



**Curriculum
of
MBA in Maritime Business**

(Revised in the Year 2026)

**Department of Management
Faculty of Maritime Business Studies
Bangladesh Maritime University**

Table of Contents

1.	Introduction to the University	2
2.	Introduction to the Faculty	3
3.	Introduction to the Department	3
4.	Introduction to the Program	4
5.	Admission Information	4
6.	Division of Semester	5
7.	Eligibility for Appearing Term Final Examination	5
8.	Grading System	6
9.	Retaking a Course	6
10.	Credit Earned	6
11.	Degree Requirement	7
12.	Curriculum Structure	7
13.	Course Schedule	8
14.	Teaching Strategy	9
15.	Assessment Strategy	9
16.	Course Profile	11
16.1	Fundamental Courses	
16.1.1	MB 501: Accounting and Financial Management	11
16.1.2	MB 502: Economics	13
16.1.3	MB 503: Management and Organizational Behavior	15
16.1.4	MB 504: Business Mathematics and Statistics	18
16.1.5	MB 505: Port Operation and Automation	20
16.1.6	MB 506: Legal Aspects of Maritime Business	22
16.2	Core Courses	
16.2.1	MB 507: Shipping Finance	24
16.2.2	MB 508: Maritime Business and Economics	26
16.2.3	MB 509: Human Resource Management	28
16.2.4	MB 510: Multi-modal Transportation System	30
16.2.5	MB 511: Business Research Methodology	32
16.2.6	MB 512: Ship Chartering	34
16.2.7	MB 513: Maritime Insurance and Risk Management	36
16.2.8	MB 514: Supply Chain Management	38
16.2.9	MB 515: Maritime Strategic Management	40
16.2.10	MB 516: Maritime Business Data Analytics	42
16.3	Dissertation	
16.3.1	MB 500: Thesis/Internship	44

Aiful Islam

1. Introduction to the University

1.1 Introduction: The victory over maritime boundary delimitation with neighboring countries opened a new window in the maritime arena of Bangladesh. The vast sea area along with scarcity in land-based resources has made it imperative to boost up our economy through effective exploration of sea resources. In order to create effective human resources, the first ever specialized university Bangladesh Maritime University (BMU) was established in 2013. Our motto is “We Strive for Maritime Excellence”. The University aims at bringing all maritime professional to a common platform to share knowledge and carryout research for the advancement of maritime sector and developing effective human resources in this sector.

1.2 Mission: BMU is committed to provide quality education based on state-of-the-art technological support responsive to the emerging challenges at home and abroad. BMU is dedicated to nurture and develop world class professionals, who would serve the mankind with strong sense of ethical values and competence and ready to face the competitive world of maritime business, service and employment.

1.3 Vision: Envision promoting and creating a learning environment for higher maritime education with excellence, through state- of- the- art facilities and gadgets, competent faculty and staff, expanded frontier of research-based knowledge and international standards supportive of the new horizons in diverse fields.

1.4 Goals: The goals of the university are to-

- a. Achieve sustainable development and progress of the university through mutual cooperation with other related universities/ institutions.
- b. Continue to upgrade educational services and facilities responsive to the demands and requirements of the nation.
- c. Bring all types of marine professionals on a common platform to share knowledge and perform research and development works for the advancement of country's maritime sector.
- d. Enhance research consciousness in the maritime sector in discovering new dimensions with the upcoming challenges.
- e. Accelerate the participation of alumni students and professionals with educational programs and development of projects designed to expand and improve academic standards.
- f. Teach students on marine science and technology and guide them towards research to enhance contribution to the maritime profession.
- g. Conduct various educational programmes and research works for sustainable development of the maritime service and industrial sector of the country.
- h. Educate students on different subjects of maritime management, law and security and strategy and conduct research on allied fields.
- i. Create conducive environment for students to prepare themselves to serve the nation as

Aishul Islam

future planners/ policy makers/ leaders in maritime sectors in coordination with national and international organizations including International Maritime Organization (IMO).

1.5 Faculties and Institutes: The university aspires to have seven teaching faculties and four research institutes. The name of faculties and institutes is following:

- a. Faculty of Maritime Governance and Policy (FMGP)
- b. Faculty of Shipping Administration (FSA)
- c. Faculty of Earth and Ocean Science (FEOS)
- d. Faculty of Engineering and Technology (FET)
- e. Faculty of General Studies (FGS)
- f. Faculty of Maritime Business Studies (FMBS)
- g. Faculty of Computer Science & Informatics (FCSI)

Research institutes are: Institute of Professional Language, Institute of Bay of Bengal & Bangladesh Studies, Institute of Renewable Energy & Marine Resource and Institute of Disaster management.

2. Introduction to the Faculty of Maritime Business: Faculty of Maritime Business Studies is one of the prominent faculties of the university. The faculty has special learning environment, innovative course curriculum, methods of teaching, and quality programs. The faculty has mainly six departments namely:

- a. Department of Management
- b. Department of Accounting and Information System
- c. Department of Finance
- d. Department of Economics
- e. Department of Marketing
- f. Department of Maritime Tourism and Hospitality Management

3. Introduction to the Department of Management: The Department Management started its journey under the Faculty of Maritime Business Studies. The Department is committed to provide an excellent teaching and learning environment. Global standard curriculums are followed to impart quality education by the qualified and competent teachers. Graduates of this department will get a unique opportunity to develop their career in the different areas of job market like banks and insurance companies, universities and related research organizations, different government organizations, ports as well as local and international shipping organization, shipping agent, freight forwarding companies or agencies etc.

4. Introduction to the Program:

4.1 General: MBA in Maritime Business (MMB) is 1.5-year industry attractive post-graduate program under the Department of Management. The program is designed with 16 theoretical courses and an internship/thesis. Total credit for the program is 60.

4.2 Vision of the Program: Developing world-class postgraduate to penetrate the maritime business & industry.

4.3 Mission of the Program: Developing the students in relevant areas of Maritime Business to be professional.

4.4 Program Outcomes: The program aims at developing a strong business sense and ability to identify and utilize the business opportunity in the environment along with the ability to establish and operate business organization in the dynamic business environment. The outcomes of the program are -

- a. An ability to apply the knowledge of business and management in operating any maritime business organization.
- b. An ability to formulate business plans and successfully run them.
- c. An ability to work effectively in teams and provide leadership.
- d. An ability to effectively communicate orally, graphically and in writing.
- e. An understanding of managerial, professional and ethical responsibility.

4.5 Learning Outcomes of the Programme: After the successful completion of the master program, the students will be able to –

- a. Plan, organize and control any business organizations, especially maritime businesses
- b. Explain and understand the functional areas of business including: management, operations, marketing, accounting, and finance.
- c. Execute strategic maritime decision and plan.
- d. Understand the global context of business.

5. Admission Information

5.1 Admission Criteria: Every applicant must fulfil the admission requirements as prescribed by BMU. The minimum requirements for admission into the program are:

- a. A bachelor degree or its equivalent in any field including Maritime, Science, Business, Engineering and Agriculture.
- b. Applicant with general education must have at least second division or CGPA 2.25 in all public examination.
- c. Applicants with GCE must have passed at least five subjects in O level (including mathematics) and at least two subjects in A level. However, applicant having more than

Aishul Islam

two 'D' grades in O level and/or more than one 'D' grades in A level shall not be eligible for admission.

- d. Applicants having at least two years job experience shall be given preference.
- e. Foreign applicants shall apply through their respective embassy.

5.2 Generic Skills: The generic skills for the program are primary maritime knowledge, information technology, introduction to business, mathematics, routes and history of trade and communicative english.

5.3 Admission Test: All eligible applicants shall be required to appear the admission test as per BMU Admission Policy. Admission test shall normally be comprised of written test and viva voce. Only written test qualified applicant shall be called for viva voce.

5.4 Final Selection and Registration: The final selection for admission shall be based on Admission Test result. Selected candidates shall be registered with the programme in accordance with the procedures as laid down by BMU.

5.5 Course Waiver: A student with relevant degrees from reputed universities may get maximum 16 credits waiver provided they fulfil the following conditions:

- a. Obtained at least a 'B' grade or 1st class in a similar course in the earlier program.
- b. Minimum at least 70% of the course contents are similar.
- c. All applications for course waiver will be reviewed by equivalence committee on a case by-case basis and finally shall be approved by the Academic Council of BMU.

6. Division of Semester: The duration of each semester is 26 weeks. Distribution is as follows:

a. Classes	14 weeks
b. Mid Term Examinations	02 weeks
c. Preparatory Leave	02 weeks
d. Final Examination	04 weeks
e. Recess	04 weeks

7. Eligibility for Appearing Term Final Examination: An examinee shall be eligible for appearing at the term final examination upon fulfilment of the following conditions:

- a. The examinee submitted an application for appearing at the term final exam in the prescribed form (hard copy / Online) to the Controller of Examinations through his/her department/institutes.
- b. The examinee has paid the prescribed examination fees and all outstanding dues (Including) dues of hall/mess for resident students) of the university.

