are surveyed with an emphasis on the why and how of these types of models as opposed to a detailed theoretical approach. Students develop optimization models which relate to their areas of interest. Spreadsheets are used extensively to accomplish the mathematical manipulations. Emphasis is placed on input requirements and interpretation of results.

**Course Objectives:** The objectives of the course are as follows:

- Make successful careers as engineers in industry, non-profit organizations, government, laboratories, Consulting firms or further academic education.
- Serve the society with their innovations and developed products within a diverse environment.
- Promote continuous development of professional know how but also their social knowledge and skills.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| After completing this course, the students will be able to:<br>Use mathematical tools and techniques to aid decision-making and planning | Lecture | Final Exam+ Class test +case solving |
| Interpret the outcome of quantitative techniques to gain insights which could be applied to different context of interest | Lecture | Final exam + Class test |
| Identify underlying assumptions and approximations in simple models | Lecture + group discussion | Final Exam+ Class test |
| Use different inventory control models, critical path, forecasting techniques and queuing models in business | Lecture | Final exam+ Class Exam |
| Apply linear programming, simulation and forecasting method for decision making | Lecture | Class test+ Final exam |
| enhance the level of critical thinking | Lecture + Group Discussion | Final Exam + presentation |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Management Science:**<br>Characteristics and Process, Problem solving and decision making, Quantitative Analysis, Models of cost, Revenue and profit, management science techniques etc. | 3 |
| Chapter-2 | **Decision theory and Game Theory**<br>Decision Tables, Decision Trees and game theory | 3 |
| Chapter-3 | **Linear Programming**<br>A simple Maximization Problem, Graphical Solution, Extrem Points and the Optimal Solution, A simple Minimization Problem, Sensitivity Analysis etc | 3 |
| Chapter-4 | **Linear Programming applications**<br>Marketing Applications, Financial Applications, Operations Management Applications etc. | 4 |
| Chapter-5 | **Advanced linear Programming applications**<br>Data Envelopment Analysis, Revenue Management, Portfolio Models and Asset Allocation | 3 |
| Chapter-6 | **Inventory Models**<br>Economic order Quantity-Economic production lot size model-Single period | 5 |

| | | |
|---|---|---|
| | Inventory model with probabilistic demand-order-quantity, reorder point model with probabilistic demand. | |
| Chapter-7 | **Distribution and network models**<br>Transportation models, Assignment models, Minimum Cost Network Flow Models, Shortest path models . | 5 |
| Chapter-8 | **Nonlinear Optimization models**<br>Transportation models, Assignment models, Minimum Cost Network Flow Models, Shortest path models. | 5 |
| Chapter-9 | **Nonlinear Optimization models**<br>Basic ideals of Nonlinear Optimization, Pricing models, advertising response and selection models, Production application, facility location model, Markowitz Portfolio optimization models. | 4 |
| Chapter-10 | **Simulation Technique**<br>Real Application of simulation, probability distribution for input variables, the effect of inputs distributions on results, operations models, financial models, simulating games of chance | 4 |

***Recommended Texts:***

- Turban and Meredith, ***Fundamentals of Management Science***. Boston: McGraw-Hill, USA.
- Anderson, D.R., Sweeney, D.J, and Williams, T. A, ***An Introduction to management Science.*** West Publishing Company, USA.
- Hesse, R., ***Management Spreadsheet Modeling and Analysis***. Boston: McGraw-Hill, USA.

**MIS-3202: MANAGEMENT SCIENCE LAB**
**Type : Compulsory**
**Term : VI**
**Credit : 1**
**Course Description:** This course covers teaches approaches to solving business problems from managerial point of view. Various optimization techniques are surveyed with an emphasis on the why and how of these types of models as opposed to a detailed theoretical approach. Students develop optimization models which relate to their areas of interest. Spreadsheets are used extensively to accomplish the mathematical manipulations. Emphasis is placed on input requirements and interpretation of results.

**Course Objectives:** The objectives of the course are as follows:

- Make successful careers as engineers in industry, non-profit organizations, government, laboratories, Consulting firms or further academic education.
- Serve the society with their innovations and developed products within a diverse environment.
- Promote continuous development of professional know how but also their social knowledge and skills.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| After completing this course, the students will be able to:<br>Use mathematical tools and techniques to aid decision-making and planning | Lecture | lab test+case solving |
| Interpret the outcome of quantitative techniques to gain insights | Lecture | Final exam + |

| | | |
|---|---|---|
| which could be applied to different context of interest | | lab test |
| Identify underlying assumptions and approximations in simple models | Lecture + group discussion | Final Exam+ lab test |
| Use different inventory control models, critical path, forecasting techniques and queuing models in business by different software | Lecture + case study | Final exam+ Lab test |
| Apply linear programming, simulation and forecasting method for decision making by programming language | Lecture + project | Project evaluation + Final exam |
| enhance the level of critical thinking and making better decision faster | Lecture + Group Discussion | Final Exam + presentation |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Management Science:**<br>Characteristics and Process, Problem solving and decision making, Quantitative Analysis, Models of cost, Revenue and profit, management science techniques etc. | **1** |
| Chapter-2 | **Decision theory and Game Theory**<br>Decision Tables, Decision Trees and game theory | **1** |
| Chapter-3 | **Linear Programming**<br>A simple Maximization Problem, Graphical Solution, Extrem Points and the Optimal Solution, A simple Minimization Problem, Sensitivity Analysis etc | **1** |
| Chapter-4 | **Linear Programming applications**<br>Marketing Applications, Financial Applications, Operations Management Applications etc. | **2** |
| Chapter-5 | **Advanced linear Programming applications**<br>Data Envelopment Analysis, Revenue Management, Protfolio Models and Asset Allocation | **2** |
| Chapter-6 | **Inventory Models**<br>Economic order Quantity-Economic production lot size model-Single period Inventory model with probabilistic demand-order-quantity, reorder point model with probabilistic demand. | **2** |
| Chapter-7 | **Distribution and network models**<br>Transportation models, Assignment models, Minimum Cost Network Flow Models, Shortest path models . | **1** |
| Chapter-8 | **Nonlinear Optimization models**<br>Transportation models, Assignment models, Minimum Cost Network Flow Models, Shortest path models. | **1** |
| Chapter-9 | **Nonlinear Optimization models**<br>Basic ideals of Nonlinear Optimization, Pricing models, advertising response and selection models, Production application, facility location model, Markowitz | **1** |

| | | |
|---|---|---|
| | Portfolio optimization models. | |
| Chapter-10 | **Simulation Technique:**<br>Real Application of simulation, probability distribution for input variables, the effect of inputs distributions on results, operations models, financial models, simulating games of chance | **1** |

***Recommended Texts:***

- Turban and Meredith, ***Fundamentals of Management Science***. Boston: McGraw-Hill, USA.
- Anderson, D.R., Sweeney, D.J, and Williams, T. A, ***An Introduction to management Science.*** West Publishing Company, USA.
- Hesse, R., ***Management Spreadsheet Modeling and Analysis***. Boston: McGraw-Hill, USA

**MIS-3203: DATA AND TELECOMMUNICATIONS MANAGEMENT**
**Type : Compulsory**
**Term : VI**
**Credit : 3**
**Course Description:** This course provides an introduction to the field of data communications and computer networks. The course also covers the principles of data communications, the fundamentals of signaling, basic transmission concepts, transmission media, circuit control, line sharing techniques, physical and data link layer protocols, error detection and correction, data compression, common carrier services and data networks, and the mathematical techniques used for network design and performance analysis.

**Course Objectives:**

- Apply frequency and time division multiplexing techniques to share network bandwidth among multiple users.
- Use data compression algorithms to maximize network throughput.
- Use queuing theory and reliability and availability techniques to meet network performance criteria.
- Learn the operation of the Ethernet and WiFi protocols that enable hosts to communicate over Local Area Networks and the operation of the IP protocol that enables hosts to communicate over the Internet.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand the basic principles of Data, network and telecommunications. | Lecture | Final Exam Quiz+ Class Test |
| Identify different components and their respective roles in data and telecommunication system. | Lecture | Final Exam Quiz+ Class Test |
| Apply the knowledge, concepts and terms related to data communication and networking. | Lecture | Final Exam Class Test |
| Solve problems in networking by referring to problems solving steps through relevant information by choosing suitable techniques. | Lecture+ Team work | Final Exam Practical Exam |
| Acquaint with networking software simulation tools, configuring of networking devices and understand their functionality. | Lecture+ Team Work | Final Exam Class Test |

**Course Contents:**



| **Chapter** | **Topics** | **Contact** |
|---|---|---|

| | | Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>Standards, OSI reference model, internal architecture, protocol implementation issues, transmission media, attenuation and distortion, limited bandwidth, signal types, propagation delay, public carrier circuits, modulation, multiplexing, physical layer interfacing standard | 7 |
| Chapter-2 | **Data Transmission**<br>Transmission modes, asynchronous and synchronous transmission, bit – character and frame synchronization, coding, error detection methods, parity, block sum check, cyclic redundancy check, data compression, Huffman coding, dynamic Huffman coding | 8 |
| Chapter-3 | **Networking**<br>IEEE 802.11; Hubs, Bridges, and Switches, FDDI, Fast Ethernet; Routing algorithm; Congestion control; Internetworking, WAN; Fragmentation; Firewalls; IPV4, IPV6, ARP, RARP, Mobile IP, Transport protocols; Transmission control protocol: connection management, transmission policy, congestion control. | 8 |
| Chapter-4 | **Wireless Technology**<br>Local Area Network: LAN topology, Ethernet, Token bus, Token ring, FDDI, Wireless LAN, Fundamentals of GSM, CDMA, GPRS etc | 8 |
| Chapter-5 | **Web Technology**<br>Domain Name System: Name servers; Email and its privacy; SNMP; HTTP; World Wide Web. Internetworking Server and Services: Server Implementation, Content Servers, Performance Servers, Database Servers, Mirrored Servers, Popular Server Products, Web Servers & Databases; Evolution of the World Wide Web, Web Browser Software, Using Browsers to Access Web Pages, Customizing your Browser, Images & Web | 8 |

**Recommended Books:**


- William Stallings. ***Business Data Communications***, Prentice Hall, USA
- Behrouz Forouzan, ***Introduction to Data Communication and Networking***, Tata McGraw Hill Publishing Company Ltd.
- Tanenbaum, A.S., ***Computer Network***, , Prentice Hall, India
- Halsall F., ***Data Communication, Computer Networks and Open Systems***, Addison Wesley
- Leon-Garcia A. &Widjaja I., ***Communication Networks***, Tata McGraw Hill
- Bertsekas&Gallagar, ***Data Networks***, PHI


**MIS-3204: DATA & TELECOMMUNICATIONS MANAGEMENT LAB**
**Type : Compulsory**
**Term : VI**
**Credit : 1**

**Course Description:**

The course covers the principles of data communications, OSI reference model, fundamentals of signaling, basic transmission concepts, transmission media, circuit control, line sharing techniques, physical and data link layer protocols, error detection and correction, data compression, common carrier services and mathematical techniques used for network design and performance analysis.

