



الجامعة الإسلامية للتكنولوجيا

ISLAMIC UNIVERSITY OF TECHNOLOGY
(IUT)

ORGANISATION OF ISLAMIC COOPERATION
(OIC)

COURSE STRUCTURE
AND
COURSE CONTENTS

Department of

Business and Technology Management (BTM)

24th July, 2023

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1. Program Description

1.1 Department of Business and Technology Management (BTM)

The Department of Business and Technology Management (BTM) admits 60 undergraduate students each year. It offers students with a unique hands-on experience in state-of-the-art laboratories and instruction from well qualified and dedicated faculty members. The department ensures close interaction between students and faculty members to extract the best out of the students. It also maintains continuous interactions with different multinational and national companies in the field of accounting, management, human resource, economics, marketing and technology which gives an added impetus to the students to acquire strong theoretical foundation and outstanding practical experience.

1.2 Bachelor of Business Administration (BBA) in Technology Management (4 year)

The Bachelor of Business Administration in Technology Management (BBA in TM) comprises of four years of study. The course curricula contain a blend of business and technology management courses to produce BBA graduates of international standard with technological know-how having relevance to the development needs of the world. As these topics require a strong background in mathematics, technology and commerce, a number of courses on these areas have been included in the syllabus. Moreover, to make the syllabus a balanced and complete one, courses on social science, Islam, programming, and communications skill development have been incorporated. After completion of seven semesters, the students undergo a three-months internship program which enhance their knowledge in industry level.

2. Course Structure based on Course Category

2.1 Table 1: Course structure based on course category

Proposed Curriculum			
BBA in Technology Management, IUT			
Course Category	No. of Courses	Credit per Course	Total Credits
General Education Courses	5	3	15
General Education Courses Lab	1	(1*1.5)	1.5
Allied Courses	6	3	18
Allied Courses lab	2	(2*0.75)	1.5
Business Core Courses	21	3	63
Elective from Business Pool	3	3	9
Business Core Courses lab	5	(6*0.75)	4.5
Technology Courses	9	3	27
Technology Courses Labs	10	(1.5*2) +(5*0.75)	9.75
Internship	1	6	6
Total			155.25

2.2 General Education Courses

Compulsory GED Courses (6)	
Course Code	Course Title
HUM 4161	Business English
HUM 4261	Islamiat
HUM 4362	Arabic (Lab)
HUM 4661	Business Ethics and Leadership
HUM 4761	Introduction to Psychology and Sociology
HUM 4763	Science, Technology, and Islam

2.3 Allied Courses

Compulsory Allied Courses (8)	
Course Code	Course Title
BTM 4203	Micro Economics
BTM 4407	Macro Economics
MATH 4263	Statistics I
MATH 4264	Statistics I Lab
MATH 4361	Statistics II
MATH 4362	Statistics II Lab
MATH 4161	Mathematics I
MATH 4261	Mathematics II

2.4 Business Core Courses

Business Core Courses (24)	
Course Code	Business Course Title
BTM 4101	Introduction to Business and Legal Environment
BTM 4103	Principles of Management
BTM 4105	Principles of Marketing
BTM 4107	Financial Accounting
BTM 4201	Financial Management I
BTM 4301	Marketing Management
BTM 4303	Management Accounting
BTM 4305	Financial Management II
BTM 4401	Organizational Behavior
BTM 4403	Management Information System
BTM 4405	Business Communication
BTM 4501	Human Resources Management
BTM 4503	Supply Chain and Operations Management
BTM 4505	Business Research Methods
BTM 4506	Business Research Methods Lab
BTM 48XX	Business Elective – I

BTM 4601	Operations Research
BTM 4603	Enterprise and Resource Planning
BTM 4604	Enterprise and Resource Planning Lab
BTM 4605	Entrepreneurship
BTM 4606	Entrepreneurship Lab
BTM 48XX	Business Elective – II
BTM 4701	Technology Management
BTM 4703	International Business Environment
BTM 48XX	Business Elective-III
BTM 4801	Project Management
BTM 4802	Project Management Lab
BTM 4803	Strategic Management
BTM 4804	Strategic Management Lab

2.5 Technology Courses

Technology Courses (9)	
Course Code	Technology Course Title
CSE 4180	Computer Fundamentals Lab
CSE 4281	Computer Programming
CSE 4282	Computer Programming Lab
CSE 4375	Data Base Management
CSE 4376	Data Base Management Lab
CSE 4463	Business System Analysis and Design
CSE 4464	Business System Analysis and Design Lab
CSE 4593	Software engineering
CSE 4683	Business Data Analysis and Machine Learning
CSE 4684	Business Data Analysis and Machine Learning Lab
CSE 4777	Artificial Intelligence in Business
CSE 4778	Artificial Intelligence in Business Lab
CEE 4461	Civil and Environmental Technology
CEE 4462	Civil and Environmental Technology Lab
EEE 4361	Electrical and Electronics Technology
EEE 4362	Electrical and Electronics Technology Lab
ME 4561	Introduction to Mechanical and Production Engineering
ME 4562	Introduction to Mechanical and Production Engineering Lab

2.6 Business Elective

Business pool (3 Courses are compulsory from the same pool)
Business Pool A
Business Pool B
Business Pool C
Business Pool D
Business Pool E
Business Pool F
Business Pool G

2.7 Course Structure- Semester wise

Course Code	1st Semester	Credit
HUM 4161	Business English	3
	Tutorial- Business English	0
MATH 4161	Mathematics I	3
BTM 4101	Introduction to Business and Legal Environment	3
	Tutorial- Introduction to Business and Legal Environment	0
BTM 4103	Principles of Management	3
	Tutorial-Principles of Management	0
BTM 4105	Principles of Marketing	3
	Tutorial-Principles of Marketing	0
BTM 4107	Financial Accounting	3
	Tutorial- Financial Accounting	0
CSE 4180	Computer Fundamentals Lab	1.5
	Total	19.5
Course Code	2nd Semester	Credit
HUM 4261	Islamiat	3
MATH 4263	Statistics I	3
MATH 4264	Statistics I Lab	0.75
MATH 4261	Mathematics II	3
BTM 4203 4201	Micro Economics	3
	Tutorial- Micro Economics	0
BTM 4201	Financial Management I	3
	Tutorial- Financial Management I	0
CSE 4281	Computer Programming	3
CSE 4282	Computer Programming Lab	1.5
	Total	20.25