- c. The examinee has attended minimum 75% of classes held in an individual course.
- d. The examinee, who has attended from 60% to below 75% of classes, may be eligible to sit for the examination subject to the payment of non-collegiate fees fixed by BMU.

8. Grading System: Letter grades and corresponding grade points will be awarded in accordance with the provisions (unified UGC grading system) shown below:

Grade	Grade points	Numerical Markings
A+	4.0	80% and above
A	3.75	75% to below 80%
A-	3.50	70% to below 75%
B+	3.25	65% to below 70%
B	3.00	60% to below 65%
B-	2.75	55% to below 60%
C+	2.50	50% to below 55%
C	2.25	45% to below 50%
D	2.00	40% to below 45%
F	0.00	below 40%

9. Retaking a Course: It is expected that students will obtain degree by clearing the entire offered courses of specified credit hours as per the syllabus within academic period of three years. In case of failure to do so by any student the following guiding policies shall be adopted:

- a. A student obtaining F grade in a course may be allowed to repeat the course with the prior approval of Head of the Department on the recommendation of the course coordinator. Such approval shall be reported to the BPGSR and academic council.
- b. A student shall not be allowed to continue the programme if he/she obtains a total of three or more F grades in any term/semester.
- c. If at the end of the second or any subsequent semester, the cumulative GPA falls below 2.0 he/she shall not be allowed to continue in the programme.
- d. Two courses may be repeated for improvement with the prior approval of the Head of the Department on the recommendation of the course coordinator. Such approval shall be reported to the BPGSR and academic council.

10. Credit Earned: The Courses in which a student has obtained 'D' or a higher Grade will be counted as credits earned by him/her. Any course in which a student has obtained 'F' grade will not be counted towards his/her earned credits.

Aishul Islam

11. Degree Requirement: Degree requirements are as follows:

- a. Completion of courses for the minimum required credits of 60 in maximum period of three academic years.
- b. Appearing at the final examination in all the required courses as per syllabus of the program.
- c. Successful completion of thesis report and defense of thesis paper.
- d. Scoring a CGPA 2.2 or above.

12. Curriculum Structure: Master in Maritime Business Program consists of the following categories of courses:

	Category	No. of Courses	Credit	Percentage
Theoretical Courses	Fundamental Courses	6	18	30 %
	Core Courses	10	30	50 %
Development Courses		3	3	05%
Thesis / Internship		1	9	15 %
Total		20	60	100%

13. **Course Schedule:** The course schedule of the program is as follows:

Semester 1				
Ser	Sub. Code	Course Title	Credit	Contact Hours
1.	MB 501	Accounting and Financial Management	3	42
2.	MB 502	Economics	3	42
3.	MB 503	Management and Organizational Behaviour	3	42
4.	MB 504	Business Mathematics and Statistics	3	42
5.	MB 505	Port Operation and Automation	3	42
6.	MB 506	Legal Aspects of Maritime Business	3	42
7.	DEV- 501	Study Tour-1	1	1-5 days
Sub Total			19	
Semester 2				
1.	MB 507	Shipping Finance	3	42
2.	MB 508	Maritime Business and Economics	3	42
3.	MB 509	Human Resource Management	3	42
4.	MB 510	Multi-modal Transportation System	3	42
5.	MB 511	Business Research Methodology	3	42
6.	MB 512	Ship Chartering	3	42
7.	DEV-502	Student Seminar	1	2-3 days
Sub Total			19	
Semester 3				
1.	MB 513	Maritime Insurance and Risk Management	3	42
2.	MB 514	Supply Chain Management	3	42
3.	MB 515	Maritime Strategic Management	3	42
4.	MB 516	Maritime Business Data Analytics	3	42
5.	DEV-503	Study Tour-2	1	1-5 days
Sub Total			13	
6.	MB 500	Thesis / Internship	09	-
Total			60	

14. Teaching Strategy: The teaching strategy of the program is mainly lecture based. Other teaching strategies includes; case analysis, group discussion, workshop, seminar, and fieldwork learning etc.

15. Assessment Strategy:

15.1 Theoretical Courses: The performance of the theoretical courses shall be evaluated through continuous assessment and semester final examination. Forty percent (40%) of marks of a course shall be allotted for continuous assessment and remaining sixty percent (60%) shall be allotted to the semester final examination. The continuous assessment shall include class attendance and participation, quizzes/class test, term paper/assignments/case study and midterm examinations. Distribution of marks is as follows:

- a. Class Attendance: 05%
- b. Class Participation/Observation: 05%
- c. Term Paper/Assignment/Case Study and Presentation: 05%
- d. Quizzes/Class Test: 10%
- e. Mid Term Examination: 15%
- f. Final Examination: 60%

15.2 Development Courses: Development course is comprised of two items. One is study tour /field trip and another one is student concluding seminar. The performance of the study tour/ field trip of each student will be evaluated as follows:

Content	Marks
Attendance	20%
Involvement in Tour	20%
Report Writing	30%
Presentation	30%

The performance of the student concluding seminar of each student will be evaluated as follows:

Content	Marks
Report Writing	40%
Presentation	60%

15.3 Thesis / Internship: The marks distribution for thesis is as follows:

Content	Marks
Thesis Report	60%
Presentation	30%
Oral Exam	10%

16. **Course Profile:** The course profile is describing as follows:

ACCOUNTING AND FINANCIAL MANAGEMENT

Course Code : MB 501
Credits : 3.0
Contact Hours : 42

Aim: The aim of this course is to orient students the basics of accounting and financial management so that they can apply this knowledge in their respective fields.

Learning Outcomes: After the completion of this course, the students will be able to:

- Identify transactions and record to ledger and also be able to prepare final accounts.
- Analyze the financial statement and its ratios.
- Take decisions in capital budgeting and investments.
- Identify cost and management accounting techniques and ideas.

Syllabus Contents:

1. **Financial Accounting:** Meaning, nature and importance. Accounting cycle, accounting equation. Journal, Ledger and Trial Balance.
2. **Preparation of Final Accounts:** Manufacturing Accounting, Trading Account, Profit and Loss Account, Profit and Loss Appropriation Account, Balance Sheet (with adjustments). Depreciation Accounting.
3. **Analysis of Financial Statement:** Meaning and importance of Ratio analysis, Profitability ratios, Activity ratios, Liquidity ratios, Long-term solvency ratios, Common size statement, Comparative statements and Trend analysis.
4. **Cost Sheet and Break Event Point:** Meaning and importance, Classification of cost, Finding COGS, Unit cost, Preparation of cost sheet, Finding BEP.
5. **Basics of Finance and Time Value of Money:** Principles of Finance, Present Value, Future value, Annuity, Simple Interest, Compound Interest, Timeline.
6. **Capital Budgeting Techniques:** Meaning and Importance, Payback Period, Discounted Payback Period, Net Present Value, Internal Rate of Return, Accounting Rate of Return, Profitability Index.

7. **Cost of Capital:** Basic Concept, Cost of Debt, Cost of Equity, Expected Rate of Return, Weighted Average Cost of Capital, Capital Structure.
8. **Stock Market, Budget and Bangladesh Economy:** Basics of Stock Market, Budget and Bangladesh Economy, Different Levels of Financial Markets, DSE, CSE, Different Economic Indicators of Bangladesh Economy.

Recommended Text(s):

1. Weygandt, J.J, Kimmel, P.D, Kieso, D.E, Principle of Accounting (Latest Edition)
2. Pandey, I. M, Management Accounting, Vikas Publishing House, New Delhi.
3. Arora M N, Cost and Management Accounting, Vikas Publishing House, New Delhi.
4. Horngreen, C.T. Sundem G.L., Stratton W.O., Introduction to Management Accounting, PHI India, New Delhi
5. Jain S.P. &Narang K.L., Advanced Accounting, Kalyani Publication, Revised edition.
6. Maheshwari S.N. &Maheshwari S.K., Corporate Accounting Vikas Publication, 2008.



ECONOMICS

Course Code	: MB 502
Credits	: 3.0
Contact Hours	: 42


Aim: This course provides an introduction to the theory and practice of contemporary economics. The course will begin with a discussion on how agents deal with the fundamental problem of scarcity. The discussion will then turn to the basic concepts and tools used in economic analysis.

Learning Outcomes: On successful completion of this course students will be able to:

- Understand the more important concepts, tools and language of economics.
- Issues relate basic economic theory and principles to current microeconomic and macroeconomic and evaluate related public policy.
- Apply economic principles and reasoning to solving business problems.
- Interpret charts, graphs, and tables and use the information to make informed judgments.
- Communicate their knowledge and understanding of economic issues using written, verbal and visual expression.
- Understand the broader social consequences of economic decision making.