**Course Objectives:**

- Learn and Implementation about principles and associated materials of data communications
- Apply the operation of different protocols that enable hosts to communicate over Local Area and Internet.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| Understand the basic principles of Data, network and telecommunications. | Lab + Team Work | Final Exam + Quiz + Lab Exam |
| Identify different components and their respective roles in data and telecommunication system. | Lab + Team Work | Final Exam + Quiz + Lab Exam |
| Apply the knowledge, concepts and terms related to data communication and networking. | Lab + Team Work | Final Exam + Lab Exam |
| Solve problems in networking by referring to problems solving steps through relevant information by choosing suitable techniques. | Lab + Team Work | Final Exam + Practical Exam |
| Acquaint with networking software simulation tools, configuring of networking devices and understand their functionality. | Lab + Team Work | Final Exam + Lab Exam |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>Standards, OSI reference model, internal architecture, protocol implementation issues, transmission media, attenuation and distortion, limited bandwidth, signal types, propagation delay, public carrier circuits, modulation, multiplexing, physical layer interfacing standard | 2 |
| Chapter-2 | **Data Transmission**<br>Transmission modes, asynchronous and synchronous transmission, bit – character and frame synchronization, coding, error detection methods, parity, block sum check, cyclic redundancy check, data compression, Huffman coding, dynamic Huffman coding | 2 |
| Chapter-3 | **Networking**<br>IEEE 802.11; Hubs, Bridges, and Switches, FDDI, Fast Ethernet; Routing algorithm; Congestion control; Internetworking, WAN; Fragmentation; Firewalls; IPV4, IPV6, | 3 |

| | | |
|---|---|---|
| | ARP, RARP, Mobile IP, Transport protocols; Transmission control protocol: connection management, transmission policy, congestion control. | |
| Chapter-4 | **Wireless Technology**<br>Local Area Network: LAN topology, Ethernet, Token bus, Token ring, FDDI, Wireless LAN, Fundamentals of GSM, CDMA, GPRS etc | 3 |
| Chapter-5 | **Web Technology**<br><br>Domain Name System: Name servers; Email and its privacy; SNMP; HTTP; World Wide Web. Internetworking Server and Services: Server Implementation, Content Servers, Performance Servers, Database Servers, Mirrored Servers, Popular Server Products, Web Servers & Databases; Evolution of the World Wide Web, Web Browser Software, Using Browsers to Access Web Pages, Customizing your Browser, Images & Web | 3 |

**Recommended Books:**

- William Stallings. ***Business Data Communications***, Prentice Hall, USA
- Behrouz Forouzan, ***Introduction to Data Communication and Networking***, Tata McGraw Hill Publishing Company Ltd.
- Tanenbaum, A.S., ***Computer Network***, , Prentice Hall, India
- Halsall F., ***Data Communication, Computer Networks and Open Systems***, Addison Wesley
- Leon-Garcia A. &Widjaja I., ***Communication Networks***, Tata McGraw Hill
- Bertsekas&Gallagar, ***Data Networks***, PHI

**MIS-3205: ELECTRONIC BANKING & INSURANCE MANAGEMENT**
**Type : Compulsory**
**Term : VI**
**Credit : 3**
**Course Description:** The Banking and Insurance Management course is designed to enable students an essential understanding of the role and operations of the banks and insurance companies. The program is delivered by highly qualified individuals with extensive research experience and strong industry links. During their studies, students will acquire fundamental knowledge and skills that will set the foundations for a successful career in the banking and insurance services sector.

**Course Objective:**

- Understand the basic concept of Banking, E-banking and Insurance Management.
- Understand the basic principles of Banking and Insurance Management provided by the central bank of Bangladesh.
- Understand the criteria for evaluating the performance of different banking the Insurance Institutions.
- Understand the key Security Issues in the area of Electronic Baking Systems
- Apply their knowledge the area of Banking and Insurance Management.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Define the basic concept of Banking, E-banking and Insurance Management. | Lecture | Final Exam Quiz+ Class Test |
| Understand the basic principles of Banking and Insurance Management provided by the central bank of Bangladesh. | Lecture | Final Exam Quiz+ Class Test |
| Analyze the risks and financial problems. | Lecture | Final Exam Class |

| | | |
|---|---|---|
| | | Test |
| Evaluate the performance of different banking the Insurance Institutions. | Lecture | Final Exam Surprise Test |
| Use computer software and technology used in the area of E-banking and Insurance Management. | Lecture | Final Exam Class Test |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Central Bank**<br>Structure - Relations with the Government, Commercial Bank and Financial Institutions. Control mechanism and application of Information Technology. Role of central Bank in economic development of a country, banking regulation, Bangladesh bank regulations | **5** |
| Chapter-2 | **Commercial Bank**<br>Structure - Management - Lending and investment portfolio - capital structure and safety - Reserve and liquidity requirements - General accounting system - Bank customer relationships, Financial Reporting. | **5** |
| Chapter-3 | **Specialized Banking System**<br>Krishi Bank, Shilpa Bank, ICB etc. | **5** |
| Chapter-4 | **Non-bank Financial Institution**<br>Leasing Companies | **4** |
| Chapter-5 | **Insurance Management**<br>Definition - Nature - Role and social values of insurance - insurance contracts - Principles - Essentials of an insurance contract . | **5** |
| Chapter-6 | **Life insurance**<br>: Life assurance contract - kinds of policies and annuities - Procedure of effecting life assurance - Claims and settlement procedures - Premium - Premium plans - Computation of net single premium - Mortality rate - Reserve - Calculation of reserve - Surplus and its distribution. | **5** |
| Chapter-7 | **General Insurance**<br>Marine Insurance - Fire Insurance - Group Insurance - Accident Insurance - Automobile Insurance. | **5** |
| Chapter-8 | **Technology in banking and Insurance**<br>Application of Information Technology in Banks and Insurance companies in Bangladesh . | **5** |

***Recommended Books:***


- Edward W. Reed and Edward K. Gill. ***Commercial Banking***. Prentice - Hall, USA
- The Bangladesh Banks (Nationalization) Order, 1972
- Mehr, R. J. and Commeck, E. ***Principles of Insurance***. Richard D. Irwin, Inc. USA.
- Williams, C.A., Young, P.C. and Smith, M.L. ***Risk Management and Insurance***. McGraw-Hill publishers, USA.


**MIS- 3207: BUSINESS RESEARCH METHOD**
**Type : Compulsory**

**Term : VI**
**Credit : 3**
**Course description:** Business Research Methods introduces students to the nature, scope, and significance of research and research methodologies. Additionally, the course studies primary and secondary research methods with applications to specific problems, using qualitative and quantitative designs for individual investigation on current problems within a student's area of interest. Students will complete an individual research proposal based on a business topic of interest, using the course's textbooks and selected scholarly and peer reviewed sources.
**Course Objectives**: The student will be able to select a research topic, conduct initial research to develop appropriate problem statements, research questions, and hypotheses so that an appropriate research method can be selected. The student will also be able to develop a literature review and a research methodology based on the selected topic. Additionally, students will use specified manuscript requirements in preparing scholarly research proposals. Students will demonstrate mastery by achieving 80% on each assignment, as outlined in the various learning weeks.

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Demonstrate proficiency in defining a research problem, identifying variables or phenomena, identifying research designs, and developing purpose statements, research questions, hypotheses, central questions, and sub questions | Lecture Group Discussion | Quiz + Class Test + Term Final |
| Demonstrate proficiency in conducting a literature review | Lecture+ Group Discussion | Quiz + Class Test + Term Final |
| Demonstrate proficiency in developing a research methodology for qualitative or quantitative designs, using appropriate statistical methods for data analysis | Lecture+ Case Study | Quiz + Class Test + Term Final |
| Demonstrate proficiency in writing a scholarly research proposal, using appropriate manuscript writing procedures and considering ethical issues | Lecture+ Group Discussion+ Case Study | Quiz + Class Test + Term Final |

**Course Contents**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Research Methodology: A Review of the Fundamentals**<br>Meaning of Research, Definitions of Research Methodology, Objectives of Research, Motivation in Research, General Characteristics of Research, Criteria of Good Research, Types of Research. | **4** |
| Chapter-2 | **The Research Problem**<br>Scientific Thinking, What is a Research Problem, Selecting the Problem, Sources of the Problem, Defining a Problem, Statement of a Problem, Delimiting a Problem, Evaluation of a Problem. | **5** |
| Chapter-3 | **The Review of Literature**<br>Meaning of Review of Literature, Need of Review of Literature, Objectives of Review of Literature, Sources of Literature, The Functions of Literature, How to Conduct the Review of Literature, Some Hints for the Review of Literature, | **4** |

| | | |
|---|---|---|
| | Precautions in Library Use, Reporting the Review of Literature. | |
| Chapter-4 | **The Research Hypotheses**<br><br>Meaning of Hypothesis, Definitions of Hypothesis, Nature of Hypothesis, Functions of Hypothesis, Importance of Hypothesis, Kinds of Hypothesis, Characteristics of a Good Hypothesis, Variables in a Hypothesis, Formulating a Hypothesis, Testing the Hypothesis | **5** |
| Chapter-5 | **The Research Approach**<br><br>The Philosophical Background, The Qualitative Approach, The Quantitative Approach, The Mixed-Methods Approach, Criteria for Selecting a Research Approach. | **4** |
| Chapter-6 | **The Research Strategies**<br><br>Definition of Research Strategies, Strategic Approaches to Research, Case Studies, Experiments, Ethnography, Phenomenology, Ground Theory (GT), Action Research, Mixed-methods, Longitudinal. | **5** |
| Chapter-7 | **Data Collection Methods**<br>Types of Research Data, Primary Data Collection, Secondary Data Collection, Questionnaires, Interviews, Focus Groups, Observation. | **4** |
| Chapter-8 | **Sampling**<br>Meaning and Definition of Sampling, Functions of Population and Sampling, Methods of Sampling, Characteristics of a Good Sample, Size of a Sample, The Sample Cycle. | **4** |
| Chapter-9 | **Analysis and Decision Making**<br>Data Analysis basics, Way of Analyzing, Conclusion, Recommendation. | **4** |

**Recommended Books:**


1. C. R. Kothari, ***Research Methodology: Methods and Techniques***
2. Cooper, D. R. and Schindler, S. S. ***Business Research Methods***
3. Alan Bryman, ***Social Research Methods,*** Oxford University Press, UK


**MIS-3209: MANAGEMENT ACCOUNTING**

**Type : Compulsory**
**Term : VI**
**Credit : 3**

**Course Description**: Management Accounting is designed to make students aware about preparing external reports, cost behavior, cost budgets. Relevant and irrelevant cost to a given management decision will be covered in the course. Ethical goal for maximizing the value of a firm will also be introduced.

**Course Objectives:**

The objective of the course is to enable the students to use the data from financial accounting. After adopting the teaching material from this course, a student should acquire basic knowledge and necessary tools for the analysis of financial reports in order to be able not only to present financial reports to the management of a company but also to suggest certain accounting alternatives and financial advice which could result in tax saving, better efficiency of operations, better financial result, etc.