Course Code	3rd Semester	Credit
MATH 4361	Statistics II	3
MATH 4362	Statistics II Lab	0.75
BTM 4301	Marketing Management	3
	Tutorial- Marketing Management	0
BTM 4303	Management Accounting	3
	Tutorial-Management Accounting	0
BTM 4305	Financial Management II	3
	Tutorial- Financial Management II	0
CSE 4375	Database Management	3
CSE 4376	Database Management Lab	0.75
EEE 4361	Electrical and Electronics Technology	3
EEE 4362	Electrical and Electronics Technology Lab	0.75
HUM 4362	Arabic Lab	1.5
	Total	21.75
Course Code	4th Semester	Credit
BTM 4407	Macro Economics	3
	Tutorial- Macro Economics	0
BTM 4401	Organizational Behavior	3
	Tutorial- Organizational Behavior	0
BTM 4403	Management Information System	3
	Tutorial- Management Information System	0
BTM 4405	Business Communication	3
	Tutorial-Business Communication	0
CEE 4461	Civil and Environmental Technology	3
CEE 4462	Civil and Environmental Technology Lab	0.75
CSE 4463	Business System Analysis and Design	3
CSE 4464	Business System Analysis and Design Lab	0.75
	Total	19.5
Course Code	5th Semester	Credit
BTM 4501	Human Resource Management	3
	Tutorial-Human Resource Management	0
BTM 4503	Supply Chain and Operations Management	3
	Tutorial- Supply Chain and Operations Management	0
BTM 4505	Business Research Methods	3
BTM 4506	Business Research Methods Lab	0.75
CSE 4593	Software Engineering	3

ME 4561	Introduction to Mechanical and Production Engineering	3
ME 4562	Introduction to Mechanical and Production Engineering Lab	0.75
BTM 48XX	Business Elective-I (1 Course is compulsory from the same pool)	3
	Total	19.5
Course Code	6th Semester	Credit
HUM 4661	Business Ethics and Leadership	3
	Tutorial- Business Ethics and Leadership	0
BTM 4601	Operations Research	3
	Tutorial- Operations Research	0
BTM 4603	Enterprise and Resource Planning	3
BTM 4604	Enterprise and Resource Planning Lab	0.75
BTM 4605	Entrepreneurship	3
BTM 4606	Entrepreneurship Lab	0.75
CSE 4683	Business Data Analysis and Machine Learning	3
CSE 4684	Business Data Analysis and Machine Learning Lab	1.5
BTM 48XX	Business Elective-II (1 Course is compulsory from the same pool)	3
	Total	21
Course Code	7th Semester	Credit
HUM 4761	Introduction to Psychology and Sociology	3
	Tutorial- Introduction to Psychology and Sociology	0
HUM 4763	Science, Technology, and Islam	3
BTM 4701	Technology Management	3
	Tutorial- Technology Management	0
BTM 4703	International Business Environment	3
	Tutorial- International Business Environment	0
CSE 4777	Artificial Intelligence in Business	3
CSE 4778	Artificial Intelligence in Business Lab	1.5
BTM 48XX	Business Elective-III (1 Course is compulsory from the same pool)	3
	Total	20.25
Course Code	8th Semester	Credit
BTM 4801	Project Management	3

BTM 4802	Project Management Lab	0.75
BTM 4803	Strategic Management	3
BTM 4804	Strategic Management Lab	0.75
BTM 4800	Internship	6
	Total	13.5

1st Semester (1st Year)

HUM 4161: Business English

Common mistakes in English, writing techniques, writing practice in the form of paragraph, letter, report and summary writing, basic principles of effective listening, guidelines for effective speaking, basic rules of pronunciation, conversational fillers, social expressions, debate, review of basic grammar, rules of effective speaking.

Tutorial- Business English

MATH 4161: Mathematics I

Algebra: number fields, sets, linear and non-linear inequalities with business applications, functions and graphs, graphs and lines, quadratic, polynomial, rational, exponential, and logarithmic functions with applications, co-ordinate geometry: change of axes, transformation of co-ordinates, simplifications of equation of curves, matrix: basic operations, elementary transformations, solution of simultaneous equations by using matrix, Leontief input-output analysis, linear programming: linear inequalities, multiple optimum solutions, artificial variables, simplex method, dual simplex method and degeneracy, unbounded solutions.

BTM 4101: Introduction to Business and Legal Environment

Introductory overview of the organization, functions, and activities of business in contemporary society and necessity law in doing business. Emphasis is placed on the terminology necessary to understanding business principles and practices, Islam and business. This course also includes an exploration of business environments, human resources, management, marketing management, finance, management information tools. The course also covers contract act, sales of goods act, labor law, law related to partnership and company. Focus is on critical factors essential to understanding the interdependence between different facets of business operations.

Tutorial- Introduction to Business and Legal Environment

BTM 4103: Principles of Management

The meaning and importance of management, evolution of management thought, managerial decision making, environmental impact on management, corporate social responsibility, planning, setting objectives, implementing plans, organizing, organization design, managing change, human resource management, directing, motivation, leadership, managing work groups, controlling, control principles, processes and problems, managing a changing environment, Islamic concepts of management, principles, practices.