Syllabus Contents:

1. **Fundamental of Economics:** Basic Economic Concepts, The Nature and Function of Market, Measuring Economic Performance, The Trade Theory.
2. **Micro Economic Theory:** Introduction / The Economic Problem, Law of Demand & Supply, Elasticity / Economic Efficiency, The Opportunity Cost, Total Cost, Average Total Cost and Average Cost, Economic Profit, The Economies and Diseconomies of Scale, Marginal Product and Diminishing Return, The Role of Government, Firms, Production and Costs, Perfect Competition and Monopoly, Monopolistic Competition and Oligopoly, GDP, Unemployment and Inflation, The Monetary and Fiscal Combination of Fiscal Policy.
3. **Macro-Economic Theory:** Aggregate Demand and Aggregate Supply, Money and Monetary Policy, Fiscal Policy, The Exchange Rate and International Trade, The Theory of Firm, The Factor Market.
4. **Inflation and Unemployment:** Definition of Inflation, Types of Inflation, Demand-Pull and Cost-Push Inflation, Impact of Inflation, Unemployment vs Full Employment, Philip Curve, The Political Economy of Inflation and Unemployment



5. **Bangladesh Economy & Development Theory:** Economic Scenario of Bangladesh, Analysis of Bangladesh Economic Review (Latest), Meaning of Development, Common Characteristics of Development Studies, Classic Theories of Development, Theories of Growth, Foreign Aid, Private Philanthropy.
6. **Open Economy: International Trades and Finance:** Economic Base of International Trade, Heckscher-Ohlin Model, Tariff, Preferential Trading Agreements, Growth and Trade, Trade Policy of Bangladesh, Multilateral and Regional Trade, Hands of Exercise, Globalization.

Recommended Text(s):

1. Hubbard, R.G., Garnett, A.M., Lewis, P., and O'Brien, A.P. *'Essentials of Economics'* 3rd Edition, Pearson.
2. Principles of Microeconomics, James D. Miller
3. Principles of Economics by Alfred Marshall
4. Principles of Economics by Greg Mankiw
5. International Economic: Trade and Finance by Dominick Salvatore



MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

Course Code : MB 503
Credits : 3.0
Contact Hours : 42

Aims: The aims of this syllabus are to help candidates develop a clear understanding of the principles, purposes, processes, and practices of management, and to apply this knowledge effectively within different roles and organizational settings. It also seeks to enhance awareness of how individuals interact within organizations while encouraging a deeper understanding of one's own behavior and personal development. The syllabus covers key aspects of human behavior in organizations, including diversity, attitudes, job satisfaction, emotions, moods, personality, values, perception, decision-making, and motivational theories. It also provides insight into organizational systems, including structure, culture, human resources, and organizational change.

Learning Outcomes: By the end of this course students should be able to:

- The student will explain the various theories and processes of management, including its functions, identify roles of leadership in business and recognize elements of the communication process and the guidelines for organizational design.
- The student will interpret interpersonal roles related to work groups and demonstrate knowledge of the basic language of management.
- Demonstrate a thorough knowledge and understanding of organizational behaviour. Collaboratively and autonomously research, analyse and evaluate information from a wide variety of sources.
- Apply relevant contemporary theories, concepts and models in order to analyse organizational environments, cases and issues.
- Communicate their findings clearly and effectively using a variety of media.

Syllabus Contents:

Section-I: Management

- 1. Basic concepts of management:** Definition – Need and Scope – Different schools of management thought - Behavioural, Scientific, Systems, and Contingency.
- 2. Contribution of Management Thinkers:** Taylor, Fayol, Elton Mayo
- 3. Functions of Management:** Planning Concept, Nature, Importance, Steps, Limitations, Management by objectives. Organizing Concept, Nature, Importance, Principles, Centralization, Decentralization, Organization Structures- Line and Staff Authority, Functional, Product, Matrix, Geographical, Customer, New Forms of Organization – Virtual, Organizations



as Networks - Types of Network Organizations/Clusters - Self- Organizing Systems. Organizational Designs for Change and Innovation -Designing Principles for New Forms of Organizations. Staffing Concept, Nature, Importance, Steps. Concept of knowledge worker. Directing Concept, Nature, Importance. Controlling Concept, Nature, Importance, Process of controlling, Control Techniques.

4. **Leadership:** Concept, Nature, Importance, Attributes of a leader, Developing leaders across the organization, Leadership Grid.
5. **Decision making:** Concept, Nature, Importance, and Process. Types of decisions. Problems in decision making.

Section-II: Organizational Behaviour

1. **Introduction to Organizational Behaviour:** Definition, Importance, Scope, Fundamental Concepts of OB, Different models of OB - autocratic, custodial, supportive, collegial and SOBC.
2. **Personality & Attitudes:** Meaning of personality, attitude - Development of personality Attributes of personality- Transactional Analysis – Ego states – Johari window - Nature and dimensions of attitude – Developing the right attitude.
3. **Motivation:** Definition, Importance, Motives – Characteristics, Classification of motives – Primary & Secondary motives. Theories of Motivation - Maslow's Theory of need hierarchy - Herzberg's theory. Morale - Definition and relationship with productivity - Morale Indicators.
4. **Group Dynamics and Team building:** Concept of Group & Team. Theories of Group Formation - Formal and Informal Groups, Importance of Team building.
5. **Conflict Management:** Definition. Traditional vis-à-vis Modern view of conflict – Types of Conflict- Intrapersonal, Interpersonal, Organizational. Constructive and Destructive conflict. Conflict management.
6. **Stress Management:** Definition, Causes, Managing stress, Stress as a motivator. Work life balance.
7. **Change Management:** Concept of change, change as a natural process, Importance & Causes of change- social, economic, technological, organizational. Learning – unlearning, Concept of learning organizations.

Recommended Text(s):

1. Organizational Behaviour, 9th Ed. - Stephen Robbins
2. Human Behaviour at work - Davis and Newstorm
3. Organizational Behaviour - Uma Sekaran
4. Organizational Behaviour - Fred Luthans
5. Organizational Behaviour - K.Aswathappa
6. Human Behaviour at Work - Keith Davis
7. Organizational Behaviour - Jit S.Chandran
8. Human Relations & Organizational Behaviour - R.S.Dwivedi
9. Organizational Behaviour - McShane
10. Organizational Behaviour - Sharma
11. Essentials of Management – Koontz – TMGH -
12. Principles & Practices of Management - Saxena
13. Principles and Practices of Management - Shejwalkar and Ghanekar
14. Management Concepts & Practices - Hannagan



BUSINESS MATHEMATICS AND STATISTICS

Course Code	: MB 504
Credits	: 3.0
Contact Hours	: 42

Aims: The course is supposed to develop our students' analytic and creative thinking. It will help to learn concepts and methods that are essential to analyze and understand business situations and help them to make appropriate business decision.

Learning Outcomes: On completion of this module, students are expected to be able to:

- Use the basic principles of algebra and apply mathematical skills to make decisions,
- Summarize and analyze diagrams, distributions and index numbers,
- Use forecasting techniques including time-series analysis, probability and other mathematical tools.

Syllabus Contents:

1. **Basic concepts:** Concepts of number system, Fractions, Exponents, Equations, Factoring, Polynomials, Ordered pairs, Relations, Functions, Types of functions.
2. **Set Theory:** Sets, Set notation, Operations with sets, Laws of set operations, Venn diagrams, Application of set theory.
3. **Logarithms:** Rules for logarithms, Common logarithms, Calculation of logarithm of a number, Natural logarithm.
4. **Trigonometry:** Trigonometric ratios.
5. **Equation System:** Solution of equations, Simultaneous equation system, Solution of simultaneous equation systems with specific applications to business problems, Inequalities.
6. **Geometry:** Cartesian co- ordinate system, Distance between two points, Straight line, Slopes, Intercepts, Equations of a line, Application of linear equations.
7. **Differential Calculus:** Explanation of the concepts of limits and continuity, Derivative and differentiation, limits and continuity, Derivative and differentiation, Rules of differentiation, Higher order differentiation, Chain order differentiation, Exponential and logarithmic differentiation, Partial differentiation, Optimization, rate of growth and decays.



8. **Integral Calculus:** Meaning of integration, Rules of integration, Indefinite integral, Definite integral, Resource depletion, Resource allocation, Area between curves.
9. **Matrix Algebra:** Vectors, Matrices, Laws and operations, Transposes, Inverses, Adjoins, Cramer's rule, Determinants, Solution of System of equations.
10. **Introduction to Statistics:** General Ideas, Data Collection Percentiles, Data Display Measures of Skewness, Frequency Distributions.
11. **Descriptive Statistics:** Measures of Central Tendency, Measures of Dispersion, Shape Probability, Permutations and Combinations, Sample Spaces and Events Bayes' Formula Union, Intersection and Markov Chains, Compliments of Events Decision Theory, Conditional Probability and Independence Decision Tables and Trees.
12. **Probability Distributions:** Discrete & Continuous Bernoulli Distribution, Probability Distributions Exponential Distribution, Uniform Distribution Hypergeometric Distribution, Binomial Distribution, Normal Distribution, Poisson

Recommended Text(s):

1. P.C Sancheti & V.K Kappor, Business Mathematics, S. Chand & Sons, New Delhi, India.
2. Helen B. Siner, Maracia Brener Sorkin, Roslyn R. Atkinson, & Gordon A. DiPaolo, Mathematics for decisions, D. Van Nostrand company, New York, USA.
3. John Hegarty Calculus of Management and Social Sciences, Allyn and Bacon, Inc, Boston (USA).
4. Prank S. Bundwick Applied Mathematics for Business, Economics and Social Sciences, McGraw Hill Book company, New Yourk, USA.
5. Alpha C. Chang, Fundamental Methods of Mathematical Economics, McGraw Hill Book Company, New York, USA.
6. Statistics for Business and Economics, Marcelo Fernandez.
7. Principles of Statistics, by M. G. Bulmer

PORT OPERATION AND AUTOMATION

Course Code	: MB 505
Credits	: 3.0
Contact Hours	: 42

Aim: This course aims to cover the functions and types of terminals and ports, how to manage ports and their operations and maintenance. The course also covers port planning requirements and development, associated infrastructure requirements and environmental considerations focusing on addressing the challenges of 21st century and cutting-edge technology.