**Upon successful completion of the course, a student will be able to:**

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| Identify cost classifications based on how the cost will be used: whether for preparing external reports, predicting cost behavior, assigning costs to cost objects, or decision making. | Lecture | Final Exam, Class test, Quiz |
| Identify various cost classifications based on how costs respond to changes in production levels, and how those changes affect managements' decision to expand or reduce capacity levels | Lecture | Final exam, class test |
| Explain the critical tradeoffs existing between total cost and sales volume in determining desired profit goals. | Lecture + Group discussion | Final exam, presentation, case solving, class test |
| Prepare an income statement required for external reporting and a different one more useful to managers for managerial decision-making. | Lecture + Discussion | Final exam, Case solving, quiz |
| Evaluate business segments and the managers responsible for those business segments. | Lecture + Internet Exercise | Final exam+ class test+ Presentation |
| Prepare and evaluate operating as well as capital budgets. | Lecture+ Internet Exercise | Final exam+ Class test+ Presentation |
| Identify costs which may be relevant or irrelevant to a given management decision at hand. | Lecture+ Internet Exercise | Final exam+ Class test+ Presentation |
| Discuss the ethical constraints that guide a manager in pursuing his/her ultimate goal of maximizing the value of the firm. | Lecture+ Internet Exercise | Final exam+ Class test+ Presentation |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Managerial Accounting and the Business Environment**<br>Introduction, organizational structure, process management, importance of ethics in business. | **4** |
| Chapter-2 | **Managerial Accounting and Costs Concepts**<br>The work of Management and the need for Managerial Accounting Information, Comparison of Financial and Managerial Accounting, Cost Classifications on financial statements. | **5** |
| Chapter-3 | **Systems Design: Job Order Costing and Process Costing**<br>An overview of job order costing and process costing, comparison of job order and process costing. | **4** |
| Chapter-4 | **Cost Behavior: Analysis and Use**<br>Types of cost behavior patterns, analysis of mixed costs. | **5** |
| Chapter-5 | **Cost- Volume- profit Relationships**<br>The basic concept, cost volume analysis, target profit and break-even analysis, | **4** |

| | | |
|---|---|---|
| | CPV considerations in choosing a cost structure. | |
| Chapter-6 | **Variable Costing: A Tool for Management**<br>Overview of absorption and variable costing, reconciliation of variable costing with absorption costing income. | **5** |
| Chapter-7 | **Activity- Based Costing: A Tool to Aid Decision Making**<br>Overview of Activity- Based Costing (ABC), designing an ABC system, mechanics of ABC. | **4** |
| Chapter-8 | **Flexible Budgets And performance Analysis**<br>Characteristics, flexible budget Variances, flexible budgets with multiple cost drivers | **4** |
| Chapter-9 | **Standard Costs and Operating Performance Measures**<br>Introduction, standard costs- direct material variance, standard costs- direct labor variances, standard costs- variable manufacturing overhead, variance analysis and management by objectives. | **4** |

**Recommended Books:**

- Horngren, C.T, Sundem, G.L. Stratton, W.O., Burgstabler, D &Schatzberg, J. ***Introduction to Management Accounting,*** Prentice-Hall, USA.
- Garrison, Noreen, Brewer: ***Managerial accountin,*** McGraw-Hill Education, USA
- Maryanne M. Mowen, Don R. Hansen, Dan L. Heitger, ***Managerial Accounting: The Cornerstone of Business Decision-Making,*** Cengage Learning, USA

**MIS- 3206: Viva-Voce**
**Type : Compulsory**
**Term : VI**
**Credit : 2**
**Course Description:**
This course is designed to judge the over all understanding of students during last year. It will enable students to review the previous courses that were learned during 1st and 2nd semester. Multiple Learning venues and formats, intense and focus éducation method will be applied to judge the depth of knowledge of the students. Both structured and unstructured question methods will be followed. An observatory board including both internal and external faculties will physically execute the viva voce.

**Course Objectives :**

- ✓ The main objective is to prepare the candidates to face interview both at the academic and practical purpose.
- ✓ It will test the student's basic comprehension of the 1st year courses.
- ✓ It will justify the candidate's acquaintance with the basic literature of the practical implications of

that subjects.

- ✓ It will validate student's mental strength, communication skills, body language and physical appearance.
- ✓ Determine wheather the tudents knowledge and skills is sufficient or not.
- ✓ It will clarify the students lacking and expertise areas.

**Learning Outcome :** At the end of the course candidates will be able to-

| **Learning Outcomes** | **Teaching Learning Strategy** | **Assesment Strategy** |
|---|---|---|
| Balance theoretical knowledge with practical implication | Lecture + Workshop | Viva Voce |
| Identify the skills and areas of development | Lecture + Tutorial | Viva Voce |
| Develope the skill of decession making capability | Workshop | Viva Voce |
| Develope the manner, attitude, Outlooking and smartness | Lecture + Workshop | Viva Voce |
| improve adaptability, power and maturity | Lecture + Tutorial | Viva Voce |

**MIS- 4101: BUSINESS ANALYTICS**
**Type : Compulsory**
**Term : VII**
**Credit : 3**
**Course Description:**
In this course, the student is exposed to core statistical techniques; data retrieval, analysis and mining; and decision modeling to effectively persuade in the project-oriented world of data-driven decisions.

**Course Objective:**
The objective of the course is to

- Expose students to business Analytics (visualization, statistics & data mining) techniques that are used in data empowered business strategy.
- Focus on application of statistics to data analysis in this class.
- Increase Business Analytics IQ
- Get rid of fear of statistics and make it more fun.
- Apply what students learn in this class to what you do at work. Expose you to skills that are required to transform data into actionable intelligence & decision-making.

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcomes | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| understand business and data analytics | Lecture | Quiz + Class Test + Term Final |
| differentiate from business intelligence and data mining; | Lecture | Quiz + Class Test + Term Final |
| Know key information technology/system concepts that will allow them to understand how they provide the necessary data and information for business analytics. | Lecture | Quiz + Class Test + Term Final |
| introduce and get some practical statistics concepts so that students can participate in, and lead | Lecture+ Group discussion | Term Final |

| | | |
|---|---|---|
| analytics-based projects | | |
| introduce and learn some practical data mining techniques | Lecture+ Case study | Class Test+ Term Final |
| able to analyze & evaluate output from statistical and data mining procedures and draw correct conclusions from it | Lecture+ group discussion | Project Presentation + + Class Test + Term Final |
| able to communicate the results of the data analysis to management by writing a detailed report. | Lecture + Case study | Presentation + Class Test + Term Final |
| aware of the special ethical issues that arises when utilizing these techniques. | Lecture + + Group discussion | Presentation + Class Test + Term Final |

**Course Contents**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br>Introduction to Business Analytics , Big Data, Business Analytics Process | **7** |
| Chapter-2 | **Basic Analytics**<br>Data concepts, review of basic statistics, Data exploration & visualization, Hypothesis testing, Type 1 & 2 errors, T-test, ANOVA, Chi-Square, and correlation. | **8** |
| Chapter-3 | **Advanced Analytics**<br>Linear Regression Analysis, Logistic Regression, Decision Tree, Model comparison and evaluation, Cluster Analysis, Market Basket Analysis. | **8** |
| Chapter-4 | **Technology & Tools**<br>Data Warehousing and OLAP concepts, Tools& Technologies for Big Data, Ethical Issues. | **8** |
| Chapter-5 | **Others**<br>Spreadsheet modeling and analysis, Forecasting, Simulation and Risk Analysis | **8** |

**Required Textbook**:

- James R. Evans, ***Business* Analytics**. 2nd edition; Publisher: Pearson; ISBN-13: 9780321997821
- Ron Klimberg and B. D. McCullough, ***Fundamentals of Predictive Analytics with JMP*** ISBN: 978-1-61290-425-2. Publisher: SAS Institute. (e-book is available through Ohiolink).
- Gert Laursen, Jesper Thorlund, ***Business Analytics for Managers: Taking Business Intelligence Beyond Reporting,*** Wiley Publishing company, USA

**MIS-4102: BUSINESS ANALYTICS LAB**
**Type : Compulsory**
**Term : VII**
**Credit : 1**
**Course Description:**
Business Analytics is a set of methods and tools that can transform data into useful insights for decision-making. Business analytical models have been used to determine how many students will enroll in a

university, based on a number of factors and data that the university has on hand. This information can then be used to make positive changes in areas such as marketing and financial aid.

**Course Objective:**

The objective of the course is to

- Introduce students to Business Analytics from a practical point of view.
- Learn about related concepts such as Data Mining Life Cycle, Machine Learning Algorithms, Model Evaluation and Data Visualization.
- Learn about applications of Business Analytics through case studies and practical examples in lab sessions and coursework.
- Be using industry standard tools such as SPSS Modeler and Watson Analytics.
- Enhance communication (presentation and report writing), creative thinking, problem solving, and analytical skills.

**Learning Outcomes:**

At the end of the course students will be able to-

| Learning Outcomes | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Analyse business objectives and the choice of performance metrics to measure them and translate these into Key Performance Indicators | Problem solving + Group Discussion | Quiz + Class Test + Lab Exam |
| Understand and describe different data mining techniques (e.g. classification, clustering, regression, etc) and how these can be applied to different real-world problems | Case study + Lab Practice | Quiz + Class Test + Lab Exam |
| Analyse a given business problem and provide a well-reasoned rationale for the choice of tools and techniques | Lab Practice + Group discussion | Quiz + Class Test + Lab Exam |
| Implement and evaluate a business analytics solution for a given scenario and justify the approach | Group discussion + Case Study | Lab Exam |
| Appreciate the importance of team-work when carrying out the above activities | Case study + Lab Practice | Quiz + Lab Test |

**Course Contents**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction**<br>Big Data, Business Analytics Process | **2** |
| Chapter-2 | **Basic Analytics**<br>Data concepts, review of basic statistics, Data exploration & visualization, Hypothesis testing, Type 1 & 2 errors, T-test, ANOVA, Chi-Square, and correlation. | **3** |
| Chapter-3 | **Advanced Analytics**<br>Linear Regression Analysis, Logistic Regression, Decision Tree, Model comparison and evaluation, Cluster Analysis, Market Basket Analysis. | **3** |
| Chapter-4 | **Technology & Tools**<br>Data Warehousing and OLAP concepts, Tools & Technologies for Big Data. | **3** |
| Chapter-5 | **Others**<br>Spreadsheet modeling and analysis, Forecasting, Simulation and Risk Analysis | **2** |

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|---|---|---|

**Required Textbook**:

- James R. Evans, ***Business* Analytics**. 2nd edition; Publisher: Pearson; ISBN-13: 9780321997821
- Ron Klimberg and B. D. McCullough, ***Fundamentals of Predictive Analytics with JMP*** ISBN: 978-1-61290-425-2. Publisher: SAS Institute. (e-book is available through Ohiolink).
- Gert Laursen, Jesper Thorlund, ***Business Analytics for Managers: Taking Business Intelligence Beyond Reporting,*** Wiley Publishing company, USA

**MIS-4103: ENTREPRENEURSHIP AND INNOVATION MANAGEMENT**
**Type : Compulsory**
**Term : VII**
**Credit : 3**
**Course Description:** Innovation involves "building something from nothing" and successful entrepreneurs know how to manage and mitigate uncertainty and risk. The course content is relevant to those individuals thinking about starting a business or who are already in business - large or small, those who are interested in commercializing their own innovations or of others, and those who advise entrepreneurs or engage in policy making in the entrepreneurship area.

**Course Objectives:** The objectives of the course are as follows:

- To Provide students with an understanding of the nature of enterprise and entrepreneurship and introduces the role of the entrepreneur, innovation and technology in the entrepreneurial process.
- to provide path for the development of growth oriented businesses - whether for-profit or not-for-profit.
- To provide a way of thinking and of doing.
- To Motivate to involve in doing business by own.