Tutorial- Principles of Management

BTM 4105: Principles of Marketing

Introduction to Marketing: definition of market, nature and scope of marketing, role of marketing in a developing country, need, want and demand, the marketing environment, analyzing the marketing environment, competitor analysis, competitors, assessing competitors, basic competitor strategies, market segmentation and market aggregation, market targeting, positioning competitive advantage. Products, services, brands, product levels, product classification, product line, product decision, product mix, product strategies, product life cycle, new product development. Pricing factors, general pricing approaches. New product pricing, product mix pricing, price adjustments, price changes. Physical distribution & logistics, different channels of distribution, channel strategies, channel design decision, channel management decision, retailing and wholesaling, retailer marketing decisions, wholesaling marketing decisions. The promotion mix, integrated marketing communications, Islamic business principles and ethics in developing strategic and tactical marketing decisions.

Tutorial- Principles of Marketing

BTM 4107: Financial Accounting

Basic accounting concepts, analyzing the effects of business transactions on the accounting equation, double-entry system, recording of transaction, preparation of ledger and trial balance, treatment of adjusting entries and closing entries, completing the accounting cycle, preparation of financial statements, analyzing financial statements with different tools, the nature of depreciation in accounting, depreciation methods, recording of depreciation, financial statements for merchandise operations, inventories: reporting and analyzing inventory, classifying inventory: finished goods, work in process, raw materials, accounting for receivables, accounting for partnerships, corporations: organization and capital stock transactions, accounting for common stock, preferred stock and treasury stock.

Tutorial- Financial Accounting

CSE 4180: Computer Fundamentals Lab

Overview of computer hardware (CPU components e.g., motherboard, processor, graphics processing unit etc., memory and storage devices, I/O devices), basics of operating system (input-output operations, file management, copy-paste operation, basic application usage, terminal, OS protection, internet usage), tools for word processing, presentation, spreadsheet, basics of flow chart making and diagramming, fundamentals of database design.

2nd Semester (1st Year)

HUM 4261: Islamiyat

Tawheed: tawheedul uluhia, tawheedul rububia and tawheedul asma- was-sifat, aqeedah/creeds of Islam: creeds of ahlus-sunnah-wal-jamah, sources of Islamic code of life, social, economic and political system of Islam, Islamic ethics and moral values, human values in Islam, dignity

family ties, role of Islam in eradicating social evils, Islam and the world peace.

MATH 4263: Statistics I

The basic concepts of statistics and statistical techniques, various concepts of statistics including- various inferential and descriptive statistics, discrete and continuous probability distributions, sampling methods and central limit theorem, estimation and confidence interval, correlation and regression etc.

MATH 4264: Statistics I Lab

Experiments, practice and practical based on STAT 4201

MATH 4261: Mathematics II

Differential calculus: limit, continuity and differentiability of functions. Successive differentiation, higher order derivatives, expansion of functions in series: Taylor and Maclaurin theorem, applications of derivative: increasing decreasing and concavity, maxima and minima of functions, curve sketching and function of several variables. Integral calculus: integration with different technics. Integration by successive reduction, standard integrals, definite integrals, its properties, application of integration, summing series, average value of functions, area under a curve, consumer's and producer's surplus. Numerical analysis: solution of polynomial equation and equation involving transcendental functions. Newton's forward and backward interpolation formulas. Runge-kutta method.

BTM 4203: Micro Economics

The nature and method of economics, the economizing problem, understanding individual market, demand and supply, consumer behavior and utility maximization, the cost of production in the short run and long run, price and output determination, pure competition, pure monopoly, monopolistic competition, oligopoly, introduction to labor market and wage determination minimization and shutdown case, Islamic economics: principles & analysis.

Tutorial- Micro Economics

BTM 4201: Financial Management I

Basic concepts and analytical tools used in business finance. Topics include: modern approach of finance, basic principles of finance, analysis of risk-return, types of risk, types of investors, cost of capital, weighted average cost of capital, analysis of time value of money, concept of annuity, perpetuity, elementary capital budgeting, working capital management, finance from Islamic perspective.

Tutorial- Financial Management I

CSE 4281: Computer Programming

Computer science basics: how computer works, how programs work, program design, Pseudo code, flow chart, logic design, program development, problem solving and understanding programming language: python interpreter, variables, input/output, comments, strings, flow

control, functions, list, dictionaries, strings, automating different tasks, similarity and dissimilarity with other programming languages.

CSE 4282: Computer Programming Lab

Experiments, practice and practical based on CSE 4282

3rd Semester (2nd Year)

MATH 4361: Statistics II

Inferential statistics, hypothesis testing, nonparametric statistics, ANOVA analysis, index number, time-series analysis, statistical forecasting and quality control, multicollinearity, autocorrelation, statistical decision theory, interpolation and extrapolation and associations of attributes etc.

MATH 4362: Statistics II Lab

Experiments, practice and practical based on STAT 4301

BTM 4303: Management Accounting

The managerial accounting and cost concepts, cost classification, cost sheet, cost-volume-profit relationships, profit planning, flexible budgets and performance analysis, activity-based costing, standard costs and operating performance measures, relevant costs for decision making, segment reporting and decentralization.

Tutorial- Management Accounting

BTM 4305: Financial Management II

The nature and scope of financial management, the objectives of financial management and need for management of working as well as fixed capital, tools for quantitative analysis of prior financial position, techniques of forecasting, the need for funds, techniques of capital budgeting and related concepts, net present value, internal rate of return, MIRR, capital structure and rationing, dividend policies, capital market and issues in Islamic financial management etc.

Tutorial- Financial Management II

CSE 4375: Data Base Management

Database management systems, DBMS file structures, introduction to the relational model, relational algebra, normalization and relational design, Relational query languages: SQL, embedded SQL in a third-generation language (COBOL, C or C++), ER modeling, object-oriented modeling, database design language, the hierarchical model, alternative data models, physical database design, database administration, database recovery, distributed databases and current trends in the field. Indexing and hashing, transaction management, concurrency control. Database security, introduction to data mining / data warehousing, emerging applications.