Learning Outcomes: This course provides a holistic examination of modern seaports, bridging the gap between traditional terminal operations and the emerging era of "Smart Ports." Students will explore the physical and administrative functions of ports, including cargo handling, terminal planning, and port pricing. Crucially, the course transitions into port automation, analyzing how technologies like IoT, Artificial Intelligence (AI), Automated Guided Vehicles (AGVs), and Blockchain are redefining port efficiency and competitiveness.

Syllabus Contents:

1. **Basics of Port:** Defining Seaport, Importance of Port, Topology of Ports, Role and Functions of Port, Services Provided by Port Authority, Types of Ports.
2. **Ports and Blue Economy:** Ports as Economic Catalysts, Ports and Economic Change, Ports and Employment, Strategic Value of Ports, Functions of International Trade.
3. **Ports, Maritime Shipping and International Trade:** Maritime Shipping and Drivers of Globalization, Ongoing Growth of International Trade, The Shift in Global Trade Patterns, Geopolitics and Trade, The Containerization of Trade, International Trade and Maritime Shipping Services.
4. **Ports and Hinterland Networks:** Concept of Hinterland, Hinterland and the Maritime-Land Interface, Hinterland and connected stakeholders, Port Regionalization, Hinterland Accessibility, Transport Corridors, Regional Distribution Networks.
5. **Digital Transformation of Ports:** Digitalization of Ports, Introduction to Vessel Traffic Systems (VTS), ICT Innovations for Ports; Automation and innovation, Automation and robotics, The Internet of Things (IoT) and big data analytics, Simulation, virtual reality, and digital twins, Port Community Systems and Digital Ledger Technologies, Digitalization in Cruise Ports.
6. **Terminal Design and Automation:** Design of Container Terminals, Container Terminal Equipment, Terminal Operations, Terminal Capacity Use and Optimization, Automating



Terminals, Port Automation Drive, Automated Container Terminals, Automated Cargo Handling Equipment, Yard and Gate Automation, Terminal Operating Systems (TOS).

7. **Port Performance and Efficiency:** Port Performance Components, Performance Measurement: International Initiatives, Performance Measurement: Regional Associations Initiatives, Dimensions of Port Efficiency, Operational Efficiency, Market Capture, Connectivity Performance, Financial Performance, Port Governance Performance, Socio-Economic Performance.
8. **Port Governance:** Concept of Port Governance, Reforms in Port Governance, Port Governance Models, Port Authority, Functions of Port Authorities, Port Authority Responsibilities, The Port Authority as a Cluster Manager, Ownership of Port Authorities.
9. **Port Policies & Development:** Multi-level Port Policy Making, National Policies for Ports, International Port Policies, International organizations (IMO, MARPOL, UNCTAD, SOLAS, STCW, FAL Convention, PSC, ILO, ISO), Supranational port policies: European Union, Federal Port Policies: North America, Policy Issues; Emissions Control, Port security, international policies for dock labor, Ports and Geopolitics.
10. **Port Competition and Marketing:** Features and Elements of Port Competition, Market Structure and Forms of Port Competition, Generic Competitive Strategies, Strategic Positioning; SWOT analysis, Porter's Five Forces Model, PEST Analysis, ANSOFF Matrix, Product Portfolio Analysis (PPA), Port Promotion and Marketing, Port marketing Tools.

Recommended Text(s):

1. Alderton, P. M. (2020). Port Management and Operations (4th Ed). Lloyd's Practical Shipping Guides.
2. Bichou, K. (2009). Port Operation Planning and Logistics. New York: Informa.
3. Th. Grammenos, C. (2010). The handbook of Maritime Economics and Business (2nd Edition). London: Lloyd's List.
4. Stopford, M. (2007). Maritime Economics (2nd edition). New York: Routledge. (Original work published 1997)
5. Burns, M. G. (2014). Port Management and Operations. CRC Press.
6. Notteboom, T., Pallis, A., & Rodrigue, J.P. (2022). Port Economics, Management and Policy.
7. Alan E Branch And Michael Robarts. (2014). Elements of Shipping, Routledge, Taylor and Francis Group, London and New York.
8. UNCTAD (2014). Review of Maritime Transport 2014. New York and Geneva: UNCTAD Secretariat.
9. UNCTAD (1985). Monograph of Port Management.
10. World Bank (2007). Port Reform Toolkit (2nd edition).



LEGAL ASPECTS OF MARITIME BUSINESS

Course Code : MB 506
Credits : 3.0
Contact Hours : 42

Aim: The objectives of the course are to introduce legal processes and substantive legal topics affecting business in general and maritime business in particular and thereby to improve students' ability to recognize and manage legal risks in business decision making.

Learning Outcomes: Students will be able to:

- Gather knowledge on law, ethics and business of Bangladesh and maritime sector.
- Have thorough knowledge of the rules and legal framework of international commercial affairs related to shipping and advanced knowledge in this field of law.
- Gather workable knowledge on laws relating to carriage of goods by sea and marine insurance.
- Acquaint with maritime law based on key international conventions regulating maritime activities in the shipping business and key international standard contracts used in the maritime industry.
- Demonstrate knowledge and competencies in the areas of how government laws and regulations affect business, labor employment law, contract law, work safety concerns, and environmental legal concerns.

Syllabus Contents:

- 1. Legal Foundation:** Definition and classification of law, Law and ethics, Finding the law, Understanding the case law, Business and the Constitution of Bangladesh.
- 2. Legal System of Bangladesh:** Administration of justice in Bangladesh, Procedure of civil suit and criminal case, Litigation and alternative dispute resolution.
- 3. Law of Contract:** Formation of contract, Performance of contract, breach of contract and remedies for breach of contract, Contract of agency, Contract of indemnity, Bailment, pledge, Contracts for the sale of goods, Conditions and warranties.
- 4. Formation of Business Entity:** Formation and characteristics of sole proprietorship, Partnership and company.
- 5. Shipping Law:** Nationality of ship, registration of ship, Acquisition and transfer of title and ownership in ship, Ship building contract, Rights and obligations under the ship building contract, Enforcement of maritime claims.



6. **Law of Carriage of Goods by Sea:** Contract of affreightment, Bill of lading and charter party, Rights and liabilities of the shipper and carrier.
7. **Law of Negotiable Instruments:** Cheque, Dishonor of cheque, Promissory note and bill of exchange.
8. **Law of Marine Insurance:** Definition and nature of marine insurance, Kinds of marine insurance, Fundamental principles of marine insurance.
9. **Intellectual Property Law:** Subject matter of intellectual property, Copyright, Copyright Infringement and Remedies, Patent, Design, Trade Marks, Trade Names, Service Marks, Conditions for Registration of Trademarks, Violation of Trademarks Rights, Infringement and Passing off Actions, Remedies against Violation, Intellectual Property Rights in Digital Information.
10. **International Trade Law:** Principles of international trade law, WTO Dispute Resolution Mechanism, International Commercial Arbitration; Theory and Institutional Structure of Arbitration, Mechanism of Settlement of International Trade Disputes, UNITRAL Model of Law on Arbitration (1985); ICSID Arbitration.
11. **Employment Relationships and Labor Law:** Employment and Conditions of Services, Provisions of Health, Hygiene, Safety and Welfare Measures, Working hours and leave under the Bangladesh Labour Act, 2006, Minimum working and living standards for all seafarers working on ships flying the flags of ratifying countries under Maritime Labour Convention, 2006.
12. **E-Commerce and Cyber Law:** Electronic Contract, the relation of the Contract Act, 1872 with Electronic Contract, Electronic Record, Online banking and e-commerce and e-transport documents for carriage of goods by sea, Cyber Law, Computer hacking, Cyber offences, Jurisdiction and procedure of Cyber Tribunal and Cyber Appellate Tribunal.