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| After completing this course, the students will be able to:<br>Understand the nature of entrepreneurship | Lecture | Final Exam+ Class test+case solving |
| Understand the function of the entrepreneur in the successful, commercial application of innovations | Lecture | Final exam + Class test |
| Confirm an entrepreneurial business idea | Lecture + group discussion | Final Exam+ Class test |
| Identify personal attributes that enable best use of entrepreneurial opportunities | Lecture | Final exam+ Class Exam |
| understand the issues around 'innovation' and 'innovation management' | Lecture | Class test+ Final exam |
| Recognize the diversity of types of innovation, innovators and innovation settings | Lecture + Group Discussion | Final Exam + presentation |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Introduction**<br><br>Definition of entrepreneurship - Entrepreneurship and economic development - Entrepreneurship as a critical resource - Entrepreneurship in economic development. | **4** |
| Chapter-2 | **Theories of Entrepreneurship**<br><br>Psychological theories - Socio-Psychological and Culture theories - Opportunity and backdrop- variables and entrepreneurship. | **5** |
| Chapter-3 | **Entrepreneurship in the Less Developed Countries**<br><br>Overview - An entrepreneurial system model - Influences on entrepreneur - Special dimensions of rural entrepreneurship. | **4** |
| Chapter-4 | **Entrepreneurship and Small business**<br><br>Definition of small business - Small business and economic development - Problem of small business development - Entrepreneurship training as an aid to small business - Different schemes of training - Problems in small business. | **5** |
| Chapter-5 | **Entrepreneurship and Small Business in Bangladesh**<br><br>A review of attempts - Success and failures - Different schemes of small business development - Exiting schemes and future Plans-Role of small business in Bangladesh | **4** |
| Chapter-6 | **Starting a Small Business and Management of Small Business**<br><br>Should one operate a small business? SWOT analysis: - Idea generation-idea validation and implementation - Developing a business plan- various aspects of small business management - Marketing of small business - Production and Operations Management in Small business. | **5** |
| Chapter-7 | **Small Business Support Services**<br><br>Financial support, technical support, accounting support and other supports - small business support services - stages of business growth - government and non-government support services in Bangladesh. | **4** |
| Chapter-8 | **Innovation as a core Process and Finding and selecting opportunities for innovation**<br><br>Innovation and technology management, models and modes of innovation, the industry life-cycle concept, Profiting from innovation-leaders and followers, Sources of innovation, open innovation and the shift from producer to user innovation, innovation networks and national innovation systems, the innovation dilemma. | **4** |
| Chapter-9 | **Basis of intellectual property rights and Innovation ventures**<br><br>Patents and utility models, Copy rights, trademarks, registered designs, trade secrets, : planning for innovation ventures, financing innovation ventures, venture capital funds and the venture capital financing process | **4** |

***Recommended Books:***


- Zimmerer, T.W. and Scarborough, N. M. ***Essentials of Entrepreneurship and Small Business Management,*** Prentice Hall of India.
- D. Holt, Entrepreneurship: ***A New Venture Creation Prentice*** – Prentice Hall Inc. New Jersy, USA.
- Kent R. Blawatt, ***Entrepreneurship: Process and Management,*** Prentice Hall Inc. Englewood Chiffs

USA.
- Nicholas C. Siropolis, ***Entrepreneurship and Small Business Management,*** Houghton Mifflin Co. Boston, USA.
- Curtis E. Tate, Leon C. Meggision, Charles R. Scott, Lyle R. Trueblood, ***Successful Small Business Management,*** Business Publication, Inc. Texas, USA.
- Peter F. Ducker, ***Innovation and entrepreneurship***, Harper Business; Reprint edition, USA.
- Joe Tidd and John **Bessant,** ***Managing Innovation: Integrating Technological, Market and Organizational Change,***Wiley; 4th edition, USA.
- Paul Trott, ***Innovation Management and New Product Development,*** Pearson; 5 edition, USA.

**MIS-4104: Research Project and Thesis**
**Type : Compulsory**
**Term : VII**
**Credit : 2**
**Course Description:** This course is based on the application of Business research method. Different areas on sustainable development will be the issues of the course to help create better world. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies. Technological progress is also key to finding lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, is all important ways to facilitate sustainable development.
**Course Objectives:** The objectives of the course are as follows:

- To develop idea about quality, reliable, sustainable and resilient infrastructure development with the use of IT.
- To Increase door of getting access of IT in small-scale industrial and other enterprises.
- To enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries with the access of IT.
- Promote inclusive and sustainable industrialization with the use of IT.
- Significantly increase access to information and communications technology.
- To Support IT-based domestic technology development, research and innovation.

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand quality, reliable, sustainable and resilient infrastructure development with the use of IT. | Lecture+ Project work | Report + Viva + Presentation |
| Apply knowledge of IT in small-scale industrial and other enterprises | Lecture + Case Study | Quiz + Class Test + Presentation |
| Enhance scientific research, upgrade the technological capabilities of industrial | Project work + Group Discussion | Quiz + Presentation |
| Support IT-based domestic technology development, research and innovation | Project work + Case Study | Quiz + Class Test+ Presentation |

**MIS- 4105: INFORMATION SECURITY**
**Type : Compulsory**
**Term : VII**

**Credit : 3**

**Course Description:** This course will look into how information systems are protected from cyber-attacks. Students will learn the techniques required for protection of data and ensure privacy of information Study of Information security and Technology management is very effective in contemporary technology intensive organizations. In this course students learn basics of information security and technology management in both management aspect and technical aspect. Students will be expected to conduct extensive readings, research and writings conducive with a junior level undergraduate course in technology management

**Course Objectives:**

- To understand of various types of security incidents and attacks, and learn methods to prevent, detect and react incidents and attacks.
- To learn basics of application of cryptography which are one of the key technology to implement security functions.
- To make presentation of their study project for a topic related to information security.
- apply the principles of effective change management in re-engineering business processes

**Learning Outcomes:**

At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| explain various Information security threat and controls for it | Lecture | Quiz + Class Test + Term Final |
| analyze a security incidents and design countermeasures. | Lecture+ Group Discussion | Quiz + Term Final |
| explain information security incident response | Lecture+ Case Study | Quiz + Class Test + Term Final |
| explain the usage of Common Key cryptography and Public Key cryptography | Lecture+ Case study | Quiz + Term Final |
| explain the mechanism to protect confidentiality and completeness of data. | Lecture+ group Discussion | Quiz + Term Final |
| understand how IT can improve, or even transform, the management process through access to better information | Lecture+ Case study | Class Test+ Presentation+ Term Final |
| learn how IT can drive innovative business strategies by analyzing the common threads in the best practices of Frito-Lay, FedEx vs. UPS, Wal-Mart and Jet Blue | Lecture+ Case Study+ Group Discussion | Presentation + + Class Test + Term Final |
| examine the impact of the Net for enabling companies to become leaner, smarter and closer to the customer | Lecture+ Case Study+ Group Discussion | Presentation + + Class Test + Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| **Chapter-1** | **Introduction** | 7 |

| | | |
|---|---|---|
| | Information security (confidentiality, integrity, availability and non-repudiation) Cyber security, Asset and asset types (information, physical, software),Threat, vulnerability, impact and risk | |
| **Chapter-2** | **Information Security Management System (ISMS)**<br>Information security policy concepts, The types, uses and purposes of controls, Identity, authentication, authorization, Accountability, audit and compliance, Information security professionalism and ethics, The concept. Information Assurance and Information Governance, Social Engineering and Internal Crimes, Denial of Service Attack | **8** |
| **Chapter-3** | **Cryptography & Stenography**<br>Information Security and Cryptography, Common Key Cryptography, Public Key Cryptography, Private Key Cryptography, Mathematics for Cryptography, Primary concept about Stenography | **8** |
| **Chapter-4** | **Security Protocols**<br>Data Integrity and Digital Signature, Public Key Certificate and PKI. Information Authentication: Signature Schemes, Message Authentication and Hash Functions, Key, Distribution, Public Key Infrastructure. UNIX Password Systems, One Time Password, Secure Shell. E-Mail Security: Pretty Good Privacy, S/MIME, SSL, Secure Electronic Transaction (SET). TCP/IP Protocol, IPSec documents, Authentication Header, Encapsulating Security Payload (ESP), Key Management | **8** |
| **Chapter-5** | **Associated Technology**<br>Organization and Responsibilities, Legal Framework, Security Standards and Procedures, Protection from Malicious Software, Networks and Communications, IT Infrastructure, Cloud Computing, External Services, Firewall, Some Characteristics of firewall, Common Types of Firewall, Implementation of Firewall. | **8** |

**Recommended Books:**


- William Stallings, "***Cryptography and network security - Principles and practice***", Pearson
- education Asia, Prentice Hall.
- David Alexander, Amanda Finch, David Sutton, ***Information Security Management Principles,*** 2nd edition, Publisher: BCS, Learning and Development Limited
- Michael E. Whitman and Herbert J. Mattord, ***Principles of Information Security***, Publisher: Cengage Learning;
- Christ of Paa and Jan Pelzl, ***Understanding Cryptography: A Textbook for Students and Practitioners;*** Publisher: Springer


**MIS- 4107: SUPPLY CHAIN MANAGEMENT AND LOGISTICS**
**Type : Compulsory**
**Term : VII**
**Credit : 3**
**Course Description:**
Traditionally industries focus on operation evaluation and performance improvement of business processes; however, the deficiency of supply chain coordination results in severe downgrade of business competitiveness. The course is designed to prepare students able to apply concepts, strategies, and information technology in supply chain management.

**Course Objectives:**
Precisely, the course will provide the understanding of-

- supply chain strategy: strategic fit, network design, global sourcing
- the management of supply chain risks: risk-sharing contracts, risk pooling, risk hedging
- the process of coordinating supply chain: sales & operations planning, bullwhip effect
- the process of Planning and managing inventories
- the principles of logistics and transportation management
- the use of information technology in a supply chain.

