

Tribhuvan University
Faculty of Management
Office of the Dean



Course detail of
BIM (Bachelor of Information Management) 3rd Semester

March 2023

ACC 201: Financial Accounting

BIM 3rd Semester

Credits:3

Lecture Hours:48

Course Objectives

The main objective of this course is to provide in-depth knowledge and understanding of basic principles, concept and practices of financial accounting. This course also aims to develop students' understanding on business transactions, record such transactions in an accounting system and enable them to prepare and analyze the basic financial statements.

Course Description

This course contains conceptual and theoretical foundation of financial accounting; processing and recording business transactions; accrual accounting concept; adjusting entries, closing entries,; preparation of basic financial statements like profit and loss account, balance sheet and cash flow statement and their analysis.

Course Details

Unit 1: Basic Understanding of Financial Accounting

2 LHs

Financial accounting: concept, features, objectives and scope; Book-keeping, accounting and accountancy; Nature of accounting; Qualitative features of accounting information; Users and uses of accounting information: internal users and external users; Elements and components of financial statement; Limitations of financial accounting.

Unit 2: Conceptual Framework of Accounting

3 LHs

GAAP and its features; Basic accounting concepts: the business entity concept, the monetary concept, the going concern concept, the cost concept, the dual aspect concept, the accounting period concept, the realization concept, the accrual concept and the matching concept; Basic accounting conventions: consistency, conservatism, materiality and full disclosure; Differences between accrual versus cash basis of accounting; Differences between accounting and accountancy. Accounting standards: meaning, nature, need, significance and classification of accounting standards; Concept of Nepal Accounting Standards (NASs), International Accounting Standards (IASs), Nepal Financial Reporting Standards (NFRSs), International Financial reporting Standards (IFRSs); Disclosures required as per NFRS.

Unit 3: Accounting Process

8 LHs

Accounting events of business: concept and types; Accounting equation for analyzing the transactions; Debit and credit and their rules; Recording process of accounting events: journal, ledger, and trial balance. Opening and closing entries: concept and types of closing entries; Adjusting entries: concept and types of adjusting entries; Prepaid and outstanding items; Adjusted trial balance.

Unit 4: Accounting for Cash and Bank Reconciliation Statements

4 LHs

Concept of cash and bank; Types of bank account; Cheques: concept and types, parties to a cheque, honor and dishonor of cheque; Bank Statement: concept and importance; Preparation of bank reconciliation statement.

Unit 5: Accounting for Property, Plant and Equipment**4 LHs**

Concept, features and types of property, plant and equipment; Acquisition cost of property, plant and equipment; Depreciation of property, plant and equipment: Straight-line method, diminishing balance method, and unit of activity method; Choice of depreciation method; Disposal of property, plant and equipment; Impact of depreciation on profit measurement; Intangible assets: concept and types; Capital versus Revenue: concept and types.

Unit 6: Basic Financial Statements**18 LHs**

Financial statements: concept, objectives and limitations; Basic Nepal Accounting Standards (NASs): NAS 1: Presentation of financial statements, NAS 2: Inventories, NAS 7: Statement of cash flow, NAS 8: Accounting policies, changes in accounting estimates and errors, NAS 10: Events after reporting period, NAS 16: Property, plant and equipment

Preparation of financial statement under NFRS: Statement of Profit or Loss (Income Statement): concept, types and components of profit or loss statement

Statement of financial position (Balances Sheet): concept, purpose, components and preparation of classified statement of financial position or balance sheet;

Statement of other comprehensive income: concept, components and preparation of other comprehensive income statement;

Statement of changes in equity: concept, components and preparation of statement of changes in equity.

Cash Flow Statement: Meaning, objectives and limitations of cash flow statement; Contents of cash flow statement; Preparation and interpretation of cash flow statement using balance-sheets of single and two periods under direct and indirect method.

Unit 7: Value Added Statement**3 LHs**

Value added: concept and its application; Value added statement: concept, advantages and preparation of value added statement showing value added generated and applied.