CSE 4376: Data Base Management Lab

Experiments, practice and practical based on CSE 4375

EEE 4361: Electrical and Electronics Technology

Electrical networks and circuit solution techniques, delta-wye- transformation, circuit theorems, basic principle of generation of alternating and direct current, introduction to phasor algebra as applied to AC circuit analysis, solution of AC circuits: RLC circuits series and parallel, Ampere's circuital law, B - H curve, solution of magnetic circuits, hysteresis and eddy current losses, an application of magnetic force, introduction to magnetic circuits, three phase AC circuits: three phase EMF generation, delta and Y - connections, line and phase quantities, solution of three phase circuits, balanced supply voltage and balanced load, phasor diagram, measurement of power in three phase circuits, DC machines, specification and characteristics of DC generators and motors, transformers: introduction to transformer, auto transformer, CT and PT and their characteristics, specification, and ratings, introduction from gate to microcontroller and its applications, electric wiring for residential and commercial loads, basic idea of grounding and earthing of electric installation.

EEE 4362: Electrical and Electronics Technology Lab

Experiments, practice and practical based on EEE 4361

HUM 4362: Arabic (Lab)

Tajweed rules of the Holy Quran, letters and pronunciation, construction of words, use of numerical, common vocabularies, name of months, days and directions, use of every day's conversation and dialogues and practice. Reading comprehension: use of determiners and pronouns, use of interrogatives, use of nominal and verbal sentences use of adverbs, use of tenses, use of feminine and masculine genders, conjunctive adverbs, nouns, singular, plural and various modifications caused by them, use of verbs with different persons and all pronouns, use of new words (nouns and verbs) by changing different parts of speech.

4th Semester (2nd Year)

BTM 4407: Macro Economics

Fundamental economic concepts such as scarcity and opportunity costs, national income, computation of national income and product, theory of income determination, aggregate supply and demand models, savings, consumption and investment, employment, theory of money and inflation, monetary and fiscal policy, an overview of economic fluctuations and to highlight the dynamics of unemployment, inflation, and economic growth, macroeconomics from an Islamic perspective.

Tutorial- Macro Economics

BTM 4401: Organizational Behavior

Individual and group behavior models in the context of different organizations and social systems. It deals with the basic concepts of motivation, perception, learning and analysis of human behavior, individual differences and job satisfaction attitude changes, group process,

teamwork, role theory, power and authority along with the analysis of small group behavior, group dynamics, leadership, decision, development of organizations and the influence of groups.

Tutorial- Organizational Behavior

BTM 4403: Management Information System

Information system concepts and terminology, current issues and trends in IT, including e-Business, e-Commerce, the impact of technology on organizations, managers and users, the ethical, social and global issues, examples of IT applications including ERP, decision support systems and information systems in business functional areas of marketing, finance, production and human resources.

Tutorial- Management Information System

BTM 4405: Business Communication

Importance of communication in business, main forms of communication, communication networks of the organization, nature of business and communication needs, communication model, communication barriers, ways of overcoming communication barriers, business meetings, rules of conducting and participating in effective, meetings, meeting minutes., fundamentals of business writings, major business correspondences: traditional business letters, office memo, major parts of business letters, punctuation, letter formatting and composition, e-mail: advantages and disadvantages, adaptation to different business letter situations – good news, bad news, neutral or routine and persuasive (sales), communication across cultures, intercultural and international communication, cultural differences, challenges in intercultural communication, ways to overcome challenges, back-translation. Oral presentation and public speaking, nonverbal and intercultural communication, cover letters, strategy in job applications, cv writing, tips for facing interviews.

Tutorial- Business Communication

CEE 4461: Civil and Environmental Technology

Mechanical properties of materials, yielding, fracture, elasticity, plasticity, and relaxation, engineering materials – brick, block, concrete, paints, rubber, plastics, and timber, Sustainability of construction materials. Environmental assessment of a project - Initial Environmental Examination (IEE), Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), components and implementation of ESMP.

CEE 4462: Civil and Environmental Technology Lab

Experiments, Practice and Practical based on CEE 4461

CSE 4463: Business System Analysis and Design

System concept and system analysis, system planning, role, tasks and attributes of a system analyst, approach to system development, steps of system analysis, user involvement, use case preparation to model a system, feasibility analysis and design of an information system. System investigations: objectives, methods, recording. Logic system design, physical design of computer and manual sub-system. Software project management: life cycle of a software, specification design, documentation, maintenance and control, analysis of program performance, testing and verification methods.

CSE 4464: Business System Analysis and Design Lab

Experiments, practice and practical based on CSE 4463

5th Semester (3rd Year)

BTM 4501: Human Resources Management

Management of human resources in organization, viz. the basic functions of human resource management, sources of personnel, methods of selection, recruitment, developing and motivating the work force, procedures of primary record keeping, compensation, salary and wage administration, promotion, training appraisal, health safety, moral discipline, employee benefits, human resource management: Islamic approach.

Tutorial- Human Resources Management

BTM 4503: Supply Chain and Operations Management

Introduction to supply chain management from both analytical and practical perspectives. Stressing a unified approach, the course allows the student to develop a framework for making intelligent decisions within the supply chain. Key logistics functions are covered to include demand planning, demand forecasting: importance and applications in production of goods and services, types of demand, time horizon for forecasting, quantitative and qualitative forecasting methods, accuracy and error calculation and control, probability in demand forecasting, and computer control of forecasting systems, procurement, inventory theory and control, transportation planning and execution reverse logistics, and flexible contracting. Concepts explored include postponement, portfolio management, dual sourcing and others. Emphasis is placed on being able to recognize and manage risk, analyze various tradeoffs, and model logistics systems. This course also includes to production function, manufacturing policy decisions, production system, plant location and factory layout, production planning and control, product design and development, time and motion study, material handling and transportation, quality control inspection, statistical quality control, purchasing and inventory control, maintenance management, production control, systems approach in production management. Islamic concept related to supply chain and food reservation.