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand fundamental supply chain management concepts | Lecture | Quiz + Class Test + Term Final |
| Apply knowledge to evaluate and manage an effective supply chain network | Lecture + Case Study | Quiz + Class Test + Term Final |
| Understand the foundational role of logistics as it relates to transportation and warehousing. | Lecture + Case Study | Quiz + Term Final |
| How to align the management of a supply chain with corporate goals and strategies. | Lecture + Case Study | Quiz + Class Test+ Term Final |
| Analyze and improve supply chain processes. | Lecture + Case Study | Project Presentation + Class Test + Term Final |
| Use the skills of IT in Supply Chain Management | Case Study + Industry Tour | Presentation+ Class Test + Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter- 01 | **Understanding The Supply Chain/ Logistics, The Supply Chain And Competitive Strategy**<br>What Is a Supply Chain?, The Objective of a Supply Chain, The Importance of Supply Chain Decisions, Decision Phases in a Supply Chain, Process Views of a Supply Chain, Examples of Supply Chains | 3 |
| Chapter- 02 | **Supply Chain Performance: Achieving Strategic Fit And Scope**<br>Competitive and Supply Chain Strategies, Achieving Strategic Fit, Expanding Strategic Scope, Challenges to Achieving and Maintaining Strategic Fit. | 3 |
| Chapter- 03 | **Supply Chain Drivers And Metrics**<br>Financial Measures of Performance, Drivers of Supply Chain Performance, Framework for Structuring Drivers, Facilities, Inventory, Transportation, Information, Sourcing, Pricing. | 3 |
| Chapter- 04 | **Designing Distribution Networks And Applications To Online Sales**<br>The Role of Distribution in the Supply Chain, Factors Influencing Distribution Network Design, Design Options for a Distribution Network, Online Sales and the Distribution Network, Distribution Networks in Practice. | 3 |
| Chapter- 05 | **Network Design In The Supply Chain**<br>The Role of Network Design in the Supply Chain, Factors Influencing Network Design Decisions, Framework for Network Design Decisions, Models for | 2 |

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|---|---|---|
| | Facility Location and Capacity Allocation, Making Network Design Decisions in Practice. | |
| Chapter- 06 | **Designing Global Supply Chain Networks**<br>The Impact of Globalization on Supply Chain Networks, The Offshoring Decision: Total Cost, Risk Management in Global Supply Chains, Discounted Cash Flows, Evaluating Network Design Decisions Using Decision Trees, To Onshore or Offshore: Evaluation of Global Supply Chain Design Decisions Under Uncertainty, Making Global Supply Chain Design Decisions Under Uncertainty in Practice. | 2 |
| Chapter- 07 | **Demand Forecasting In A Supply Chain**<br>The Role of Forecasting in a Supply Chain, Characteristics of Forecasts, Components of a Forecast and Forecasting Methods, Basic Approach to Demand Forecasting, Time-Series Forecasting Methods, Measures of Forecast Error, Selecting the Best Smoothing Constant, Forecasting Demand at Tahoe Salt, The Role of IT in Forecasting, Risk Management in Forecasting, Forecasting in Practice | 3 |
| Chapter- 08 | **Aggregate Planning In A Supply Chain**<br>The Role of Aggregate Planning in a Supply Chain, The Aggregate Planning Problem, Aggregate Planning Strategies, Aggregate Planning Using Linear Programming, Aggregate Planning in Excel, Building a Rough Master Production Schedule , The Role of IT in Aggregate Planning, Implementing Aggregate Planning in Practice. | 2 |
| Chapter- 09 | **Sales And Operations Planning: Planning Supply And Demand In A Supply Chain**<br>Responding to Predictable Variability in the Supply Chain, Managing Supply, Managing Demand, Implementing Sales and Operations Planning in Practice. | 2 |
| Chapter- 10 | **Coordination In A Supply Chain**<br>Lack of Supply Chain Coordination and the Bullwhip Effect, The Effect on Performance of Lack of Coordination, Obstacles to Coordination in a Supply Chain, Managerial Levers to Achieve Coordination, Continuous Replenishment and Vendor-Managed Inventories, Collaborative Planning, Forecasting, and Replenishment. | 3 |
| Chapter- 11 | **Managing Economies Of Scale In A Supply Chain: Cycle Inventory**<br>The Role of Cycle Inventory in a Supply Chain, Estimating Cycle Inventory–Related Costs in Practice, Economies of Scale to Exploit Fixed Costs, Economies of Scale to Exploit Quantity Discounts, Short-Term Discounting: Trade Promotions, Managing Multiechelon Cycle Inventory. | 3 |
| Chapter- 12 | **Managing Uncertainty In A Supply Chain: Safety Inventory**<br>The Role of Safety Inventory in a Supply Chain, Determining the Appropriate Level of Safety Inventory, Impact of Supply Uncertainty on Safety Inventory, Impact of Aggregation on Safety Inventory, Impact of Replenishment Policies on Safety Inventory, Managing Safety Inventory in a Multiechelon Supply Chain, The Role of IT in Inventory Management, Estimating and Managing Safety Inventory in Practice. | 2 |
| Chapter- 13 | **Creating A Sustainable Supply Chain**<br>The triple bottom line, Greenhouse gases and the supply chain, Reducing the transport-intensity of supply chains, Peak oil, Beyond the carbon footprint, Reduce, reuse, recycle, The impact of congestion. | 2 |
| Chapter- 14 | **Sourcing Decisions In A Supply Chain**<br>The Role of Sourcing in a Supply Chain, In-House or Outsource, Third- and | 2 |

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|---|---|---|
| | Fourth-Party Logistics Providers, Using Total Cost to Score and Assess Suppliers, Supplier Selection—Auctions and Negotiations, Contracts, Risk Sharing, and Supply Chain Performance, Design Collaboration, The Procurement Process, Designing a Sourcing Portfolio: Tailored Sourcing, Risk Management in Sourcing, Making Sourcing Decisions in Practice. | |
| Chapter- 15 | **Pricing And Revenue Management In A Supply Chain**<br>The Role of Pricing and Revenue Management in a Supply Chain, Pricing and Revenue Management for Multiple Customer Segments, Pricing and Revenue Management for Perishable Assets, Pricing and Revenue Management for Seasonal Demand, Pricing and Revenue Management for Bulk and Spot Contracts, Using Pricing and Revenue Management in Practice. | 2 |
| Chapter- 16 | **Information Technology In A Supply Chain**<br>The Role of IT in a Supply Chain, The Supply Chain IT Framework, Customer Relationship Management, Internal Supply Chain Management, Supplier Relationship Management, The Transaction Management Foundation, The Future of IT in the Supply Chain, Risk Management in IT, Supply Chain IT in Practice. | 2 |

**Recommended Book:**

- Stanley E. Fawcett,Lisa M. Ellram, Jeffrey A. Ogden, ***'Supply Chain Management: From Vision to Implementation'*** Prentice Hall, USA
- Sunil Chopra & Peter Meindl - ***Supply Chain Management***, 5th Edition, Prentice Hall, USA
- Kenneth B. Ackerman - ***Fundamentals of Supply Chain Management: An Essential Guide for 21st Century Manager***, DC Velocity Books, USA

**MIS- 4109: Knowledge Management Systems**
**Type : Compulsory**
**Term : VII**
**Credit : 3**
**Course Descriptions:** Knowledge is a distinct key to competitive business advantage. Knowledge Management sensitizes the student to the importance and practice of the development and management of non-tangible worth (principally human-based knowledge) in modern organizations. The need for reciprocal concern for both structures and processes is important for dealing with organizational change and development. Recognizing graduate needs expressed by industry, the development and application of both technical and people management skills within Knowledge Management environments is emphasized. Critical discussion and analysis of key theoretical and practical aspects of knowledge management enhances problem solving and communication attributes valued within the profession.

**The objectives of the course are as follows:**

- Understand the key concept of knowledge management.
- Explain the components of Knowledge Management.
- Distinguish aspects of industrial era management that may be inappropriate for knowledge intensive organizations and provide alternatives;
- Formulate action plans for knowledge intensive organizations;
- Formulate a framework for thinking about knowledge intensive organizations;

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|

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|---|---|---|
| Define the key concept of knowledge management and knowledge management systems | Lecture | Final Exam Quiz |
| Explain the key theories and models that inform knowledge management | Lecture | Final Exam Assignment |
| Critically apply theory to organizations in order to identify and justify effective knowledge management strategies and activities | Lecture | Final Exam Class Test |
| Access and evaluate current literature and research findings relating to knowledge management | Lecture | Final Exam Surprise Test |
| Reflect upon different knowledge management paradigms and their value to the organization. | Lecture | Final Exam Class Test |

***Course Contents:***

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-01 | **Introducing Knowledge Management**<br>What Is Knowledge Management? Forces Driving Knowledge Management, Knowledge Management Systems, Issues in Knowledge Management, Application Exercises | 3 |
| Chapter-02 | **The Nature of Knowledge**<br>What Is Knowledge? Alternative Views of Knowledge, Different Types of Knowledge, Locations of Knowledge. | 3 |
| Chapter-03 | **Knowledge Management Foundations: Infrastructure, Mechanisms, and Technologies**<br>Knowledge Management, Knowledge Management Solutions and Foundations, Knowledge Management Infrastructure, Knowledge Management Mechanisms, Knowledge Management Technologies, Management of Knowledge Management Foundations (Infrastructure, Mechanisms, and Technologies) | 3 |
| Chapter-04 | **Knowledge Management Solutions: Processes and Systems**<br>Knowledge Management Processes, Knowledge Management Systems, Managing Knowledge Management Solutions, Alignment Between Knowledge Management and Business Strategy | 3 |
| Chapter-05 | **Organizational Impacts of Knowledge Management**<br>IMPACT ON PEOPLE, Impact on Processes, Impact on Products, Impact on Organizational Performance. | 3 |
| Chapter-06 | **Knowledge Application Systems: Systems that Utilize Knowledge**<br>Technologies for Applying Knowledge, Developing Knowledge Application Systems, Types of Knowledge Application Systems, Case Studies, Limitations of Knowledge Application Systems. | 3 |
| Chapter-07 | **Knowledge Capture Systems: Systems that Preserve and Formalize Knowledge**<br>What Are Knowledge Capture Systems?, Knowledge Management Mechanisms for Capturing Tacit Knowledge: Using Organizational Stories, Techniques for Organizing and Using Stories in the Organization, Designing the Knowledge Capture System, Concept Maps, Context-based Reasoning, Knowledge Capture Systems Based on Context-based Reasoning, Barriers to the Use of Knowledge Capture Systems, Research Trends. | 3 |
| Chapter-08 | **Knowledge Sharing Systems: Systems that Organize and Distribute Knowledge**<br>What Are Knowledge Sharing Systems? The Computer as a Medium for Sharing | 3 |

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|---|---|---|
| | Knowledge, Designing the Knowledge Sharing System, Barriers to the Use of Knowledge Sharing Systems, Specific Types of Knowledge Sharing Systems, Lessons Learned Systems, Expertise Locator Knowledge Sharing Systems, The Role of Ontologies and Knowledge Taxonomies in the Development of Expertise Locator Systems, Case Studies, Shortcomings of Knowledge Sharing Systems, Knowledge Management Systems that Share Tacit Knowledge. | |
| Chapter-09 | **Knowledge Discovery Systems: Systems that Create Knowledge**<br>Mechanisms to Discover Knowledge: Using Socialization to Create New Tacit Knowledge, Technologies to Discover Knowledge: Using Data Mining to Create New Explicit Knowledge, Designing the Knowledge Discovery System, Guidelines for Employing Data Mining Techniques, Discovering Knowledge on the Web, Data Mining and Customer Relationship Management, Barriers to the Use of Knowledge Discovery Systems. | 3 |
| Chapter-10 | **Emergent Knowledge Management Practices**<br>Web 2.0, Social Networking, Collaborative Content Creation via Wikis, Blogs, Mashups, and<br>Folksonomies, Open Source Development 258<br>Virtual Worlds, The Three Worlds of Information Technology: Does It Really Matter? | 3 |
| Chapter-11 | **Factors Influencing Knowledge Management**<br>A Contingency View of Knowledge Management, The Effects of Task Characteristics, The Effects of Knowledge Characteristics, The Effects of Organizational and Environmental Characteristics, Identification of Appropriate Knowledge Management Solution, Illustrative Example. | 3 |
| Chapter-12 | **Leadership and Assessment of Knowledge Management**<br>Leadership of Knowledge Management, Importance of Knowledge Management Assessment, Types of Knowledge Management Assessment, Assessment of Knowledge Management Solutions. | 3 |
| Chapter-13 | **The Future of Knowledge Management**<br>Using Knowledge Management as a Decision-Making Paradigm to Address Wicked Problems, Promoting Knowledge Sharing While Protecting Intellectual Property, Involving Internal and External Knowledge Creators, Addressing Barriers to Knowledge Sharing and Creation. | 3 |

***Recommended Book*:**

- Irma Becerra-Fernandez, Avelino Gonzalez, and Rajiv Sabherwal, ***'Knowledge Management and KM Software Package',*** Prentice Hall, USA
- Krishna Nath Pandey, ***Paradigms of Knowledge management***: with Systems modeling case studies( studies in systems, Decision and Control).
- Awad, Elias M. Awad, ***'Knowledge Management',*** Pearson Education

**MIS- 4201: Business Intelligence**
**Type : Compulsory**
**Term : VIII**
**Credit : 3**
**Course Description:** This course focuses on business intelligence – an information technology approach to data collection and data analysis to support a wide variety of management tasks, from performance evaluation to trend spotting and policy making. Students learn analytical components and technologies used

to create dashboards and scorecards, data/text/Web mining methods for trend and sentiment analysis, and artificial intelligence techniques used to develop intelligent systems for decision support.