Unit 8: Analysis of Financial Statement**6 LHs**

Meaning, objectives, need and importance of financial statement analysis; Types of financial statement analysis: Horizontal, vertical and trend analysis, comparative and common size statement analysis and their application.

Ratio analysis: Concept, uses, importance and limitations of ratio analysis; Types, computations and interpretations of: liquidity (current ratio and quick ratio), capital structure (debt-equity ratio, debt to total capital ratio, interest coverage ratio and debt coverage ratio), efficiency (stock turnover ratio, receivable turnover ratio including collection period, payable turnover ratio including payable period, total assets turnover ratio, capital employed turnover ratio), profitability (gross profit ratio, net profit ratio, operating ratio, return on equity, return on total assets and return on common shareholders equity) and earning evaluation ratios (EPS, DPS and price-earnings ratio) for evaluating the financial performance of the business.

Suggested Readings

Accounting Standards Board, (2018). *Nepal Financial Reporting Standards* Kathmandu: ASB.

Narayanaswamy. R. *Financial Accounting: A Managerial Perspective (Fourth Edition)*. New Delhi: PHI Learning Private Limited.

NFRS (2014). *Nepal Accounting Standards*. Kathmandu: ASB.

Porter. G. & Norton, C. L. *Introduction to Financial Accounting (8th Edition)*. Delhi: Cengage Learning India Private Limited.

IT 236: Microprocessor and Computer Architecture

BIM 3rd Semester

*Credits: 3
Lecture Hours: 48*

Course Objectives

The main objective of this course is to provide fundamental knowledge of microprocessors and computer architecture.

Course Description

This course aims to provide fundamental concepts of microprocessor and computer architecture including instruction cycle, components of microprocessor, Intel 8085 and assembly programming.

Course Details

Unit 1: Introduction to Microprocessor

6 LHs

Microprocessor Components: Registers, ALU, Control and Timing; System Buses; Microprocessor Systems with Bus Organization; Introduction to SAP1 and SAP2.

Unit 2: Intel 8085

8 LHs

Functional Block Diagram and Pin Configuration; Timing and control Unit; Registers; Data and Address Bus; Intel 8085 Instructions; Operation Code and Operands; Addressing Modes; Interrupts; Flags; Institutions and Data Flow inside 8085; Basic Assembly Language Programming Using 8085 Instruction Sets.

Unit 3: Microoperations

4 LHs

Arithmetic Microoperations, Logic Microoperations, Shift Microoperations, Arithmetic Logic Shift Unit.

Unit 4: Central Processing Unit and Control Unit and

10 LHs

Introduction; Register Organization; Stack Organization; Instruction Format; Addressing Modes; Data Transfer and Manipulation; RISC and CISC.

Unit 5: Pipelining

4 LHs

Parallel Processing and Pipelining; Arithmetic Pipeline; Instruction Pipeline.

Unit 6: Computer Arithmetic

5 LHs

Addition and Subtraction; Multiplication Algorithms; Division Algorithms.

Unit 7: Input and Output Organization

5 LHs

Peripheral Devices; Input-Output Interface; Asynchronous Data Transfer; Modes of Transfer; Priority Interrupt; Direct Memory Access; Input-Output Processor; Serial Communication.

Unit 8: Memory Organization

6 LHs

Memory Hierarchy; Main Memory; Auxiliary Memory; Associative Memory; Cache Memory; Virtual Memory; Memory Management Hardware.

Laboratory Works:

The laboratory work should cover realizing different operations using 8085 trainer kit.

Suggested Readings

- ***Microprocessor Architecture, Programming, and Applications with 8085***, Ramesh S. Gaonkar, Prentice Hall.
- ***Computer system Architecture***, Morris Mano, Prentice Hall.
- ***Digital Computer System Electronics***, Albert Paul Malvino.
- ***Microprocessor and Interfacing Programming and Hardware***, Douglas V. Hall, McGraw Hill.
- ***Modern Computer Architecture and Organization: Learn x86, ARM, and RISC-V architectures and the design of smartphones, PCs, and cloud servers***, Jim Ledin, Packt Publishing.