Recommended Text(s):

1. The Legal Environment of Business 12th Edition by Roger E. Meiners, Al H. Ringleb and Frances L. Edwards
2. Beginning Business Law by Chris Monaghan
3. Essentials of Business Law and the Legal Environment 11th Edition, by Richard A. Mann (Author), Barry S. Roberts (Author)
4. The Legal Environment of Business: Text and Cases 9th Edition by Frank B. Cross (Author), Roger LeRoy Miller (Author),
5. Business Law Today, Standard: Text and Summarized Cases (Miller Business Law Today Family) 10th Edition
6. Maritime Law Answer Book 2014 2014th Edition by Charlie Papavizas (Author), H. Allen Black (Author)

SHIPPING FINANCE

Course Code : MB 507
Credits : 3.0
Contact Hours : 42

Aims: The overall aim of the course is to develop students' understanding of the various facets of making and financing investment decisions in the shipping and port sectors, while equipping them with the analytical and practical skills needed to evaluate projects, manage risks, and make informed financial decisions in a dynamic maritime environment.

Learning Outcomes: After successful completion of this course, students will be able to analyze/express/differentiate/ investigate:

- Develop comprehensive cash-flow models for shipping and port projects and how to evaluate them, taking into account the time value of money, as well as uncertainty.
- Apply advanced capital budgeting techniques (NPV, IRR, real options, sensitivity analysis).
- Evaluate alternative financing structures for maritime ventures.
- Analyze freight markets, asset values, and shipping cycles.
- Assess and hedge financial risks using derivatives and risk management frameworks.

Syllabus Contents:

1. **Global Maritime Industry and Financial Environment:** Structure of global shipping and port industries, Shipping cycles and market dynamics, Freight markets and vessel valuation, Role of ports in global supply chains.
2. **Shipping Costs, Revenues Structures:** Operating, voyage, and capital costs, Revenue models in liner and tramp shipping, Port pricing mechanisms, Break-even and contribution analysis.
3. **Cash Flow Modeling for Shipping Projects:** Identification of cash flow components, Forecasting & calculation of revenues and costs, Inflation, taxation, depreciation, Working capital in shipping projects.
4. **Capital Budgeting in Shipping:** Time value of money (advanced applications), NPV, IRR, Payback, Profitability Index, Sensitivity and scenario analysis, Monte Carlo simulation, Real options in shipping investments.
5. **Shipping and Port Financing Structures:** Commercial bank lending, Ship mortgages and collateral, Leasing and charter-based financing, Bonds and capital markets, Private equity and venture capital, Public-private partnerships (PPP) in ports, Islamic finance in maritime sector



6. **Risk Analysis and Management in Shipping Business:** Types of risk: market, operational, financial, regulatory, geopolitical, Freight rate volatility, Asset price risk, Credit and counterparty risk, Risk measurement tools, Freight Forward Agreements (FFAs), Options and swaps, Bunker price risk management, Interest rate risk management, Currency risk management, Practical hedging strategies
7. **Port Investment and Infrastructure Finance:** Port development economics, Terminal concession models, Port capacity planning, financial evaluation of port projects, Sustainable and green port investments.
8. **Strategic Issues in Shipping Finance:** Mergers and acquisitions in shipping, Fleet expansion and replacement strategies, financial distress and restructuring, ESG and sustainability in shipping finance, Digitalization and fintech in shipping.

Recommended Text(s):

1. Shipping Finance by Stephenson Harwood.
2. Port Infrastructure Finance by Meersman, H., Van de Voorde, E.
3. Maritime Economics by Martin Stopford.
4. Port Economics by Wayne K. Talley
5. The Handbook of Maritime Economics and Business by Costas Th. Grammenos.
6. Shipping Derivatives and Risk Management by Amir H. Alizadeh and Nikos K. Nomikos.



MARITIME BUSINESS AND ECONOMICS

Course Code : MB 508
Credits : 3.0
Contact Hours : 42

Aim: The overall objective of the subject is to provide an understanding of how the maritime business and economy work. Students would be able to answer some basic questions about how the shipping market is organized, how it works, how the freight rate is determined, how the cycle works, how ships are financed and what influences the design as well as the economic principles behind these.

Learning Outcome: By the end of this course, you should be able to:

- Describe the various business resources including land and material resources, physical and mental labor, financial resources, and informational resources.
- Compare the legal forms of business ownership.
- Explain the functional areas of business including: management, operations, marketing, accounting, and finance.
- Examine the global context of business.
- Understand the shipping and shipping market economics
- Understand the shipping company economics

Syllabus Contents:

1. **Motives and Functions of Business:** the Nature and Goal of a Business, the people and activities of business, Resources used to produce products or services, Key Stakeholders in a business, The Business Environment, Key types of Business Decisions.
2. **Selecting a form of Business Ownership:** How to categorize a company by industry sector, Sole Proprietorship, Partnership, Corporation, Comparing Forms of Business Ownership, How Business Ownership Can Change, How Ownership can affect Return and Risk, Cross Functional Teamwork: Sources of Risk across Business Functions, Obtaining Ownership of an Existing Business, Global Business: Ownership of Foreign Businesses. Modes of International Business - Mergers and other forms of Restructuring.
3. **Introduction to Maritime Trade and Transportation:** Maritime History, Evolution of International Trade & growth of Ports of the World, Role of Ports, Shipping, Coastal and Inland Water Transport in Maritime trading network, Type of ships and type of cargo they carry, Port & Shipping Terminology, Key Customers and Players of the Maritime Industry, Role of the Maritime Administration in Port Operations, IMO, Present Scenario of Port and Shipping, Types of Ports and their roles in the shipping industry, Structure of World Fleet, Vessels/Ship



– Its specification / Particulars, Coastal Shipping, Inland Water Ways & Canals, Maritime business in developed and developing countries.

4. **The economic organization of the shipping market:** Economic role of the shipping industry, demand for sea transport, world merchant fleet, supply of sea transport, role of ports in the transport system, Shipping cycles and shipping risk, Characteristics of shipping market cycles, The frequency of shipping cycles, Freight market cycles, 1869–1914, The return on investment in shipping, The prediction of shipping cycles.
5. **The Shipping Market:** Shipping cycle and shipping risk, characteristics of shipping market cycles, The frequency of shipping cycles, The return on investment in shipping, The four-shipping market.
6. **Supply, demand and freight rates:** The shipping market model, the demand for sea transport, the supply of sea transport, the freight rate mechanism. costs, revenue and financial performance: cash flow and the art of survival, the cost of running ships, the capital cost and financial performance, the revenue calculation, Computing the cash flow.
7. **Financing ships and shipping companies:** Ship finance and shipping economics, how ships have been financed in the past, The world financial system and types of finance, Financing ships with equity, Financing ships with debt, Finance for new buildings, Leasing ships.
8. **The economic principles of maritime trade:** study seaborne trade, The countries that trade by sea, An explanation of trade theory, Theories about the pattern of trade, Economic growth and sea trade, Trade forecasting and the commodity trade model.
9. **The global pattern of maritime trade:** Introduction, The Westline theory, Geographical distribution of seaborne trade, Maritime trade of the Atlantic and East Pacific, Maritime trade of the Pacific and Indian Oceans, Eastern Europe and the former Soviet Union.
10. **The economics of shipbuilding and scrapping:** Role of the merchant shipbuilding and scrapping industries, regional structure of world shipbuilding, Shipbuilding market cycles, the economic principles, the shipbuilding production process, shipbuilding costs and competitiveness, the ship breaking industry.

Recommended Text(s):

1. Maritime economics by Martin Stopford (3rd Edition)
2. The handbook of Maritime Economics and Business (2nd Edition). Edited by Grammenos.
3. Review of Maritime Transport, UNCTAD Secretariat.
4. Jeff Madura, Introduction to Business, 4th edition.
5. William M. Pride and Robert J. Hughes, Business, 12th Edition
6. Introduction to Business by Mc-Graw Hill Education.
7. Better Business, 2nd edition by Pearson's Publication.
8. Robert T. Kiyosaki, The Business of 21st Century.



HUMAN RESOURCE MANAGEMENT

Course Code : MB 509
Credits : 3.0
Contact Hours : 42

Aim: The course aims at developing a basic understanding in the students of the issues relating to procurement, development, appraisal, compensation, integration etc. of human resource for its optimum utilization and productivity in the organization in the context of dynamic maritime business environment.

Learning Outcomes: Upon completion of the course, students should be able to:

- Understands the meaning of human resource management as well as maritime human resources, the concept of crew and manning a vessel, and the structure of the world maritime labor market.
- Understand and analyze the fundamental processes of managing human resources in general and more particularly in the maritime environment.
- Compare and evaluate strategies for managing maritime human resources, both onboard and ashore.