Tutorial- Supply Chain and Operations Management

BTM 4505: Business Research Methods

Introduction to research, business research, objectives, types, conditions of good research, scientific methods, language of research, research process, research problem, definition of problem and its comprehensive framework, research design, concept, necessity, features of

good sampling, probability sampling, non-probability sampling, rule of measurement, criteria for good measurement, concept of scale and scaling, different types of scales, questionnaire design, techniques of data analysis etc.

BTM 4506: Business Research Methods Lab

Experiments, practice and practical based on BTM 4505

CSE 4593: Software Engineering

Concepts in hardware and software. Basic computer organization: processor and memory, secondary storage devices, input-output devices, networking, introduction to web and other emerging technologies such as blogs, Wiki, RSS, podcasting, cloud applications, UX and UI design. Computer software: programming languages, compiler, assembler, linker. Software engineering: software development life cycle, introduction to software process models, software requirements analysis, software documentation, introduction to software design, testing, deliverables and maintenance.

ME 4561: Introduction to Mechanical and Production Engineering

Sources of energy: conventional and renewable, study of steam generation units with their accessories and mountings, introduction to steam turbine with their accessories, internal combustion engines, introduction to automobiles. Introduction to gas turbines, pumps, blowers and compressors. Refrigeration and air conditioning systems. Machine elements: gears, bearings, springs, beam, column, materials for mechanical engineers

Evolution of industrialization - features of I4.0, distinguishing characteristics between production and manufacturing, manufacturing enterprises, and competitive aspects of manufacturing processes. Life cycle of a product, product design and manufacturing, manufacturing/production systems – meaning of system optimization, overview of operations management, machine tools, industrial automation, CAD, CIM basics of quality management, supply chain management, engineering economy, ergonomics, safety, and organizational behavior.

ME 4562: Introduction to Mechanical and Production Engineering Lab

Experiments, practice and practical based on ME 4561

BTM 48XX

Business Elective – I (1 Course is compulsory from the same Business pool)

6th Semester (3rd Year)

HUM 4661: Business Ethics and Leadership

The influence of leadership in organization life, the applications of pertinent research and theories of leadership, and ethics in complex and challenging organizing contexts, leadership theories, personal assessment and development, values and ethics, motivation, power,

followership, group dynamics, multiculturalism in leadership, conflict resolution, performance excellence, and the change process, business ethics and tawhidic paradigm, business ethics from Syariah law and qawaid alfiqhiah, Islamic ethics, management in Islamic perspective.

Tutorial- Business Ethics and Leadership

BTM 4601: Operations Research

Basics of operations research, linear programming, transportation problems, assignment problems, Markov analysis, game theory, project management, queuing theory, simulation, sequencing problem, inventory management and decision theory.

Tutorial-

BTM 4603: Enterprise and Resource Planning

An overview of Enterprise Resource Planning (ERP) systems and their role in an organization. ERP implementation lifecycle, ERP vendors, consultants, and employees, and future of ERP, ERP modules, materials management (MM), supply chain management (SCM), customer relationship management (CRM), financials, projects, human resource management (HRM), practical application of ERP. Finally, an overview of Business Intelligence (BI) and analytics in the ERP.

BTM 4604: Enterprise and Resource Planning Lab

Experiments, practice and practical based on BTM 4603

BTM 4605: Entrepreneurship

The nature and importance of entrepreneurship, the entrepreneurial mind-set, creativity and the business idea, the business plan: creating and starting the venture, the marketing plan, the organizational plan, the financial plan, sources of capital, informal risk capital, venture capital and going public, strategies for growth and managing the implications of growth. Spirituality in business ethics from an Islamic perspective.

BTM 4606: Entrepreneurship Lab

Experiments, practice and practical based on BTM 4605

CSE 4683: Business Data Analysis and Machine Learning

Introduction to data analytics and its application. Understanding different data types, data exploration, and visualization using python/tableau – statistical description of data, measuring data similarity/dissimilarity, data preprocessing – data cleaning, transformation, integration, reduction, data analysis using python/SAS- hypothesis testing, Pearson correlation, chi square/statistical inference, regressing analysis, pattern mining, association and correlation. Machine learning and classification concepts, overview of classification algorithms and their applications in different contexts: random forest, clustering, K Nearest Neighbor, neural networks, Naïve Bayes, logistic regression, recommender system. Steps of building machine

learning model, apply machine learning model using Rapid Miner/Apache Spark. Use of predictive modeling for business use cases.

CSE 4684: Business Data Analysis and Machine Learning Lab

Experiments, practice and practical based on CSE 4683

BTM 48XX(Code will be based on selected pool)

Business Elective – II (1 Course is compulsory from the same Business pool)

7th Semester (4th Year)

HUM 4761: Introduction to Psychology and Sociology

The origins, growth, content and applications of psychology, including the application of the scientific method to the following topics: theories of physical, cognitive, moral and emotional development, sensation, perception, learning, motivation, intelligence, memory, personality, coping processes, abnormality, adjustment, and the individual in small groups and pluralistic society, psychological disorder and psychology in our life and psychology and society in Islamic perspective.

Introduction to sociology, basic concepts in sociology, social institutions: social processes, social stratification, social disorder, deviance and social control, social change, theoretical perspectives in sociology, social sciences in Islamic perspective, research methods in sociology and, the sociological perspectives on management and business administration, social sciences in Islamic perspective.

Tutorial- Introduction to Psychology and Sociology

HUM 4763: Science, Technology, and Islam

The relation between science and technology, development of science and technology till date, Islam, concept, origin and examples of main religions and their tenets, comparative study of Islam, Christianity, Judaism, Hinduism and Buddhism, relation between science and technology and Islam, creation of the universe, scientific approach the big bang theory of primordial ball, Islamic-kun-faya-kun concept, scientific indications in the Holy Quran, impact of science, technology and religion on society and social development, contributions of Islamic civilization, Islam and the west , Islamization of attitudes and practices in science and technology.