**Course Objectives:** The course aims at examining Business Intelligence (BI) as a broad category of applications and technologies for gathering, storing, and analyzing, sharing and providing access to data to help enterprise users make better managerial decisions. Students will actively participate in this course through class discussions, project preparation and presentation, and visual tool utilization.

**Learning Outcomes:**
By the end of this course it is expected that the student will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| know the basic principles of business intelligence | Lecture | Quiz +Class Test+ Final Exam |
| understand both the fundamental techniques and wide array of of BI in marketing analyzing campaign returns, promotional yields, or tracking social media marketing; | Lecture +Group Discussion | Quiz + Final Exam |
| Apply BI enabling technologies in organizational settings. | Lecture + Case study | Quiz + Final Exam |
| know how to apply BI project (case-study) with leading BI software | Lecture + Case Study+ Group Discussion | Presentation+ Class Test + Final Exam |
| Articulate modern BI practices, including knowledge integration, sourcing and managing BI solutions | Lecture | Quiz+ Class Test + Final Exam |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction**<br>Definition, History and Evolution, Business Intelligence Segments, Difference between Information and Intelligence, Defining Business Intelligence Value Chain, Factors of Business Intelligence System, Real time Business Intelligence, Business Intelligence Applications. | 3 |
| Chapter-2 | **Business Intelligence Essentials and types**<br>Creating Business Intelligence Environment, Landscape, Platform, Roles Dynamic roles in Business Intelligence, Challenges of BI, Multiplicity of Business Intelligence Tools, Types, Modern Business Intelligence, the Enterprise Business Intelligence, Information Workers. | 4 |
| Chapter-3 | **Data Mining**<br>Introduction, Definition of Data Mining, Data mining parameters, How Data Mining works?, Types of relationships, Architecture of Data Mining, Kinds of Data which can be mined, Functionalities of Data Mining, Classification on Data Mining system, Various risks in Data Mining, Advantages and disadvantages of Data Mining, Ethical issues in Data Mining, Analysis of Ethical issues, Global issues, Statistical Perspective on Data Mining, Statistics-need, Similarity Measures, Decision Tree-Illustrations, Neural Network, Neural Network versus Conventional Computers, Kohonen's Self-Organizing Maps, Genetic Algorithms, Applications of Genetic Algorithm | 4 |

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|---|---|---|
| Chapter-4 | **Data Warehousing:**<br>Introduction, Data Warehousing, Advantages and Disadvantages of Data Warehousing, Data Warehouse, Data Mart, Aspects of Data Mart, Online Analytical Processing , Characteristics of OLAP, OLAP Tools, OLAP Data Modeling, OLAP Tools and the Internet, Difference between OLAP and OLTP, Multidimensional Data Model, Data Modeling using Star Schema and Snowflake Schema, Types of Business Models, B2B Business Intelligence Model, Electronic Data Interchange & E-Commerce Models, Advantages of E-Commerce for B2B Businesses, Systems for Improving B2B E-Commerce, B2C Business Intelligence Model, Need of B2C model in Data warehousing, Different types of B2B intelligence Models. | 4 |
| Chapter-5 | **Data Extraction**<br>Introduction, Data Extraction, Role of ETL process, Importance of source identification, Various data extraction techniques, Logical extraction methods, Physical extraction methods, Change data capture | 4 |
| Chapter-6 | **Business Intelligence Life Cycle**<br>Introduction, Business Intelligence Lifecycle, **Enterprise Performance Life Cycle (EPLC)**Framework Elements, Life Cycle Phases, Human Factors in BI Implementation, BI Strategy, Objectives and Deliverables, Transformation Roadmap, Building a transformation roadmap, BI Development Stages and Steps, Parallel Development Tracks, BI Framework. | 4 |
| Chapter-7 | **Business Intelligence User Model**<br>Introduction, Evolution of Business Intelligence, Business Intelligence Opportunity Analysis Overview, Content Management System, End User Segmentation, Basic Reporting and Querying, Online Analytical Processing, OLAP Techniques, OLAP Applications, Applying the OLAP to Data Warehousing, Benefits of using OLAP, Dashboard, Advanced/Emerging BI Technologies, Future of Business Intelligence. | 4 |
| Chapter-8 | **Business Intelligence Issues and Challenges**<br>Introduction, Critical Challenges for Business Intelligence success, Cross-Organizational Partnership, Business Sponsors, Dedicated Business Representation, Availability of Skilled Team Members, Business Intelligence Application Development methodology, Planning the BI Projects, Business Analysis and Data Standardization, affect of Dirty Data on Business profitability, Importance of Meta-Data, Silver Bullet Syndrome, Customer Pain Points, Creating Cost Effective Enterprise friendly BI solution. | 4 |
| Chapter-9 | **Implementing Business Intelligence**<br>Business Intelligence Platform, Business Intelligence Platform Capability Matrix, BI Target Databases, Data Mart, BI Products and Vendor, The Big Four Business Intelligence vendors. | 4 |
| Chapter-10 | **Business Intelligence Strategy and Road Map**<br>Introduction, Planning to implement a Business Intelligence Solution, Understand Limitations of Business Intelligence, Business Intelligence Usage, How to make the best use of Business Intelligence?, The Advantages of BI with Sales, How can BI be used for the rescue?, Organization Culture, Managing Total Cost of Ownership for Business Intelligence, Total Cost of Ownership and Business Intelligence, Managing the TCO of the Business Intelligence, Factors that Affect Total Cost of Ownership. | 4 |

**Required Text:**

- R. Sharda, D. Delen, & E. Turban, ***Business Intelligence and Analytics. Systems for Decision Support***, 10th Edition ; Pearson
- Bert Brijs, ***Business Analysis for Business Intelligence***, CRC Press, US
- Ahmed Sharif, ***Practical Business Intelligence***, Packt, India

**MIS-4202: Business Intelligence Lab**
**Type : Compulsory**
**Term : VIII**
**Credit : 1**
**Course Description:** This course emphasizes the practical aspects of statistical analysis, focusing on techniques for estimating econometric models of various kinds and for conducting tests of hypotheses of interest to economists.
**Course Objectives:** The main objectives of the course are to apply the appropriate economic concepts to formulate plans of analysis that employ modern econometric practice. Apply modern econometric methods covering time series analysis, financial econometrics, micro econometrics, macro econometrics and structural econometric modeling. The knowledge of some computer-programming is welcomed.
**Learning Outcomes:**
By the end of this course it is expected that the student will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Apply BI enabling technologies in organizational settings. | Lab+ Group Discussion | Quiz + Final Exam |
| know how to apply BI project (case-study) with leading BI software | Lab+ Group Discussion | Presentation+ Class Test + Final Exam |
| Articulate modern BI practices, including knowledge integration, sourcing and managing BI solutions. | Lab+ Group Discussion | Quiz+ Class Test + Final Exam |
| Apply artificial intelligence tools | Lab + Case Study+ Group Discussion | Quiz + Lab Exam |
| Adept in econometrics reasoning. | Lab+ Group Discussion | Quiz+ Class Test + Lab Exam |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Business Intelligence Essentials and types**<br>Landscape, Platform, Multiplicity of Business Intelligence Tools, Types, Modern Business Intelligence, the Enterprise Business Intelligence, Information Workers. | 2 |
| Chapter-2 | **Data Mining**<br>How Data Mining works?, Types of relationships, Architecture of Data Mining, Kinds of Data which can be mined, Functionalities of Data Mining, Statistical Perspective on Data Mining, Statistics-need, Similarity Measures, Decision Tree-Illustrations, Neural Network, Neural Network versus Conventional Computers, Kohonen's Self-Organizing Maps, Genetic Algorithms, Applications of Genetic Algorithm | 1 |
| Chapter-3 | **Data Warehousing:**<br>Data Warehouse, Data Mart, Aspects of Data Mart, Online Analytical Processing, | 2 |

| | | |
|---|---|---|
| | OLAP Data Modeling, OLAP Tools and the Internet, Data Modeling using Star Schema and Snowflake Schema, B2B Business Intelligence Model, Electronic Data Interchange & E-Commerce Models, B2C Business Intelligence Model, Need of B2C model in Data warehousing, Different types of B2B intelligence Models. | |
| Chapter-4 | **Data Extraction**<br>Various data extraction techniques, Logical extraction methods, Physical extraction methods, Change data capture | 2 |
| Chapter-5 | **Business Intelligence Life Cycle**<br>BI Strategy, Objectives and Deliverables, Transformation Roadmap, Building a transformation roadmap, BI Development Stages and Steps, Parallel Development Tracks, BI Framework. | 2 |
| Chapter-6 | **Business Intelligence User Model**<br><br>End User Segmentation, Basic Reporting and Querying, Online Analytical Processing, OLAP Techniques, OLAP Applications, Applying the OLAP to Data Warehousing, Benefits of using OLAP, Dashboard, Advanced/Emerging BI Technologies, Future of Business Intelligence. | 1 |
| Chapter-7 | **Business Intelligence Issues and Challenges**<br>Business Intelligence Application Development methodology, Planning the BI Projects, Business Analysis and Data Standardization, affect of Dirty Data on Business profitability, Importance of Meta-Data, Silver Bullet Syndrome, Customer Pain Points, Creating Cost Effective Enterprise friendly BI solution. | 1 |
| Chapter-8 | **Implementing Business Intelligence**<br><br>Capability Matrix, BI Target Databases, Data Mart, BI Products and Vendor, The Big Four Business Intelligence vendors. | 1 |
| Chapter-9 | **Business Intelligence Strategy and Road Map**<br>Business Intelligence Usage, How to make the best use of Business Intelligence?, The Advantages of BI with Sales, How can BI be used for the rescue?, Managing the TCO of the Business Intelligence, Factors that Affect Total Cost of Ownership. | 1 |

**Resources:**

- R. Sharda, D. Delen, & E. Turban, ***Business Intelligence and Analytics. Systems for Decision Support***, 10th Edition ; Pearson
- Bert Brijs, ***Business Analysis for Business Intelligence***, CRC Press, US
- Ahmed Sharif, ***Practical Business Intelligence***, Packt, India

**MIS-4203: E-Business and Digital Marketing**

**Type : Compulsory**
**Term : VIII**
**Credit : 3**
**Course Description**

**Course Descriptions:** This course provides the tools, skills and understanding of technological concepts and issues surrounding the emergence of and future directions of electronic business practices, with a strong focus on electronic commerce initiatives. The student develops an understanding of the current business models, strategies and opportunities in electronic publishing, communication, distribution, collaboration, and online payment options. The focus is on innovative strategic thinking with respect to the use of these techniques in successful new business ventures.