Syllabus Contents:

1. **Human Resources Management:** Introduction and Importance-Evolution-difference between Personnel Management and HRM- Strategic HRM- role of a HR Manager. Introduction to Crew Management and Maritime HRM. World Maritime Labour Market.
2. **Human Resources Planning:** Objectives-Importance-HRP Process- Manpower Estimation- Job analysis-Job Description-Job Specification. Recruitment-Sources of Recruitment- Selection Process-Placement and Induction-Retention of Employees. Maritime Human Resource Planning. Recruitment of ships and shore-based personnel. Selection and Placement of ships and shore-based personnel.
3. **Training and Development:** Objectives and Needs-Training Process-Methods of Training – Tools and Aids-Evaluation of Training Programs. Training and development of ship's crew and shore-based personnel, education/training standards required for selection sea-going and shore-based positions.
4. **Career Planning:** Succession Planning, Marine employment opportunities, types of employment, entry requirements, assess personal characteristics and traits in relation to the requirements of prospective employers, maritime employment opportunities that are available in the marine and maritime fields, advantages and disadvantages of shore and sea-based



careers, features prospective employers may require in applicants, scholarships and traineeships available in the marine and maritime fields.

5. **Performance Management System:** Definition, Concepts and Ethics-Different methods of Performance Appraisal- Rating Errors-Competency management. Performance evaluation onboard and ashore.
6. **Compensation Management:** Concepts and Components-Job Evaluation- Incentives and Benefits. Compensation and rewards in the shipping industry.
7. **Productivity Management:** Concepts-TQM-Kaizen-Quality Circles
8. **Industrial relations:** Grievance Procedure-collective Bargaining-Settlement of Disputes.
9. **Retirement/Separation:** Superannuation-Voluntary Retirement Schemes- Resignation- Discharge-Dismissal-Suspension-Layoff.
10. **HR in International Context:** Issues that change the context, differences between HRM Domestic and International perspectives, linking HR to international expansion, international recruitment at different levels, issues in staff selection and retention, Performance Management – Criteria used, factors associated, evaluation systems. Training and Development, Expatriate Training, Developing International teams, managing virtual teams, Compensation Management, Objectives and Approaches, Repatriation Process, Labor Relations – Key Issues
11. Outsourcing of maritime HRM practices and the competitive advantage from maritime HRM systems.

Recommended Text(s):

1. Human Resources Management- Gary Dessler
2. Human Resource Management in a Business Context - Thomson.
3. Managing Multicultural Human Resources: integrated management practices and strategies for competitive advantage – M. Progolaki
4. International HRM – Managing People in International Context, Author: Dowling, Welch Pub: Thompson Learning, South Western Publications
5. Personnel Management – C.B Mamoria
6. Managing Human Resources - R.S. Dwiwedi
7. HRM in changing organizational contexts - Johnason, P. (2009)
8. Human resource management: A critical approach - Collings, D. G., & Wood, G. (2009)
9. "Industrial relations and human resource management" - Klerck, G. (2009)



MULTI-MODAL TRANSPORTATION SYSTEM

Course Code : MB 510
Credits : 3.0
Contact Hours : 42

Aim: This course would cover the interrelationship between all modes of transport used in international trade. However, students should note that because 90% of all international cargo transport includes a sea movement leg the main thrust of this syllabus is on intermodal transport and logistics involving maritime transport on at least one leg. It is assumed that the systems used for supply chain management, associated logistics and inventory control are all computer based and that students will be familiar with the fundamentals of the Internet and basic e-commerce.

Learning Outcomes: Students would be able to know the role of different transport modes in trade and commerce. The economic, legal and managerial aspects of multimodal transport system.

Syllabus Contents:

- 1. International Distribution:** Thoroughly understand the importance of distribution in international trade and how basic distribution structures meet international and national needs. Understand the importance of modal interfaces and the basic function of ports, airports, inland depots, railheads etc. Be aware of the basic intermodal systems – road/rail/sea; sea/air; road/air; road/ rail. Understand the importance of inventory control in operating systems.
- 2. Physical Operation:** Thoroughly understand the characteristics of the main types of primary vehicles and equipment used. Understand the structural needs and layout of modal interfaces and cargo handling equipment.
- 3. Trade Routes:** Thoroughly understand the relative importance of main trade routes including the main container shipping routes and rail routes and land bridges. Understand the economic political and environmental factors arising in respect of road/rail/barge competition and the role of short sea shipping. Understand the role of air freight its advantages and limitations. Understand the role of road haulage and the difference between international, domestic trunk and local delivery.
- 4. The Practitioners:** Thoroughly understand the various types of operators involved in multimodal transportation and the type of service structure they offer (e.g Liner operators, NVOC's, freight contractors and forwarders, parcel/courier services, railroads, international truckers and airlines.)
- 5. Through Transport Pricing:** Thoroughly understand the nature of price competition between transport modes. (Sea versus road/rail versus air.) Understand price measurements, understand different pricing strategies, contribution or volume (market share) led.



6. **Sale Contracts and Documentation:** Understand methods of payment in the sale of goods. Thoroughly understand the impact of Documentary Credits and ICC Uniform Custom and Practice on transport documentation. Understand the different types of contracts in the sale of goods including INCOTERMS. Thoroughly understand the paramount importance of bills of lading in through transport, their function and their role in international trade. Understand other transport documentation including Booking notes, Shipping notes, Manifests, Dangerous cargo declarations.
7. **Conventions Relating to Multimodal Transport:** Thoroughly understand the practical impact of Hague/Hague-Visby & Hamburg Rules and the differences between them. Understand the rules for combined transport including UNCTAD/ ICC. Other International regulations and rules.
8. **Sales and Marketing:** Thoroughly understand the difference between marketing and sales and the importance of both in the multimodal transport field.

Recommended Text(s):

1. Freight Forwarding and Multimodal Transport Contract by David A Glass.
2. Multimodal Transport Rules by Hugh M. Kindred, Mary R. Brooks.
3. Multimodal Transport: The Feasibility of an International Legal Instrument-report by UNCTAD secretariat.

BUSINESS RESEARCH METHODOLOGY

Course Code : MB 511

Credits : 3.0

Contact Hours : 42

Aim: The primary aim of this course is to introduce students to the majority of the quantitative as well as qualitative research methods used most frequently by management scholars, particularly within the domains of innovation and entrepreneurship studies.

Learning Outcomes: The students might know how to design, implement and complete the research activities. It would include writing a proposal and academic writing.

Syllabus Contents:

- 1. Introduction to Business Research:** Research in Business, Research Process, Research Need, Formulating the problem, Designing, Sampling, Pilot testing, Thinking like a Researcher and Proposals, Ethics in Business Research.
- 2. Research Design:** Exploratory, Descriptive, Casual, Formulation of hypothesis-types. Measurement - Characteristics of sound measurement tool, Scaling methods and sampling techniques - Nature, Simple probability and complex probability- non-probability samples.
- 3. Sources and Collection of Data:** Primary and secondary sources, Survey observation, Experimentation, Details and evaluation. Questionnaires, Schedules and Instruments, Coding, Data entry, Tabulation & cross tabulation-and Graphic presentation, Examining Data.
- 4. Basic Quantitative Methods:** Reliability, Validity, Factor Analysis, Correlation, Regression, Moderated Regression, t-Test, ANOVA.
- 5. Analysis and Preparation:** Hypothesis Testing, Statistical Significance, Statistical Testing Procedure. Tests of significance, Types and selection of tests, Multivariate analysis techniques, Multivariate techniques, Variable in multivariate analysis, Important methods of factor analysis.
- 6. Presenting Results and Writing the Report:** Written and oral reports, The written research report, Preparatory items, Introduction, Methodology, Findings and Conclusions, Writing the draft to presentation, Oral presentation, Preparation, Delivery and Audiovisuals.
- 7. Econometrics Analysis of Research:** Introduction, Aims of econometric analysis, Statement of theory or hypothesis, Specification of the mathematical and economic model of consumption, Estimation of economic model.



8. **Business Research Conducting:** Literature Review, Reference, Bibliography, Citation

9. **SPSS (Statistical Package for Social Sciences):** Theoretical and Practical

Recommended Text(s):

1. William C Emory, Business Research Methods, Richard D Irwin.
2. Donald R Cooper, Business Research Methods 7th Ed, McGraw Hill, 2001.
3. Krishnaswami, Ranganatham, Methodology of Research for Social Science, Himalaya, Mumbai, 2001.
4. Anderson J. et.al, Thesis and Assignment writing, Wiley Eastern.
5. Research Methodology by C.R. Kothari
6. BMU Report Writing Manual



SHIP CHARTERING

Course Code : MB 512
Credits : 3.0
Contact Hours : 42

Aim: The overall aim of the course is to educate the students on the principles of ship broking, chartering, sale and purchase management. Students will be able to understand the different market structures, as well as the latest practices in ship broking and chartering, ship sale and purchase, including different economic and legal aspects of the field.

Learning Outcomes: By the end of the course, students will be able to understand the principles, terminology, and overall framework of global ship chartering and interpret the different types of charters and charter parties used in the industry. They will be capable of conducting voyage estimations, freight, hire, and laytime calculations, and of evaluating freight markets by analyzing market dynamics across vessel segments. Students will also develop the ability to interpret key contractual clauses, rights, liabilities, and dispute-resolution mechanisms. They will learn to apply negotiation techniques through practical case studies and gain a clear understanding of vessel sale and purchase processes, including the use of standard forms and delivery procedures. Finally, they will be able to examine the financial, operational, and risk factors that influence chartering and commercial decision-making.