Tutorial- Science, Technology, and Islam

BTM 4701: Technology Management

Overview and principles of technology management, technology as a competitive advantage, technology evolution, core competence and industrial dynamic, technology evolution, core competence and technology strategy, forecasting, foresight, planning, road mapping,

technology creation, open innovation, core capabilities, core rigidities, technology commercialization, technology marketing and network externalities, technology transfer, technology diffusion, technology transfer, diffusion, social and organizational context, intellectual property right, intellectual assets, learning organization, introduction to tools, patent analysis and portfolio management, s-curve, stage-gate and value analysis, tm and design thinking: ethics and sustainability, fourth industrial revolution.

Tutorial- Technology Management

BTM 4703: International Business Environment

Introductory discussions to the field of international business: national economic and cultural differences, international trade policies and institutions, foreign direct investment, regional economic integration, international monetary system, global competition, current international business trends and developments, trade theory and policy sources of international competitiveness in trade, tools of trade protection, the GATT, the Uruguay Round and the WTO, foreign direct investment motives and foreign direct investment, motives for international alliances, policies for restricting/promoting foreign direct investment, national business systems, influence and national cultural values on business organization, business government relations, and policy choices.

Tutorial- International Business Environment

CSE 4777: Artificial Intelligence in Business

AI methodology and fundamentals, intelligent agents, search algorithms, game playing, supervised and unsupervised learning, decision tree learning, neural networks, nearest neighbor methods, dimensionality reduction, clustering, kernel machines, support vector machines, uncertainty and probability theory, probabilistic reasoning in AI, Bayesian networks, statistical learning, fuzzy logic, robotic process automation. Several assignments will be given to enable the student to gain practical experience in using these techniques.

CSE 4778: Artificial Intelligence in Business Lab

Experiments, practice and practical based on CSE 4777

BTM 48XX

Business Elective – III (1 Course is compulsory from the same Business pool)

8th Semester (4th Year)

BTM 4801: Project Management

Project identification, preparation, appraisal, management of implementation and post project evaluation, basic techniques like network analysis, organizing and control aspects of project implementation in relation to resources, time scale and information processing are emphasized, feasibility study of a business project is a major part of the course, basics of project management software.

BTM 4802: Project Management Lab

Experiments, practice and practical based on BTM 4801

BTM 4803: Strategic Management

Strategic management and strategic competitiveness, the external environment and competitor analysis, the internal organization analysis, business level strategy, competitive rivalry and competitive dynamics, corporate-level strategy, merger and acquisition strategies, international and cooperative strategy, corporate governance, organizational structure and controls, strategic leadership and strategic entrepreneurship.

BTM 4804: Strategic Management Lab

Experiments, practice and practical based on BTM 4803

BTM 4800: Internship

After completion of seven semester, students will do internship for 12 weeks (3 months).

Business Elective Pool

2.7.1 Business Pool A:

Business pool A (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4811	Corporate Finance
BTM 4813	Financial Markets and Institutions
BTM 4815	Bank Management
BTM 4817	International Finance
BTM 4819	Portfolio Management
BTM 4857	Financial Analytics

2.7.1.1 Business Pool A Contents:

BTM 4811: Corporate Finance

Investment decisions, valuation of financial assets and liabilities, relationships between risk and return, capital structure choice, payout policy, the effective use and valuation of derivative securities (futures, options, and convertible securities) and risk management.

BTM 4813: Financial Markets and Institutions

Overview of the financial system, interest rates, money markets, capital markets, bond markets and stock markets, foreign exchange markets and international financial markets, hedging and

derivatives markets, depository institutions and contractual saving institutions, securities market institutions and investment institutions, financial market failure, crises and regulation.

BTM 4815: Bank Management

Introduction of scheduled and non-scheduled banks, origin and development, evolution and growth of banking system in Bangladesh, Liquidity, purpose, sources, measurement, liquidity / profitability problem, theories of liquidity management – capital adequacy in banks - functions of capital funds in commercial banks – capital adequacy – Basle norms on capital adequacy, credit management - cardinal principles of sound bank lending – formulating loan policy – factors influencing loan policy, investment management - nature and significance of investment management in commercial banks – fundamental principles of security investment by commercial bank – management of security investment, asset liability management and non-performing assets - concept of ALM – concept of bank marketing, relationship banking.

BTM 4817: International Finance

Export/import financing, the management of foreign exchange exposure, foreign direct investment decisions and multinational capital budgeting. Other topics include trends in international banking, the balance of payments, the determination of exchange rates and the LDC debt crisis. It examines the challenges and problems faced by firms planning on doing business in western Europe, Eastern Europe, the Far East, Mexico, Canada, South America and Africa doing the next decade.

BTM 4819: Portfolio Management

Risk diversification evaluating portfolio, portfolio selection, analyzing portfolio performance, examining the pattern of changes in valuation of portfolio performance, capital asset pricing model.

BTM 4857: Finance Analytics

An introduction to methods and tools useful in decision-making in the financial industry, macroeconomic event studies, analysis of term structures, equity data analysis, style analysis, credit risk, extreme value analytics, trading analytics, volatility measurement, portfolio management and enterprise risk management.

2.7.2 Business Pool B Courses

Business pool B (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4821	Advanced Financial Accounting
BTM 4823	Accounting Theory
BTM 4825	Cost Accounting
BTM 4827	Accounting Information System
BTM 4829	Taxation and Auditing
BTM 4859	Advanced Management Accounting

2.7.2.1 Business Pool B Course Contents:

BTM 4821 : Advanced Financial Accounting

Data consignment and joint venture accounts, branch and departmental accounts, hire purchase and installment accounting, lease accounting, accounting for liquidation of companies (insolvency act), financial statement of group of companies, accounting related to insolvency, accounting related to mergers and amalgamation partnership firms accounting and valuation of goodwill.

