Department of Economics
Comilla University

Outcome-Based Curriculum

Sessions: 2022-23, 2023-24 & 2024-25

1. Title of the Academic Program: Bachelor of Social Science (Honours) in Economics

2. Name of the University: Comilla University, Cumilla.

3. Vision of the University: Comilla University is committed to empowering society, advancing development, promoting human welfare and sustainable planet.

4. Mission:

(i) To impart knowledge through effective teaching and learning.
(ii) To create an enabling academic culture supporting high quality research.
(iii) To collaborate with well-established institutions for promoting high-quality teaching, learning and research.
(iv) To develop human capital capable of delivering sustainable outcomes for current and future generations.

5. Name of the Program Offering Entity: Department of Economics

6. Vision of the Program Offering Entity:

The department of Economics envisions producing quality professionals with critical thinking ability and ethical values with appropriate teaching learning and research environment.

7. Mission of the Program Offering Entity:

The Department of Economics, Comilla University, offers a wide range of core and advanced economics courses alone with multi-disciplinary and ICT-based courses. It provides an encouraging academic atmosphere to ensure interactive and innovative teaching-learning strategies. There fore, mission of the department are to:

Mission 1. Strengthen students' ability to analyze all forms of quantitative and qualitative economic phenomenon;
Mission 2.Transmit critical theoretical knowledge in economics to applied economics in practice;
Mission 3. Strengthen students' logical capability and creative thinking;
Mission 4**.** Be equipped with communication skills in English language and ICT;
Mission 5. Pursue advanced research on economics.

8. Objectives of the Program Offering Entity:

The department of Economics aims to provide students with a broad liberal-arts-multidisciplinary education as well as in-depth specialized knowledge of economics. With this goal, a number of the courses in this curriculum are designed integrating ICT, business and other related subjects. Moreover, it inculcates students with human qualities to transform themselves into competent and resourceful citizens.

In this regard, the first two years of undergraduate program are designed to provide students with a strong basis in the basic knowledge necessary to pursue their individual paths of study. Students take foundation courses in mathematics, statistics, and introductory allied courses during this time. The third and fourth years focus on specialized courses of theoretical economics; economic history; economic development; economic policy and application.

9. Name of Degree: Bachelor of Social Science (Honours)

10. Description of the Program:

The department of Economics, Comilla University, was started during inception of academic program in the university in 2007. With 4-year program of Bachelor of Social Science (BSS) Honours. The BSS program is effectively balanced with academic and applied content, quantitative and qualitative elements. This program also provides intense knowledge about fundamental and supplementary courses of economics that enables a graduate to guess effective policy in the national and international level.

The department runs with highly motivated experienced faculties, well-disciplined talented students and cordial official staffs. It has an enrollment limit to 60 students in each academic year. More than 500 students have so far been graduated from this department and working in different sectors like public service commission, educational institutions, research organizations, banks & financial institutions, business enterprises, etc.

11. Graduate Attributes (based on need assessment):

- Critical thinker with deep subject knowledge
- Scholars curious to economic models
- Real life problem solver with digital competencies
- Effective communicator with leadership skills
- Professionals as ethical global citizen

12. Program Educational Objectives (PEOs)

PEO1. Graduates will have successful academic and professional career.

PEO2. Graduates will be competent enough with leadership for working in public and private organizations.

PEO 3. Graduates will have knowledge on economic theories to be able to apply in solving real life problems.

PEO4. Graduates will have capability to analyze economic as well as socio- economic data and to develop different models.

13. Program Learning Outcomes (PLOs):

After completion of the program, graduates will be able to

PLO1. Solve basic problems with economic tools.

PLO2. Link economic theories to socio-economic and community development.

PLO 3.Connect economic thought to current methodological developments.

PLO4.Use knowledge of economics, industry, resource, environment and social sciences to enhance the quality of policy formulations.

PLO5. Enrich principles of morality and social responsibility in mind-set.

PLO6.Enhance research capability through data analysis and interpretation.

14. Mapping mission of the university with PEOs

PEOs	Mission 1	Mission 2	Mission 3	Mission 4	Mission 5
PEO 1	3	2	2	2	2
PEO 2	2	2	3	3	3
PEO 3	1	3	2	3	3
PEO 4	2	2	1	3	3

1: Low 2: Medium 3: High

15. Mapping PLOs with the PEOs

PEOs	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
PEO 1	2	2	1	3	1	2
PEO 2	1	1	3	3	2	2
PEO 3	3	3	2	3	2	3
PEO 4	2	1	3	3	1	3