Syllabus Contents:

- 1. Fundamentals of Ship Chartering:** Introduction to chartering, Chartering terminology, Role and responsibilities of shipbroker, Types, Functions, and activities of brokers, Forms and structures of charter parties.
- 2. Types of Charters and Vessel Operations:** Voyage charter, Time charter, Bareboat/demise charter, Contract of affreightment, Factors influencing charter choice, Vessel descriptions and suitability, Tramp vs. liner operations, Tanker chartering and tanker market structure, Passenger vessel chartering.
- 3. Freight Markets and Trading Practices:** Global freight market structures, Baltic Exchange indices, Dry bulk and tanker market dynamics, Influences on freight markets (fuel costs, geopolitics, seasonality), Shipbuilding and second-hand markets and their effect on freight rates.
- 4. Vessel Registration and Operational Requirements:** Ship purchase and registration process, Flag states, Exemptions, Immunities, Trading limits and compliance, Dry-docking requirements, Protective clauses, Stevedore damage, insurance implications, Classification societies and blacklists.



5. **Voyage Estimation and Freight Calculations:** Voyage estimation principles, Capacity and cargo calculations, Fuel consumption and time estimation, Port time, Weather delays, Freight and hire calculations, Break-even analysis, Statement of facts, time counting, NOR, Demurrage and dispatch, Vessel negotiation workflow.
6. **Laytime Analysis and Dispute Issues:** Lay days and cancelling date, Laytime concepts and counting rules, arrived ship principles, NOR validity, Case studies on laytime, demurrage, and dispatch, Disputes arising from laytime calculations, Arbitration procedures and forums.
7. **Charter Party Clauses and Legal Framework:** Rights, responsibilities, liabilities of parties, Key clauses in voyage and time charters (e.g., off-hire, safe port, ice, weather), Bill of Lading relationship with charter party, Ethical requirements and professional conduct, Lien clauses, Performance warranties, General contract principles and arbitration.
8. **Chartering Practice and Negotiation:** Chartering routines and workflow, Standard terms, Abbreviations, Email negotiation formats, Role of the Baltic Exchange, Use of digital platforms (Baltic, Shipfix, Alphaliner), Case studies: From enquiry to fixture, Market intelligence sources and data analysis, Building a proforma CP.
9. **Ship Sale and Purchase (S&P):** Reasons for buying and selling vessels, Second-hand market analysis, Vessel valuation and inspection, Standard contracts: Norwegian Saleform 1987, Norwegian Saleform 1993, Nippon-sale 1999, Deposit and payment procedures, Dry docking and delivery formalities, Legal and financial considerations.

Reference Text(s):

1. Gorton, L., Ihre, R., Sandervan, J., & Hillenius, P. (2017). Shipbroking and Chartering Practice (6th ed.). London: Informa Law from Routledge.
2. Stopford, M. (2009). Maritime Economics (3rd ed.). London: Routledge.
3. Branch, A. E. (2007). Elements of Shipping (8th ed.). London: Routledge.
4. Metaxas, B. N. (1985). The Economics of Tramp Shipping. London: Athlone Press.
5. Wood, P. (2008). Tanker Chartering (Shipping Business Series). London: Witherby Seamanship International.
6. Cufley, C. F. H. (1972). Ocean Freights and Chartering (6th ed.). London: Adlard Coles Nautical.
7. Ramberg, J. (2011). ICC Guide to Incoterms 2010. Paris: International Chamber of Commerce.
8. UNCTAD (2018). Review of Maritime Transport. Geneva: United Nations Conference on Trade and Development.
9. FIATA (2014). FIATA Model Rules for Freight Forwarding Services. Zurich: International Federation of Freight Forwarders Associations.



MARITIME INSURANCE AND RISK MANAGEMENT

Course Code : MB 513
Credits : 3.0
Contact Hours : 42

Aims: To provide a comprehensive understanding of marine insurance principles and practice, marine insurance cover for property and liabilities, and a comparison of standard policy conditions in various insurance markets. To analyze the concept of shipowners' liability, limitation of liability regimes and enforcement of maritime claims.

Learning Outcomes: Students will be able to describe/explain/discuss/analyze:

- The fundamental concepts of risk, loss and insurability of risk and fundamental principles of marine insurance law
- Different types of marine risks and insurance cover for such risks
- Principles of shipowners liability and application of different limitation regimes
- Enforcement of maritime claims and arrest of ships.

Syllabus Contents:

- 1. Introduction:** Origins, Lombard and Hanseatic initiatives, Establishment of the English marine insurance market, Lloyd's, Insurance companies and hull clubs, Third party liability coverage, UK marine insurance act 1906.
- 2. Basic Principles and Features:** Definitions and terminology, Distinctive features, Different types of marine insurance: Hull and machinery insurance, Loss of hire, protection and indemnity insurance, Defence cover, War- risk insurance, Cargo insurance, other market cover, Reinsurance; Brokers and managing general agents.
- 3. Marine Insurance Doctrine:** Disclosure and utmost good faith, Insurable interest, Measure of indemnity, Subrogation and abandonment, Warranties, Perils of the sea.
- 4. The Marine Insurance Policy:** Background, time and voyage policy, Marine insurance policy clauses: Navigation clause, Continuation clause, Breach of warranty clause, Sale of vessel or Termination clause, Notice of assignment clause, Perils clause, Pollution hazard, Three quarters collision liability, Sister ship clause, Duty of assured clause, Unrepaired damaged clause, Disbursement clause, Free capture and seizure clause, Risks clause, Transit clause, Seaworthiness admitted clause, Duty of the assured clause, Other cargo clause.



5. **Protection and Indemnity Insurance:** Background, P&I club operation and membership, Non-club protection and indemnity cover, Risk coverage: protection and indemnity cover, other risks.
6. **Maritime Insurance and Risk Management:** Introduction to maritime insurance and risk management; Third United Nations Conference on the law of the sea (UNCLOS III); High seas; Settlement of disputes; Nationality, registration and ownership of ships; Historical development of maritime liens and privileges; International Convention for the Safety of Life at Sea (SOLAS) 1974, 1978 and 1988 Protocols thereto; Ocean-going vessels and types of insurance coverage; Kinds of losses; Claims Handling-insurance claims.
7. **The Principles of Risk Management and Insurance:** The students acquire a fundamental knowledge of risk exposures, The management of pure risk, and the insurance mechanism. Another objective is to make the students a more informed consumer of insurance products when they conduct both business and personal matters.

Recommended Text(s):

1. Edgar Gold, Aldo Chircop and Hugo Kindred (2003), *Maritime Law*
2. Hudson, N.G., Madge, T. and Sturges, K. (2012). *Marine Insurance Clauses* London: Informa Law.
3. Astle, W.E. (1985). *Limitation of liability*. London: Fair play Publications Ltd.
4. Bennett, H. (1996). *The Law of Marine Insurance*, Oxford: Oxford University Press.
5. Berlingieri, F. (Ed.). (1990). *Essays on maritime legislation. Volume I-II*. ESCAP.
6. Berlingieri, F. (2000). *Berlingieri on arrest of ships* (3rd ed.). London and Hong Kong: Lloyd's of London Press.



SUPPLY CHAIN MANAGEMENT

Course Code : MB 514
Credits : 3.0
Contact Hours : 42

Aim: The aim of the course is to introduce the students with what is supply chain management and logistics and the principles belong to this area of study.

Learning Outcomes: Students will know about logistics and supply chain management, the role of supply chain management in business as well as the role of ports and shipping in the supply chain management.

Syllabus Contents:

- 1. Concepts of Logistics:** Origin and definition, Types of logistics, Logistics Management, Warehouse management, Automation and Outsourcing, Customer service and Logistics Management, A perspective, Concepts in logistics and physical distribution, Distribution and inventory.
- 2. Inventory Control:** Types, Demand Forecasting, Warehousing and stores management, Routing, Transportation Management, Some commercial aspect in distribution management, Codification, Distribution Channel Management, Distribution Resource Planning (DRP), Logistics in 21st century.
- 3. Supply Chain Management:** Introduction and development, Nature and concept Importance of supply chain, Value Chain, Components of supply chain, The need for supply chain, Understanding the Supply Chain Management, Participants in supply chain, global applications.
- 4. Role of a Manager in Supply Chain:** Supply chain performance drivers, Key enablers in supply chain improvement, Inter-relation between enablers and levels of supply chain improvement, Systems and values of supply chain.
- 5. Aligning the Supply Chain with Business Strategy:** SCOR Model, Outsourcing and 3PL, Fourth party logistics, Bull whip effect and supply chain, Supply chain relationships, Conflict Resolution strategies, certifications.
- 6. Elements of Logistics and Supply Chain management:** Inventory carrying, Ware housing, Material handling, Order processing, Transportation, Demand forecasting, Impact of forecasts on logistics and supply chain management, Performance measurements.