BTM 4823: Accounting Theory

Accounting conceptual framework, accounting concepts, standard setting measurement and recognition issues, and characteristics of accounting information, objectives of financial reporting, financial statements, and elements of financial statements, International Accounting Standards (IAS).

BTM 4825: Cost Accounting

Introduction to Cost Accounting, objectives and importance of cost accounting, cost concepts and cost classification, material costing, store keeping and inventory control, valuation of inventory, labor cost accounting, chargeable expenses, manufacturing and non- manufacturing overheads, job order and batch costing, process costing, activity-based costing, standard costs, variance analysis, statement of cost pf production.

BTM 4827: Accounting Information System

Accounting information systems and their role in an accounting environment, transaction cycles and internal control structure. Topics covered include accounting software application, control concepts and procedures, auditing of information systems, internets, intranets, electronic commerce, accounting information systems security and auditing, management reports and decision-making tools, data management concepts and Electronic Data Interchange (EDI) and the role of information systems.

BTM 4829: Taxation and Auditing

Classification of tax, classification of income for tax, assesses and residential status, types of tax authorities, power and functions of tax authorities, judicial authorities of tax, power and functions of judicial tax authorities. Assessment year and income year, submission of tax return, types of assessment, tax deducted at source, advance payment of tax, refund of tax. Tax assessment from: salary, securities, business and profession etc. Residential status, rate of tax and rebate, procedure of assessment.

Definition of audit, quality of an auditor, objectives of auditing, detection and prevention of fraud and errors, types of audits, coverage of audit, understanding client business, audit risk, audit evidence, test checking, audit program, analytical procedure, meaning, reasons for internal control evaluation, phases in control valuation, assessing control risk, sampling steps for account balance audit. Qualification, appointment, duties of a company auditors, audit of financial statements, assets, liabilities, owners' equity, revenue, expenses, preparation of audit

report.

BTM 4859: Advanced Management Accounting

Introduction to paper CVP analysis: advanced issues Cost Behaviors Analysis, Standard Costing: Advanced issues, Decision making under conditions of risk and uncertainty, Cost Allocation: Joint products and Byproducts, Allocation of support department cost, common cost and revenue, Process Costing , Spoilage, Rework, and Scrap, Introduction to revenue management, Revenue Management, Strategic capital budgeting and long-term investment decisions, Performance management, Sustainability and management accounting Case presentations & revisions.

2.7.3 Business Pool C Courses

Business pool C (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4831	Human Resource Planning
BTM 4833	Training and Development
BTM 4835	Labor- Management Relations
BTM 4837	Compensation Theory and Administration
BTM 4839	Performance Management

2.5.3.1 Business Pool C Course Contents

BTM 4831 : Human Resource Planning

Importance of man power planning: issues in human resource planning, planning model, determination of future human resource requirements, determination of future human resource availability, assessing gaps and objectives, action planning to match the gaps, human resource information system, manpower planning as the basis of recruitment selection, training and phasing out, a system approach to annual manpower planning exercise.

BTM 4833: Training and Development

Training and development function, strategy and training, organizations of the training department, training needs assessment, learning and behavior, designing of training programs, evaluation of training programs in organization developments, theory and practice of career development, developing career structures, identifying organizational needs, institutionalizing the career development system, evaluating the systems.

BTM 4835: Labor-Management Relations

Labor-management relations at the firm level, evolution of labor-management relations, characteristics and contemporary issues, analysis of the labor-management relationship, collective action, bargaining behavior and conflict resolution.

BTM 4837: Compensation Theory and Administration

Compensation theory, job analysis, preparation of job description, fundamentals of job evaluation, methods of compensation including incentives, fringe benefits, determination of wage levels, wage structures and individual wages, analysis of the impact of wages on individual attitudes and decisions to participate and perform in an organization.

BTM 4839: Performance Management

Performance management cycle, planning, coaching, reviewing, rewarding, improving, performance planning: using job analysis, developing performance standard, communicating performance expectation, coaching performance: establishing trustful relationships, identifying causes of poor performance, reviewing performance: different approaches to performance appraisal, rewarding performance: compensation management, performance pay, knowledge-based pay, improving performance: mentoring, career development.

2.5.4 Business Pool D Courses

Business pool D (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4841	Consumer Behavior
BTM 4843	Services Marketing
BTM 4845	Integrated Marketing Communication
BTM 4847	Innovation and Product Development
BTM 4849	Selling and Salesmanship

2.5.4.1 Business Pool D Course Contents**BTM 4841 : Consumer Behavior**

Marketing concept and consumer behavior, utility and need satisfaction, communicating with consumer, consumer adoption and diffusion process, repurchase, purchase and post purchase behavior, product involvement and type of purchase decision, understanding consumer, demographic, social and psychographic factors, influences of external factors, model of human behavior, classification of situation influencing consumer behavior, consumer decision process, consumer movement and consumerism, institutional buying behavior, consumer and price, consumer and institutional decision, household, sales person and advertising, customer behavior and customer loyalty.

BTM 4843: Services Marketing

Basic concepts, principles, and strategies of the services. Introduction to services, conceptual framework of service quality, customer expectation and perception of services, listening to customers through research, building customer relationships, service innovation and design, service recovery, customer defined service standards, physical evidence and the service scapes, employee's role in service, managing demand and capacity, IMC in services, services and technology and other tools and frameworks in services marketing.

BTM 4845: Integrated Marketing Communication

Basics of IMC, role of IMC in marketing process, analyzing communication process, organizing for advertising and promotion, perspectives on consumer behavior, the communication process, source, message and channel factors, establishing objectives and budgeting for the promotional program, developing the integrated marketing communications program, media planning and strategy, evaluation of media, measuring and evaluating the effectiveness of the promotional program, and regulation of advertising and promotion.