1: Low 2: Medium 3: High

16. Mapping of Courses with Program Learning outcomes (PLOs)

Courses Offered		PLOs	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
0311-111	ECON 111	Principles of Microeconomics	√	√		√		
0541-112	ECON 112	Basic Mathematics for Economics	√	√				√
0542-113	ECON 113	Basic Statistics for Economics		√				√
0222-114	ECON 114	Emergence of Bangladesh			√	√		√
0611-115	ECON 115	Computer Fundamentals	√	√				√
0611-116	ECON 116	Computer Lab						√
0311-121	ECON 121	Principles of Macroeconomics	√	√		√		
0541-122	ECON 122	Mathematical Economics-I	√					√
0542-123	ECON 123	Statistics for Economics-I			√			√
0411-124	ECON 124	Basics in Business and Accounting	√	√		√		
0231-125	ECON 125	Communicative English					√	
0314-126	ECON 126	Introduction to Sociology				√	√	
0311-120	ECON 120	Viva Voce I	√					
0311-211	ECON 211	Intermediate Microeconomics		√		√		
0541-212	ECON 212	Mathematical Economics-II	√		√			√
0311-213	ECON 213	Agricultural and Rural Economics		√		√		
0311-214	ECON 214	Resource Economics		√			√	
0311- 215	ECON 215	Money and Banking	√	√		√		
0541-216	ECON 216	Mathematics Lab						√
0311-221	ECON 221	Intermediate Macroeconomics		√		√		√
0311-222	ECON 222	Public Economics		√		√		√
0542-223	ECON 223	Statistics for Economics – II				√		√
0311-224	ECON 224	Bangladesh Economy		√			√	
0311-225	ECON 225	Environmental Economics		√		√	√	√
0542-226	ECON 226	Statistics Lab						√
0311-220	ECON 220	Viva Voce II	√	√			√	
0311-311	ECON 311	Microeconomic Theory		√	√	√		
0311-312	ECON 312	International Trade Theory	√			√		√
0312-313	ECON 313	Economics of Growth and Development		√	√	√	√	
0311-314	ECON 314	Financial Economics	√			√		√
0312-315	ECON 315	Blue Economy		√	√	√		
0312-316	ECON 316	Economics of Disaster Management		√		√	√	
0311-321	ECON 321	Macroeconomic Theory		√		√		√
0311-322	ECON 322	Econometrics-I		√		√		√
0311-323	ECON 323	Research Methodology					√	√
0311 -324	ECON 324	Political Economy of Underdevelopment		√		√		
0311-325	ECON 325	Urban Economics		√		√	√	
0311-326	ECON 326	Energy Economics			√	√	√	
0311-320	ECON 320	Viva Voce III		√		√	√	
0311-411	ECON 411	Microeconomic Theory and Application		√	√	√		√

0311-412	ECON 412	Econometrics-II	√					√
0311-413	ECON 413	History of Economic Thought			√	√		
0311-414	ECON 414	Project Appraisal	√	√			√	
0311-415	ECON 415	Econometrics Lab						√
0311-416	ECON 416	Health Economics	√	√			√	
0311-417	ECON 417	International Business			√	√		
0311-421	ECON 421	Macroeconomic Theory and Application				√		√
0311-422	ECON 422	International Finance				√		√
0311-423	ECON 423	Labor Economics	√			√		
0311-424	ECON 424	Economics of Industrial Organization		√		√		
0311-425	ECON 425	Data Analytics		√				√
0311-426	ECON 426	Globalization and Regional Economics		√		√		
0311-427	ECON 427	Research Report	√		√			√
0311-428	ECON 428	Field Work	√		√			√
0311-420	ECON 420	Viva Voce IV		√	√	√	√	

17. Structure of the Curriculum

a) Duration of the program: Years: **04** Semesters: **08**

b) Admission requirements: As per university rule

c) Total minimum credit requirement to complete the program: 135

d) Total class weeks in a semester: 14 weeks

e) Minimum CGPA requirement for graduation: 2.25

f) Maximum academic years of completion: 06 years

g) Category of Courses:

i. General Education Courses: (Compulsory14 courses - 37.5 credits)

BNFQ Code	Dept. Code	Title	Credits
0541-112	ECON 112	Basic Mathematics for Economics	3
0542-113	ECON 113	Basic Statistics for Economics	3
0222-114	ECON 114	Emergence of Bangladesh	3
0611-115	ECON 115	Computer Fundamentals	3
0611-116	ECON 116	Computer Lab	1.5
0541-122	ECON 122	Mathematical Economics-I	3
0542-123	ECON 123	Statistics for Economics-I	3
0411-124	ECON 124	Basics in Business and Accounting	3
0231-125	ECON 125	Communicative English	3
0314-126	ECON 126	Introduction to Sociology	3
0541-212	ECON 212	Mathematical Economics-II	3
0541-216	ECON 216	Mathematics Lab	1.5
0542-223	ECON 223	Statistics for Economics – II	3
0542-226	ECON 226	Statistics Lab	1.5

ii. Core courses:
(Compulsory 30 courses - 84.5 credits)