7. **Transportation:** Position of transportation in logistics and supply chain management, Road, Rail, Ocean, Air, Transport Multi model transport, Containerization, CFS, ICDS, Selection of transportation mode, Transportation network and decision, Insurance aspects of logistics.
8. **Logistical Information System (LIS):** Operations, Integrated IT solution for logistics and supply chain management, Emerging technologies in logistics and supply chain management. Components of a logistic system, Transportation, Inventory carrying, Warehousing, Order processing, Ocean transport, ships – types, measurement of capacity of ships, shipping information.
9. **Plant Location:** Facility location and layout planning, Types of layouts, Material handling equipment's, Productivity: Factors affecting productivity, Job design, Process flow charts, Material management, Costs associated with inventory, Economic order quantity, ABC analysis, Just in-time production, Total quality management.

Recommended Text(s):

1. KrishnaveniMuthiah, Logistics Management and Seaborne Trade' Himalaya Publishing House.
2. D.K.Agarwal. Textbook of Logistics and Supply Chain Management, Mc Millan India Ltd.
3. Martin Christopher, Logistics and Supply Chain Management, Pearson Education, 2003.
4. Ronald H. Ballou, Business Logistics and Supply Chain Management, Pearson Education.
5. G Raghuram & N Rangaraj, Logistics and Supply Chain Management - Cases and Concepts. Mac Millan.
6. Martin Christopher, Logistics & Supply Chain Management: Creating Value-Adding Networks, FT Press.
7. Janat Shah, Supply Chain Management: Text and Cases, 1st Edition, Pearson. 8. D K Agrawal, Textbook of Logistics and Supply Chain Management, MacMillan 2003, 1st Edition



MARITIME STRATEGIC MANAGEMENT

Course Code	: MB 515
Credits	: 3.0
Contact Hours	: 42

Aim: The aim of the course is how to identify and choose a superior competitive position, how to analyze a strategic situation, and finally how to create the organizational context to make the chosen strategy work. The objectives of this course are twofold: 1) to explore conceptual frameworks and models which will assist you to analyze competitive situation and strategic dilemmas and gain insight into strategic management; 2) to help you acquire practical experience in dealing with strategic issues with a focus in the different Maritime Arena.

Learning Outcomes: Students might know how to formulate, implement and evaluate a strategy. What are the current strategies in the maritime field is under implementation now and the implication of strategic management theories on it.

Syllabus Contents:

- 1. Strategy and Strategic Management:** What is a “Strategy”? What is Strategic Management? Why you need Strategic Management? Importance & significance of Strategic Management in maritime. Strategic Management usefulness as a precise & handy tool for any.
- 2. Mission, Vision, Goals and Objectives:** Definition, Analysis, Mission, Vision, Goals and Objectives of different Corporation specially on Maritime Field.
- 3. Corporate Management and Maritime Business:** Corporate Management to decide next course of action in near future & long-term considering global competitiveness in Maritime Business.
- 4. Strategic Analysis and Models:** “Strategy” at a SEA-PORT? Study & understand each of the following methods to derive strategy, SWOT Analysis, TOWS Analysis, BCG Matrix, and Porter’s FIVE FORCE Analysis.
- 5. Strategic Management Approach:** How “Strategic Management Approach” can offer better solutions for long term in maritime business looking to complexity & security issues involved. To understand how a dynamic strategy analysis can lead to improvisation & competitive advantage to any Port / Logistic Company / Maritime Business.
- 6. Formulation of Strategy:** Selection of strategy, Levels of Strategy: a. Corporate Strategy, b. Business Strategy, c. Functional Strategy.



7. **Analysis of Strategy & Effectiveness:** Measurement of strategy industry attractiveness & strategic opportunity, Resources, Capabilities, Core competence & strategic holistic approach.
8. **Case Analysis:** Corporate Strategies and Strategic Management case discussion mainly on maritime field.

Recommended Text(s):

1. Essentials of Strategic Management Hunger, J. David, Wheelen, Thomas L.
2. Strategic Management by Trehan, Wiley India.
3. Strategic Management Creating Value in a Turbulent World by Fitzroy, Wiley India.
4. Integrated Coastal and Ocean Management: Concepts and Practices (Constraints Management) by Biliiana Cicin-Sain and Robert W. Knecht.
5. Blue Ocean Strategy by W. Chan Kim and Renée Mauborgne



MARITIME BUSINESS DATA ANALYTICS

Course Code : MB 516
Credits : 3.0
Contact Hours : 42

Aims: Maritime Business Analytics represents a synthesis of mathematics, business expertise, analytical tools, algorithms, and machine learning methodologies, which facilitate the extraction of latent insights and patterns from raw data, thereby supporting informed marine business decision-making. This course aims to provide in-depth, hands-on skills in three major components: data science, business analytics, and the analysis of past maritime business performance, to generate insights and support business planning, organizing, leading, and evaluating maritime business activities in a comprehensive manner.

Learning Outcomes: The key objective of the course will be to extract valuable information for strategic maritime decision-making through industry trend analysis and forecasting. More specifically objectives of the course will be:

- The fundamentals of maritime business analytics, their importance and relationship;
- Different aspects of maritime business analytics, their scope, tools and techniques;
- Data science life cycle, data acquisition and preprocessing activities;
- Experimentation, evaluation and project deployment tools;
- Different algorithms used in analytics, data mining, machine learning and visualization;
- Predictive analytics and segmentation; integration and warehousing
- Data scientist roles and responsibilities and professional issues

Syllabus Contents:

- 1. Introduction to Maritime Business Analytics:** Overview of the Maritime Industry and its key stakeholders, The role of analytics in maritime business decision-making, Scope of maritime business analytics and its' current perspectives.
- 2. Data Collection and Management in Maritime Business:** Types of data sources in maritime business (Port throughput data, Freight indices, AIS data, Market data, etc.), Data quality and cleaning techniques for maritime analytics, Building data warehouse for maritime business analytics, Data privacy and security in maritime analytics.
- 3. Descriptive Analytics in Maritime Business:** Understanding descriptive analytics: Summarizing historical data (Mean, Median, Mode, Standard Deviation, Correlation, Etc.), Descriptive metrics: (Container and cargo throughput, Shipping volumes, Port turnaround times, Ship efficiency, etc.), Data visualization tools for maritime analytics (Dashboards, Histogram, Box plot, Scatter plot, Bar plot, Pie chart, etc.)



4. **Predictive Analytics for Shipping and Logistics:** Introduction to predictive analytics: Assessing the relation between current & future trends (Linear Regression, Logistic Regression, Multiple Regression Analysis, Etc.), Time series analysis and forecasting techniques (ARIMA), Predicting new building vessel price, Freight rates, and shipping volumes, Anticipating vessel performance and maintenance needs.
5. **Prescriptive Analytics in Maritime Business:** Concept of prescriptive analytics, Optimization models for shipping route planning and fleet management, Decision trees and simulation models for maritime business problems, Scenario analysis and risk management in maritime business.
6. **Shipping Market Analytics:** Market dynamics in maritime business: Freight rates, Supply, and demand, The impact of geopolitical and economic factors on maritime markets, Competitive analysis: Understanding market shares, Pricing strategies in the shipping industry.
7. **Supply Chain and Logistics Analytics in Maritime:** The role of maritime analytics in global supply chains, Analyzing freight forwarding and port operations, Port congestion, Container tracking, and inventory management, Analytics for multi-modal transport optimization.
8. **Risk Analytics and Management in Maritime Business:** Types of risks in maritime business (operational, market, financial, environmental), Quantifying and managing risk in maritime operations & role of forward freight agreement (FFA), Analytics for insurance and liability management in shipping.

Recommended Text(s):

1. Introductory Econometrics: A Modern Approach. Jeffrey M. Wooldridge, 7th Edition.
2. The Econometric Modelling of Financial Time Series, Terence C. Mills and Raphael N. Markellos, 3rd Edition.
3. Carol Long (2015) Data Science & Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data. Indiana: John Willy.
4. Foster Provost and Tom Fawcett (2013) Data Science for Business Beijing: O'Reilly.
5. Thomas Mailund (2017) Beginning Data Science in R: Data Analysis, Visualization, and Modeling for the Data Scientist. Aarhus: Apress.
6. Drew Bentley (2017) Business intelligence and analytics. New York: Library Press



THESIS AND INTERNSHIP

Course Code : MB 500

Credits : 9.0

Aim: To demonstrate skill in research, writing and analysis.

Learning Outcomes: The students will gain hands-on research experience through completing a research project, starting with hypothesis development, literature searching, experimental design, data collection, analysis, and interpretation. Students will also gain experience in written and oral communication by submitting several written components including research proposal, progress report, and final thesis as well as presenting the results of their research in an oral presentation.

General Guides:

1. Internship students shall be placed in any maritime related business enterprises, government and semi-autonomous institutions, NGOs, development projects, or research institutions for a minimum required period as decided by BMU authority.
2. Students with service experience may be given waiver of internship placement subject to the approval of BMU Equivalence Committee.
3. For thesis students shall follow relevant instructions of BMU Examination Regulation-2015.