BTM 4847: Innovation and Product Development

The role of innovation and new product development in organizations and society, Success and failure for industrial and consumer innovations and new product development and innovations marketing and innovation and new product development, product development and innovation strategy - the integration of marketing and technology - the product development charter, NPD and innovation models - comparison of models - speeding up the NPD process - the use of NPD tools, generating NPD ideas - listening to the customer - idea generation techniques - evaluation and prioritization of ideas, business and financial analysis NPD demand and forecasting estimation, development, intellectual property – mechanisms for protection, product launch decisions (business to business and consumer) post launch evaluations, contingency planning product discontinuation public issues in NPD.

BTM 4849: Selling and Salesmanship

Importance of selling, sales as a profession, selling tasks, order processing and creative selling, creative selling process, prospecting and qualifying, pre-approach and approach presentation, demonstration, objection handling, closing the sales, follow-up, managing sales, sales planning and advertising, managing sales effort, recruitment, selection, training, organizing, supervision, motivation, compensation and evaluation, territory planning and quota administration. Training and motivating sales people in Bangladesh.

2.5.5 Business Pool E Courses

Business pool E (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4851	Strategies for Sustainability
BTM 4853	Sustainability and Environmental Accounting
BTM 4855	Technology and Innovation for Sustainability

2.5.5.1 Business Pool E Courses Contents**BTM 4851: Strategies for Sustainability**

The relationship between economic activity, management and the natural environment, existing notions of economic goals, production and consumption practices and the management of organizations, carbon management, indigenous environmental planning, sustainable energy, environment governance and science, business strategies for a sustainable future, humanitarian logistics and sustainable supply chains, water, sanitation and hygiene, waste management, entering green market, managing for sustainability, environment, inequality, poverty, and

social well-being, global climate policy and sustainability, and next generation strategies for sustainability.

BTM 4853: Sustainability and Environmental Accounting

Developing measures of corporate environmental performance, assessing their reliability and reporting to external stakeholders, using sustainability metrics in strategic and operational business decisions, implementing and utilizing Environmental management systems and standards, managing corporate environmental risks and accounting for environmental costs. Environmental auditing, measuring sustainability and measuring organizations, principles of sustainability accounting, benchmarking and decision making, sustainability management systems, greenhouse gas accounting, environmental, social and corporate governance, financing environmental, social and development initiatives, and sustainability reporting.

BTM 4855: Technology and Innovation for Sustainability

The role of information and other technologies in the size and nature of an organization's environmental 'footprint', achieving sustainability through strategic innovation, such as digitization, recycling, reuse of materials, sustainable design, LEED certifications, smart grids and energy metrics, analyzing the environmental benefits and hidden costs of novel technologies, energy systems for climate change migration, humanitarian innovation, recycling, rebuilding, and recovery technology, energy technology and policy, clean energy and control of decarbonized energy system, energy efficiency and smart grid strategies for a sustainable future, technology, globalization and sustainable development, geoengineering, machine learning and sustainable systems, and sustainable tech innovation and product development.

2.5.6 Business Pool F Courses

Business pool F (3 Courses are compulsory from the same pool)	
Course Code	Course Title
BTM 4861	Econometric Analysis
BTM 4863	Econometric Models and Methods
BTM 4865	Interdisciplinary Impact in Econometrics

2.5.6.1 Business Pool F Courses Contents

BTM 4861 : Econometric Analysis

This unit develops foundations for more advanced study in econometrics. It begins with an introduction to matrix algebra which is an essential part of the language of econometrics. This is followed by a formal introduction to probability and statistics, leading up to the law of large numbers and central limit theorem. Finally, these foundations are applied to the study of the linear regression model, the workhorse of econometric analysis.

BTM 4863: Econometric Models and Methods

This unit provides a rigorous treatment of linear regression analysis and related methods, including estimation by instrumental variables. It is designed for students who have taken an introductory course on linear regression and have had prior exposure to matrix algebra and

relevant numerical software. Finite sample and asymptotic properties of linear regression are developed and discussed. Numerical software is used to implement and illustrate tools and concepts.

BTM 4865: Interdisciplinary Impact in Econometrics

Students will explore methodologies extensively used in applied microeconomics including instrument variables, GMM, panel data methods, probit and logit models, Tobit model, and sample selection models. Various empirical topics will be discussed in an interdisciplinary context. Students will have an opportunity to define a research problem, conduct a literature review, analyze data, and present research results in an interdisciplinary context.

1.6.7 Business Pool G Courses

Business pool G (3 Courses are compulsory from the same pool)	
BTM 4871	Demand and Supply Chain Planning
BTM 4873	Integrated Logistics and Transportation Management
BTM 4875	Decision Tools for Logistics and Operations Management

2.5.7.1 Business Pool G Courses Contents

BTM 4871: Demand and Supply Chain Planning

Students will learn how businesses work with other businesses to build relationships and integrate demand and supply planning activities across the supply chain to deliver value to customers. They will learn about tools and technologies enabling integration, and the critical drivers and key metrics of supply chain performance. Current readings, case studies, simulations and written assignments will be used.

BTM 4873: Integrated Logistics and Transportation Management

A combined lecture, discussion, and experiential course designed to provide students (1) exposure to the fundamentals of logistics and transportation and (2) the opportunity to work in teams to manage a company's supply chain within a strategic supply chain simulation. Students will gain hands-on-experience integrating supply chain management concepts to optimize business performance outcomes. Topics addressed include integrated logistics, transportation, warehouse management and global logistics.

BTM 4875: Decision Tools for Logistics and Operations Management

Technical tools and skills required for problem solving and decision making in logistics and operations management. Transportation and network planning, inventory decision making, facility location planning, vehicle routing, scheduling, and production planning. Quantitative tools include linear and integer programming, non-linear programming, and simulation.

Emphasis on the use of PC-based spreadsheet programs.