**Course Objectives:**

- Understand the basic concepts of E-business and its Strategies.
- Distinguish the role of Management in the context of e-Business and e-Commerce
- Explain the added value, risks and barriers in the adoption of e-Business and e-Commerce
- Enable develop and publish web pages using HTML5, CSS3 and Java script
- Use tools and services of the internet in the development of a virtual e-commerce sites.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Define the basic concept and principles of E-business and web programming. | Lecture | Final Exam Quiz+ Class Test |
| Understand theoretical and practical issues of conducting business over the internet and the Web | Lecture+ Group Discussion | Final Exam Class Test |
| Analyze how the internet and e-commerce adds value to an entrepreneur's industry and business. | Lecture+ Group Discussion | Final Exam Class Test |
| Analysis and design E-commerce web sites | Lecture+ group Discussion | Final Exam Surprise Test |
| Apply knowledge to develop the E-commerce web sites. | Case study | Final Exam project |

***Course Contents:***

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Introduction to e- Business and e- Commerce**<br>Meanings, E- Business Opportunities, Business adoption of digital technologies for e- commerce and e- business, E-business risks and barriers to business adoption, Management responses to e-commerce and e-business. | 5 |
| Chapter-2 | **E-Commerce Fundamentals**<br>Features and services, Managing e- commerce infrastructure: internet, web and mobile platforms | 5 |
| Chapter-3 | **E-Business Infrastructure**<br>Introduction, e- business infrastructure components, focus on web services, SaaS and service- oriented architecture (SOA) | 5 |

| | | |
|---|---|---|
| Chapter-4 | **E- Environment**<br>Social and legal factors governing e-commerce service adoption, environmental issues related to internet usage, e-commerce and globalization, technological innovation and technology assessment. | 4 |
| Chapter-5 | **E-Business Strategy**<br>Information systems (IS) strategy and e- business strategy, IS strategy elements, Strategic analysis and implementation. | 4 |
| Chapter-6 | **E- Procurement**<br>E- Procurement process, drivers, risks and impacts, cost estimation of e-procurement. | 4 |
| Chapter-7 | **E- Marketing**<br>Introduction, e- marketing planning, situation analysis, strategy, online branding. | 4 |
| Chapter-8 | **E-Commerce Security and payment systems**<br>Introduction, security environment, security threats, technology solutions. | 4 |
| Chapter-9 | **Social, Mobile and Local Marketing**<br>Introduction, Social, Mobile and Local marketing process. | 4 |

***Recommended Books*:**

- Dave Chaffey, ***E-Business and E-Commerce Management,*** 3/E, , 3rd Edition, Copyright: 2007, Publisher: Prentice Hall, ISBN-10: 1405847069
- Kenneth C. Laudon, ***E- Commerce***
- Ritendra Goel, ***E- Commerce***
- Brian C. Satterlee, ***E- Commerce: A knowledge Base***

**MIS-4204: Digital Marketing Lab with Project**
**Type : Compulsory**
**Term : VIII**
**Credit : 2**
**Course Description:** Digital Marketing Course is to educate students and practitioners in the area of social media, online based marketing and their analytics.

**Course Objective:** This course is designed for practical learning therefore most concepts will be linked with hands on training, where students will be expected to work with marketing datasets, dummy display ads, virtual website optimization, SEO based on instructions in lectures and class discussions. Live experience of analyzing responses with analytical software, launching of dummy display ads, creating optimization of website through Google Adwords are some of the key features of the course. This course takes an in-depth look at the relationship between media and human behavior, and examines how organizations capitalize on social media, and these consumer-to-consumer interactions, to support their marketing efforts. Students will get hands-on experience creating comprehensive social media strategies for active brands.

**Learning Outcomes:**
By the end of this course it is expected that the student will be able to-

| Learning Outcomes | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|

| | | |
|---|---|---|
| Create and/or improve a strategy for measuring and improving digital media effectiveness | Lecture | Quiz +Class Test+ Final Exam |
| Review current approaches and identify areas for improving performance | Lecture | Quiz + Final Exam |
| Search Engine Optimization (SEO) | Lecture + Group Discussion | Quiz +Lab Test+ Final Exam |
| Pay Per Click (PPC) Advertising including Google Ad Words, LinkedIn Ads, Facebook and Instagram Ads | Lecture + Case Study+ Group Discussion | Quiz +Lab Test+ Final Exam |
| Know Social media marketing tips and tools for Facebook, Twitter, Instagram, Blogging, etc. | Lecture + Case Study+ Group Discussion | Quiz+ Presentation + Final Exam |
| Learn online advertising including ad networks and behavioral targeting | Lecture+ Lab work Case Study | Presentation+ Class Test + Final Exam |
| Optimize website and blog content | Lecture+ Group Discussion | Presentation+ Class Test + Final Exam |
| Apply Digital Marketing Strategy and Planning | Lecture+ Group Discussion | Presentation+ Class Test + Final Exam |

**Course contents:**

| Chapter | Topics | | Contact Hours |
|---|---|---|---|
| Chapter-1 | **Basic concept** | Digital Marketing Overview, SEO – Search Engine Optimization | 6 |
| Chapter-2 | **Google AdWords** | Search Engine Marketing | 7 |
| Chapter-3 | **Google My Business** | Connecting your business with local customers, Inbound Digital Marketing Concepts and Implementation. | 6 |
| Chapter-4 | **Social Media Marketing** | Strategy \| Blogs \| Facebook \| Twitter \| LinkedIn \| Google+, Video Marketing – YouTube, Facebook & LinkedIn Advertising, Google Analytics – Track your success | 7 |

***Recommended Books*:**

- M. Castells, ***Networks of Outrage and Hope: Social Movements in the Internet Age,***, 3rd Edition, Copyright: 20013, Publisher: Prentice Hall, ISBN-10: 1405847069
- Baym, N. (2010). ***Personal Connections in the Digital Age,*** 3rd Edition.
- Dave Chaffey, ***E-Business and E-Commerce Management,*** 3/E, , 3rd Edition, Copyright: 2007, Publisher: Prentice Hall, ISBN-10: 1405847069

- Kenneth C. Laudon, ***E- Commerce***
- Ritendra Goel, ***E- Commerce***
- Brian C. Satterlee, ***E- Commerce: A knowledge Base***

**MIS-4205: DECISION SUPPORT SYSTEM**
**Type : Compulsory**
**Term : VIII**
**Credit : 3**
**Course Description:** The course establishes a foundation for understanding and analyzing information and information systems in organizations. It also provides an overview of technical and organizational aspects of decision support systems (DSS), including individual, group and organizational DSS as well as executive information systems (EIS). Management of DSS and EIS within the end-user computing environment is also discussed. The course covers more recent technologies, e.g. Data Warehouse / Data Mining, and OLAP-technologies. The course is design-oriented and emphasizes conceptual foundations of DSS and EIS, but DSS software reviews, demonstrations, laboratory lessons and case examples are also included.

**Course Objectives:**

- Understand how Decision Support Systems (DSS) can help management professionals.
- Analyze and to evaluate Decision Support Systems (DSS) contributions to organizations competitiveness, efficiency and quality;
- Apply proper DSS to specific business contexts;
- Able to manage and to develop DSS business applications.

| **Learning Outcome** | **Teaching Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Define the key concept of Decision Support Systems and the key components of Decision Support Systems. | Lecture | Final Exam Assignment |
| Identify appropriate data to support decision processes. | Lecture | Final Exam Class Test |
| Select appropriate modeling techniques. | Lecture | Final Exam Class Test |
| Analyze, design and implement a DSS | Lecture | Final Exam Surprise Test |
| Interpret the output obtained from Decision Support Systems. | Lecture | Final Exam Project work |

***Course Contents:***

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| **1** | **Introduction:**<br>Decision-Making Systems, Modeling, and Support, Business Applications, Decision Support in the Twenty-First Century. | **5** |
| **2** | **Artificial Intelligence and Expert Systems:**<br>Knowledge-Based Systems, Knowledge-Based Decision Support and AI, Knowledge Acquisition, Representation and Reasoning | **6** |
| **3** | **Business Intelligence:** | **5** |

| | | |
|---|---|---|
| | Data Warehousing, Data Acquisition, Data mining | |
| **4** | **Expert System:**<br>An Overview of Expert Systems, Expert System Development | **6** |
| **5** | **Collaborative Computing Technologies:**<br>Group Support Systems, Intelligent Systems over the Internet. Advanced Intelligent Systems, Enterprise Information Systems | **5** |
| **6** | **Management Support Systems:**<br>Integration, Impacts, and the Future of Management-Support Systems. | **6** |
| **7** | **Designing and Building Decision Support Systems:**<br>The Systems Perspective of a DSS, Implementing and Integrating Decision Support Systems, Creative Decision Making and Problem Solving, Intelligent Software Agents, Bots, Delegation, and Agency. | **6** |

***Recommended Books:***

- George M. Marakas. ***Decision Support Systems***, Prentice Hall, USA
- Efraim Turban, Jay E. Aronson and Ting Peng Liang, ***Decision Support Systems and Intelligent Systems,*** Prentice Hall, USA.
- Daniel J. Power. ***Decision Support Systems: Concepts and Resources for Managers***, Quorum Books, UK

**MIS- 4207: IT INVESTMENT MANAGEMENT**
**Type : Compulsory**
**Term : VIII**
**Credit : 3**
**Course Description:**
This course introduces the basic concept of investment management in case of Information technology development and implementations. Moreover, this course gives an insight of managing IT projects and sound financial management of Information technology within an enterprise context.

**Course Objectives:**
Precisely, the course aims at proving the understanding of-

- IT project design, development, implementation and management from a financial stand point.
- management of IT investment risks: risk-sharing contracts, risk pooling, risk hedging
- the process of coordinating IT projects

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Understand fundamental IT project's investment management | Lecture | Quiz + Class Test + Term Final |

| | | |
|---|---|---|
| Apply knowledge to evaluate and manage an effective IT investment portfolio | Lecture + Case Study | Quiz + Class Test + Term Final |
| Understand the foundational role of financial management tied to IT | Lecture + Case Study | Quiz + Term Final |
| Analyze and improve IT investment process | Lecture + Case Study | Quiz + Class Test+ Term Final |

**Course Contents:**

| Chapter | Topics | Contact Hours |
|---|---|---|
| Chapter-1 | **Basic concept**<br><br>Risk and Returns-sources of fund | **4** |
| Chapter-2 | **Technology Payoff**<br><br>Introduction to Information Technology Payoff. | **5** |
| Chapter-3 | **Payoff Paradox**<br><br>The IT Payoff Paradox | **5** |
| Chapter-4 | **Role of Technologies**<br><br>The Strategic Role of Technologies | **5** |
| Chapter-5 | **Analyses**<br><br>A Process Perspective and Failure Analyses. | **5** |
| Chapter-6 | **Payoff Metrics**<br><br>Technology Payoff Metrics-Balanced Multiple Objectives, The Technology Curve. | **5** |
| Chapter-7 | **Technology Justification Models**<br><br>Implementing IT Payoff Initiatives: A Framework. | **5** |
| Chapter-8 | **Electronic Commerce**<br><br>Challenges and Opportunities in Assessing IT Payoff. | **5** |

**Recommended Books:**


- Sarv Devaraj and Rajiv Kohli, IT Payoff, ***The Measuring the Business Value of Information Technology Investments,*** Financial Times Press.
- United States General Accounting Office (GAO): ***Information Technology Investment Management (ITIM),***Washington, D.C.USA
- Corrado, C.J. and Jordan B.D. ***Fundamentals of Investment Management***, McGraw-Hill, USA
- Schniederjans, M.J., Hamaker, J.L. and Ashlyn, M.S. ***Information Technology Investment,*** World Scientific**,** USA.