IT 237: Web Technology I

BIM 3rd Semester

Credits:3

Lecture Hours: 48

Course Objectives

The main objective of this course is to provide students both theoretical and practical knowledge of different technologies that are used to develop front-end portion of web sites.

Course Description

This course covers different concepts of Web Technologies including web essentials, HTML, CSS, JavaScript, and some basic concepts of jQuery, AJAX, JSON and XML.

Course Details

Unit 1: Web Essentials

5 LHs

The Internet; Basic Internet Protocols: TCP/IP, UDP, DNS and Domain Names, Higher-Level Protocols; HTTP; HTTP Request and Response Messages; WWW; URL; Client/Server Architecture: 1-Tier, 2-Tier, and 3-Tier; Web Page and Web Site; Static and Dynamic Web Sites; Web 1.0, Web 2.0 and Web 3.0

Unit 2: Markup Language

13 LHs

Introduction to HTML; Structure of HTML Document; Elements and Attributes; Writing Comments; Headings; Paragraphs and Line Breaks; Horizontal Rules; Text Formatting; Hyperlinks; Images; Tables; Lists; Iframes; Head and Meta; Form and Form Elements; Working with Audio and Video; HTML5 Sectioning Elements: <article>, <aside>, <section>, <nav>, <header>, and <footer>; The <div> tag; Class and id Attributes; HTML Events

Unit 3: Style Sheet Language

10 LHs

Cascading Style Sheets (CSS); CSS Syntax; Inserting CSS: Inline, Internal, External; Writing Comments; Name, ID and Class Selectors; Combinators Selectors, Pseudo-class Selectors, Pseudo-element Selectors, and Attribute Selectors; Colors; Backgrounds; Borders; Margins; Paddings; Height/Width; Box Model; Text; Font; Links; List; Tables; Display; Max-width; Position; Overflow; Float; Align; Forms; Responsive Web Design; Media Queries; Responsive Web Design Frameworks

Unit 4: Client-Side Scripting

15 LHs

Introduction; Adding JavaScript to a Page; Output; Comments; Variables and Data Types; Operators; Control Statements; Functions; Arrays; Classes and Objects; Built-in Objects; Event Handling and Form Validation, Error Handling, Handling Cookies; DOM; BOM; Basics of jQuery, React, and AngularJS, AJAX, and JSON.

Unit 5: eXtensible Markup Language

5 LHs

Introduction; Syntax; Elements and Attributes; Namespace; DTD and Schema; Introduction to XPath, XSLT, and XQuery.

Laboratory Works:

The laboratory work includes creating web pages using HTML, CSS, JavaScript and other related client-side technologies.

Suggested Readings

- ***Web Technologies: A Computer Science Perspective***, Jeffrey C. Jackson, Pearson Prentice Hall.
- ***HTML & CSS: Design and Build Websites***, Jon Duckett, John Wiley & Sons, Inc.
- ***JavaScript and jQuery: Interactive Front-End Web Development***, Jon Duckett, John Wiley & Sons, Inc.
- ***Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics***, Jennifer Niederst Robbins, O'Reilly Media, Inc.
- ***Sams Teach Yourself HTML, CSS, and JavaScript All in One***, Jennifer Kyrnin and Julie Meloni Pearson Education, Inc.
- ***An Introduction to XML and Web Technologies***, Anders Møller and Michael I. Schwartzbach, Addison-Wesley.
- www.w3schools.com

IT 238: Data Structure and Algorithms

BIM 3rd Semester

Credits:3

Lecture Hours: 48

Course Objectives

Main objective of this course is to introduce data abstraction and data representation in memory, describe, design and use of elementary data structures such as stack, queue, linked list, tree and graph, introduce algorithms and their complexity.

Course Description

The course contains Introduction of data structure and algorithms, Complexity Analysis, Linked Lists, Stacks, Queues, Recursion, Trees, Graph, Sorting, Searching and Hashing.

Course Details

Unit 1: Introduction to data structure and algorithms

4 LHs

Data types, Data structure and Abstract data type (ADT), Operations performed in data structure, Introduction to Algorithms, Computational complexity, Asymptotic notations: Big-O, Big- and Big- Notation, Properties of Big-O, and Notation, Finding Asymptotic Complexity: Examples. The Best, Average, and Worst-Case analysis.

Unit 2: Linked Lists

7 LHs

Basic Concept, List and ADT, Array Implementation of Lists, Linked List, Types of Linked List: Singly Linked List, Doubly Linked List, Circular Linked List, Basic operations in Linked List: Node Creation, Node Insertion and Deletion from Beginning, End and Specified Position, Skip List, Lists in java.util: LinkedList, ArrayList

Unit 3: Stack

4 LHs

Basic Concept of Stack, Stack as an ADT, Stack Operations, Stack Implementation (Array and Linked List), Stack Applications, Conversion from infix to postfix/prefix expression, Evaluation of postfix/ prefix expressions, Stacks in java.util.

Unit 4: Queues

4 LHs

Basic Concept of Queue, Queue as an ADT, Primitive Operations in Queue, Linear Queue, Queue Implementation (Array and Linked List), Circular Queue, Priority Queue, Queue Applications.

Unit 5: Recursion

2 LHs

Recursive Definitions, Method Calls and Recursion Implementation, Direct Recursion, Indirect Recursion, Tail Recursion, Nested Recursion, Excessive Recursion, Factorial, Fibonacci Sequence, GCD, Tower of Hanoi (TOH) Problem, Recursion Vs Iteration.

Unit 6: Trees**9 LHs**

Introduction of Trees, Applications of Tree, Tree as an ADT, Binary Trees, and Types of Binary Trees. Implementing Binary Trees, Tree Traversal: in-order Pre-order, Post-order, Binary Search Tree Operation: Insertion, Deletion, Searching, AVL Trees, Expression Trees, Operations on Expression Trees, Heap, Huffman Algorithm, Self-Adjusting Trees, Multiway Search Tree: B-Tree.

Unit 7: Graphs**7 LHs**

Introduction of graph, Graph as an ADT, Graph Representation. Graph Traversals: BFS, DFS, Greedy Algorithm, Shortest Path Problem: Dijkstra Algorithm, All-to-All Shortest Path Problem: Floyd Warshall Algorithm, Spanning Trees and Minimum Spanning Tree: Kruskal and Prim's Algorithm, Topological Sort.

Unit 8: Sorting**6 LHs**

Introduction, Internal and External Sorting, Sorting Algorithms: Bubble Sort, Insertion Sort, Selection Sort, Heap Sort, Quicksort, Mergesort, Radix Sort, Efficiency of sorting algorithms, Sorting in java.util.

Unit 9: Searching and Hashing**5 LHs**

Introduction, linear search, binary search, efficiency of searching algorithms, Hashing, Hash Functions: Division, Folding, Mid-Square Function, Extraction. Collision Resolution technique, Hashing in java.util.

Laboratory Works:

The laboratory work consists of implementing the algorithms and data structures studied in the course. Lab work will be implemented on Java. Student should implement at least following concepts:

- Array and Linked List implementation of List
- Stack operations and Queue operations
- Recursion
- Linked List implementation of Stack and Queues
- Binary Search Tree
- Graph Representation
- Spanning Tree and Shortest Path Algorithms
- Sorting, Searching and Hashing algorithms

Suggested Readings

- M. T. Goodrich, R. Tamassia, M. H. Goldwasser, "Data Structures and Algorithms in Java", Wiley publication, Sixth Edition, 2014.
- Drozdek Adam, "Data Structures and Algorithms in Java", Cengage Learning Asia, Third Edition, 2010.
- Duncan A. Buell, "Data Structures Using Java" Jones & Bartlett Publishers, 2011
- Robert Lafore, "Data Structures and Algorithms in Java", Sams Publishing;
- Y. Langsam, M. J. Augenstein and A. M Tenenbaum, "Data Structures using C and C++", Pearson Education Inc, 2015

STT 201: Business Statistics

BIM 3rd Semester

Credits: 3

Lecture Hours: 48

Nature of the course: Theory and Practical with EXCEL (60% + 40%)

Course Objectives

The principal objective of Business Statistics is for students to describe data and make evidence based business decisions making using descriptive and inferential statistics that are based on well-reasoned statistical arguments. The course will cover the basic tools used to describe data for the purposes of transforming data into information. In addition, the course will present the fundamentals of statistical inference showing how it is possible to examine a small subset of data to reach conclusions about the larger set of data. The statistical tools should be introduced from an applied perspective using business related examples. Microsoft Excel software will be used throughout the course to aid in statistical analysis.