**MIS-4209: STRATEGIC MANAGEMENT & INFORMATION SYSTEMS**
**Type : Compulsory**
**Term : VIII**
**Credit : 3**
**Course Description:**
This course will enable students to examine the ability of information technology to enhance the quality and efficiency of decision making by improving the various elements of the decision-making process and by making data collection more cost effective.

**Course Objectives:**
Students will be provided with the knowledge of discovering- what every manager needs to know to leverage information systems for the design and implementation of business models in an organization, what are the components of Information Systems and how they support organizational strategy to achieve competitive advantage.

**Learning Outcomes:**
At the end of the course students will be able to-

| **Learning Outcomes** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| Use Strategic Management and Implanting Analytical Tools in Strategic Management | Lecture | Quiz + Class Test + Term Final |
| Apply knowledge to evaluate and manage the information systems strategic planning toolkit frameworks for integrating is | Lecture + Case Study | Quiz + Class Test + Term Final |
| Understand the information value and is investment, business competition and organization | Lecture + Case Study | Quiz + Term Final |
| Analyze and improve IT Resource Management | Lecture + Case Study | Quiz + Class Test+ Term Final |

**Course Contents:**

| **Chapter** | **Topics** | **Contact Hours** |
|---|---|---|
| Chapter-1 | **Information Technology and Competitive Advantage**<br>Definition and Significance, Implementation of Information Technology for a Sustainable Competitive Advantage, Fit between Business and IT, Strategic Overview of IT for Business. | 5 |
| Chapter-2 | **Information Systems in Support of Business Operations and Business Process: ERP**<br>Innovative use of Technology, ERP Systems, Business Process Management, Business Process Reengineering in an Organization, Planning and Developing an ERP project, Evaluation of a Problem using ERP | 5 |
| Chapter-3 | **Information Systems for Decision Support and Business Intelligence**<br>Meaning and The field of business intelligence, overview of how decisions are | 5 |

| | | |
|---|---|---|
| | made and how information technology plays a role, Different Ways that Information Technology is Used to Help Organizations Make Effective Decisions: Business Intelligence, Data Warehousing, and Data Mining. | |
| Chapter-4 | **Electronic Commerce and Mobile Commerce**<br><br>E-Commerce, M-Commerce, Applications, Significance, Changes in Business due to IT, Globalization and IT | 6 |
| Chapter-5 | **Technology Trends and Creating a Technology Strategy**<br><br>Emerging Technologies and Trends, Future Technologies, Business in Technological cube, Relation to the Use of Information Technology, Use of Social Media Technologies, Organizations' Technology and Marketing Strategies, Develop a Strategy for using Social Media for Business Growth. | 6 |
| Chapter-6 | **Information Systems Security**<br>Introduction, The Information Security Triad: Confidentiality, Integrity, Availability (CIA), Tools for Information Security, Password Security, Firewalls, Virtual Private Networks, Security Policies, Mobile Security, Usability, Personal Information Security. | 6 |
| Chapter-7 | **Ethics and Privacy**<br>The Ethics of Privacy Protection, An Ethical Approach to Data Privacy Protection, Privacy and confidentiality, Ethics and Privacy Implications of Using the Internet and IT Based Business. | 6 |

**Recommended Books:**


- Arthur A. Thompson, Alonzo J. Strickland , ***Strategic Management : Concept and Cases*****,** McGraw-Hill
- Wendy Robson, ***'Strategic Management and Information Systems: An Integrated Approach',*** FT. Prentice Hall, London
- Charke, S. ***Information Systems Strategic Management,***Roudledge, London.
- Baltzam, P. and Philips A. ***Essentials of Business Driven Information System,*** Mcgraw-Hill, USA


**MIS-4210: Viva Voce:**
**Type : Compulsory**
**Term : VIII**
**Credit : 2**
**Course Description:**
This course will enable students to review the previous courses that were learned during 1st and 2nd semester. Multiple Learning venues and formats, intense and focus éducation method will be applied to judge the depth of knowledge of the students. Both structured and unstructured question methods will be followed. An

observatory board including both internal and external faculties will physically execute the viva voce.

**Course Objectives :**

- ✓ The main objective is to prepare the candidates to face interview both at the academic and practical purpose.
- ✓ It will test the student's basic comprehension of the 1st year courses.
- ✓ It will justify the candidate's acquaintance with the basic literature of the practical implications of that subjects.
- ✓ It will validate student's mental strength, communication skills, body language and physical appearance.
- ✓ Determine wheather the tudents knowledge and skills is sufficient or not.
- ✓ It will clarify the students lacking and expertise areas.

**Learning Outcome :** At the end of the course candidates will be able to-

| **Learning Outcomes** | **Teaching Learning Strategy** | **Assesment Strategy** |
|---|---|---|
| Balance theoreitical understanding with practical implication | Lecture + Workshop | Viva Voce |
| Identify the skills and areas of development | Lecture + Tutorial | Viva Voce |
| Develope the skill of decession making capability | Workshop | Viva Voce |
| Develope the manner, attitude, Outlooking and smartness | Lecture + Workshop | Viva Voce |
| improve adaptability, power and maturity | Lecture + Tutorial | Viva Voce |

**MIS-4200: Industrial Attachment and thesis:**
**Type : Compulsory**
**Term : VIII**
**Credit : 4**
**Course Description:**

The course enables students, as well as teams, to learn expert information systems within specific domains, in order to apply the knowledge in practice. Students use the knowledge from all courses for the course project. They will remain with an industrial attachment to apply theoretical knowledge in the industrial field.

The objective is to enable students to acquire knowledge and apply it in the area of information systems. Students present what they have learnt, they word on application and development of an IS in a certain area. Students become familiar with management of team work, management of relations with external factors – users of IS, sponsors and publishers.

**The objectives of the course are as follows:**

- ➢ Develop a product or process by applying knowledge of programming, web, database, human computer interaction, networking and security tools

- Participate effectively as a member of a development team and undertaken leadership roles when appropriate
- Take graduate courses or continuing education classes to improve skills and abilities
- Make positive contributions to community and society by applying skills and abilities learned during undergraduate program in information technology
- Enter text and formulas in to an Excel spreadsheet.

**Learning Outcomes:**
At the end of the course students will be able to-

| Learning Outcome | Teaching Learning Strategy | Assessment Strategy |
|---|---|---|
| analyze a problem, and identify and define the computing requirements appropriate to its solution | Case study + Practical work | Project+ Presentation+ Viva |
| use current techniques, skills, and tools necessary for computing practice | Practical work | Project+ Presentation+ Viva |
| Use and apply current technical concepts and practices in the core information technologies | Case study + Practical work | Project+ Presentation+ Viva |
| Effectively integrate IT-based solutions into the user environment | Case study + Practical work | Project+ Presentation+ Viva |
| Assist in the creation of an effective project plan | Case study + Practical work | Project+ Presentation+ Viva |

## 3.0 Rules and Regulations

### *3.1 BBA Program*

#### 3.1.1 Admission

Students are admitted into the first Year of the BBA Program as per university rules. Students from all disciplines are eligible to be admitted into the BBA program. After the announcement of admission, intending students should apply in the prescribed form. A rigorous written test is conducted for the applicants. A combined score is developed based on marks in the written test, SSC and HSC examinations. Selections are made based on the combined score. After taking admission students may apply for change of Department within three weeks after the admission. BBA degree is a terminal degree.

#### 3.1.2 Program Duration and Course Distribution

The duration of BBA program is four years divided into eight semesters. A total of 150 credit hours have to be completed by the students in 41 theory courses(123 credit hours) and 17 other than theory course, (4 credit hours for projectand 23 credit hours for via-voce, industrial attachment and field work). For each theory course unit, there will be three hourslectures for 3 credits course. Other than theory course, there will be course work as per the credit assigned to the course. The total 150 credit hours in the BBA program, which every student has to complete, are distributed as follows:

| Class Year | Number of Courses | | Total Course | Credit Hours | Non Credi | Class Year |
|---|---|---|---|---|---|---|
| | 1st Semester | 2nd Semester | | | | |

| | | | Units | | t Hours | |
|---|---|---|---|---|---|---|
| **Course Works** | | | | | | |
| First Year | 5 | 7 | 12 | 35 | 0 | First Year |
| Second Year | 7 | 9 | 16 | 37 | 0 | Second Year |
| Third Year | 7 | 8 | 15 | 37 | 0 | Third Year |
| Fourth Year | 7 | 7 | 15 | 37 | 0 | Fourth Year |
| **Project** | | | | | | |
| Industrial Attachment& thesis | - | - | - | 4 | | Internship |
| **Total** | **-** | **-** | **-** | **150** | **0** | **Total** |
| | | | | | | |

Students must appear before viva-voce exams at the end of each class year (i.e., second semester, fourth semester, sixth semester and eighth semester). In addition, students have to undergo an industrial attachment of three months at the end of eighth semester. The final thesis paper carries weight of 4 credit hours including industrial attachment and thesis report.

### 3.1.3 Evaluation and Grading

Performance of students in a course will be evaluated as under:

a) For Theory Couse:

| | |
|---|---|
| First Mid-term/Class Test/Presentation | 25% |
| Term Paper, Quiz & Class Attendance | 5% percent |
| Final Exam | 70% percent |
| Total | 100% |

b) For Lab Couse:

| | |
|---|---|
| Contract with teacher | 10% Percent |
| **Viva-Voce/ Presentation** | 20% percent |
| Final Exam | 70% percent |
| Total | 100% |

c) For field work/ Project/ industrial attachment thesis:

| | |
|---|---|
| Viva-Voce | 20% Percent |
| Presentation | 20% percent |
| Evaluation | 60% percent |
| Total | 100% |

Two examiners evaluate the scripts of final examination and the average is taken for grading. If the difference between the marks of two examiners is more than twenty percent, the script is graded by a third examiner and the average mark is taken into account. The total marks in a course will be converted into

letter-grade as under:

| Mark Range | Letter-Grade | Grade Point |
|---|---|---|
| 80+ | A+ | 4.00 |
| 75-79 | A | 3.75 |
| 70-74 | A- | 3.50 |
| 65-69 | B+ | 3.25 |
| 60-64 | B | 3.00 |
| 55-59 | B- | 2.75 |
| 50-54 | C+ | 2.50 |
| 45-49 | C | 2.25 |
| 40-44 | D | 2.00 |
| Below-40 | F | 0.00 |

For the viva-voce examinations, a student is awarded only one grade after the end of fourth year. The internship program and the thesis paper is supervised and examined by the guide teacher, Project paper will be examined jointly by the guide teacher and examination committee. The Chairman of the Department keeps the evaluated scripts in his custody for at least two months after the announcement of the results and after that the scripts are handed over to appropriate custody according to the university rule.

### 3.1.4 Class Attendance

Each student is required to attend at least 70 percent of classes held in a course. He or she has to pay Tk.1000 fine to attend the final examination, if his/her attendance is below 70 percent but above 60 percent.Student will not be allowed to sit for the exams, if his/her attendance is below 60 percent in any term against total number of classes.