Course Description

Statistics in business and management, describing data using graphs and tables. Numerical measures: central tendency, dispersion, skewness and kurtosis. Probability: laws of probability, conditional probability. Probability distribution: discrete probability distribution and continuous probability distribution. Sampling theory: sampling techniques, sampling and non-sampling errors. Estimation: point and interval estimates. Hypothesis testing: test of significance for large samples. Linear correlation and regression.

Course Details

Unit 1: Describing Data using Graphs and Tables

4 LHs

Uses and scope of statistics in business and management, Frequency distribution, Stem-and-leaf plots, Diagrams (Simple bar diagram, Sub-divided bar diagram, Multiple bar diagram, and Pie-chart) and graphical presentation of frequency distribution – Histogram, Ogive curve, Problems using Excel.

Unit 2: Describing Data Using Numerical Measures

9 LHs

Measures of central tendency (Mean, Median and Mode), Partition values (Quartiles, Deciles and Percentiles); Measures of variation (Range, Inter quartile Range, Quartile deviations, Standard deviation); Variance and Coefficient of Variation; Measurement of skewness (Karl Pearson coefficient of skewness and Bowley coefficient of skewness); Measurement of kurtosis (Percentile coefficient of kurtosis); Five number summary, Box-and -Whisker plot, Problems using Excel.

Unit 3: Simple Linear Correlation Analysis**5 LHs**

Introduction, Scatter plot, Karl Pearson's correlation coefficient including bi-variate frequency distribution, Coefficient of determination, Test of significance of sample correlation coefficient using probable error, Spearman's rank correlation coefficient, Problems using Excel.

Unit 4: Simple Linear Regression Analysis**4 LHs**

Introduction, Simple linear regression models, Assumptions of linear regression model, Line of best fit, Linear regression model by least-squares method, Interpretation of regression coefficients, Properties of regression coefficient, regression coefficient for bi-variate frequency distribution, Problems using Excel.

Unit 5: Probability**4 LHs**

Introduction, Sample space and events, Probability, Laws of probability, Conditional probability, Problems using Excel.

Unit 6: Probability Distributions**6 LHs**

Introduction, Discrete probability distribution (Binomial distribution and Poisson distribution), Continuous probability distribution (Normal distribution), Problems using Excel.

Unit 7: Sampling Theory**3 LHs**

Introduction, Population and sample, Objectives of sampling, Sampling techniques, Sampling and non-sampling errors, Standard error, Concept of central limit theorem.

Unit 8: Estimation**6 LHs**

Introduction, Properties of good estimator (Consistency, Unbiasedness, Efficiency and Sufficiency), Point and interval estimates, Level of confidence, Confidence interval estimates for mean and proportion, Determination of sample size for mean and proportion, Problems using Excel.

Unit 9: Introduction to Hypothesis Testing**7 LHs**

Introduction, Steps of hypothesis testing, Level of significance, Critical region, One tailed test and two tailed test, Hypothesis testing using critical value and p-value approaches, Test of significance for large samples (Z-test): Test of significance of a single mean and difference between two means, Test of significance of a single proportion and difference between two proportions, Problems using Excel.

Suggested Readings

- Davis, G. and B. Pecar. *Business Statistics using EXCEL*, Oxford University Press.
- Levine, D.V., D.F. Stephan and K. A. Szabat. *Statistics for managers using MS excel*, Pearson.
- Linda, H. and F. John. *Applied Statistics for Business and Management using Microsoft Excel*, Springer.
- Trevor, W. *Applied Statistics: Methods and Excel-Based Application*, JUTA Academics.