BNFQ Code	Dept. Code	Title	Credits
0311-111	ECON 111	Principles of Microeconomics	3
0311-121	ECON 121	Principles of Macroeconomics	3
0311-120	ECON 120	Viva Voce I	1.5
0311-211	ECON 211	Intermediate Microeconomics	3
0311-213	ECON 213	Agricultural and Rural Economics	3
0311-214	ECON 214	Resource Economics	3
0311-215	ECON 215	Money and Banking	3
0311-221	ECON 221	Intermediate Macroeconomics	3
0311-222	ECON 222	Public Economics	3
0311-224	ECON 224	Bangladesh Economy	3
0311-225	ECON 225	Environmental Economics	3
0311-220	ECON 220	Viva Voce II	1.5
0311-311	ECON 311	Microeconomic Theory	3
0311-312	ECON 312	International Trade Theory	3
0311-313	ECON 313	Economics of Growth and Development	3
0311-314	ECON 314	Financial Economics	3
0311-321	ECON 321	Macroeconomic Theory	3
0311-322	ECON 322	Econometrics-I	3
0311-323	ECON 323	Research Methodology	3
0311-324	ECON 324	Political Economy of Underdevelopment	3
0311-320	ECON 320	Viva Voce II	1.5
0311-411	ECON 411	Microeconomic Theory and Application	3
0311-412	ECON 412	Econometrics-II	3
0311-413	ECON 413	History of Economic Thought	3
0311-414	ECON 414	Project Appraisal	3
0311-415	ECON 415	Econometrics Lab	1.5
0311-421	ECON 421	Macroeconomic Theory and Application	3
0311-422	ECON 422	International Finance	3
0311-420	ECON 420	Viva Voce IV	1.5

iii. Elective Courses: (Requirement: Five courses - 09 credits)

BNFQ Code	Dept. Code	Title	Credits
0311-315	ECON 315	Blue Economy	3
0311-316	ECON 316	Economics of Disaster Management	3
0311-325	ECON 325	Urban Economics	3
0311-326	ECON 326	Energy Economics	3
0311-416	ECON 416	Health Economics	3
0311-417	ECON 417	International Business	3
0311-423	ECON 423	Labor Economics	3
0311-424	ECON 424	Economics of Industrial Organization	3
0311-425	ECON 425	Data Analytics	3
0311-426	ECON 426	Globalization and Regional Economics	3

iv. Capstone courses: (Requirement: One course - 3 credits)

BNFQ Code	Dept. Code	Title	Credits
0311-427	ECON 427	Research Report	3
0311-428	ECON 428	Field Work	3

18. Year/Level/Semester/Term wise distribution of Courses:

a. First Year Courses:

1st Year 1st Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-111	ECON 111	Principles of Microeconomics	Core	3
0541-112	ECON 112	Basic Mathematics for Economics	GED	3
0542-113	ECON 113	Basic Statistics for Economics	GED	3
0222-114	ECON 114	Emergence of Bangladesh	GED	3
0611-115	ECON 115	Computer Fundamentals	GED	3
0611-116	ECON 116	Computer Lab	GED	1.5
		Total		**16.5**

1st Yean 2nd Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-121	ECON 121	Principles of Macroeconomics	Core	3
0541-122	ECON 122	Mathematical Economics-I	GED	3
0542-123	ECON 123	Statistics for Economics-I	GED	3
0411-124	ECON 124	Basics in Business and Accounting	GED	3
0231-125	ECON 125	Communicative English	GED	3
0314-126	ECON 126	Introduction to Sociology	GED	3
0311-120	ECON 120	Viva Voce I	Core	1.5
		Total		**19.5**

b. Second Year Courses:

2nd Year 1st Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-211	ECON 211	Intermediate Microeconomics	Core	3
0541-212	ECON 212	Mathematical Economics-II	GED	3
0311-213	ECON 213	Agricultural and Rural Economics	Core	3
0311-214	ECON 214	Resource Economics	Core	3
0311-215	ECON 215	Money and Banking	GED	3
0541-216	ECON 216	Mathematics Lab	GED	1.5
		Total		**16.5**

2nd Year 2nd Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-221	ECON 221	Intermediate Macroeconomics	Core	3
0311-222	ECON 222	Public Economics	Core	3
0542-223	ECON 223	Statistics for Economics – II	GED	3
0311-224	ECON 224	Bangladesh Economy	Core	3
0311-225	ECON 225	Environmental Economics	Core	3
0542-226	ECON 226	Statistics Lab	GED	1.5
0311-220	ECON 220	Viva Voce II	Core	1.5
		Total		**18**

c. Third Year Courses:

3rd Year 1st Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-311	ECON 311	Microeconomic Theory	Core	3
0311-312	ECON 312	International Trade Theory	Core	3

0312-313	ECON 313	Economics of Growth and Development	GED	3
0311-314	ECON 314	Financial Economics	Core	3
		One choice from two elective courses		
0311-315	ECON 315	Blue Economy	Elective	3
0311-316	ECON 316	Economics of Disaster Management	Elective	3
		Total		**15**

3rd Year 2nd Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-321	ECON 321	Macroeconomic Theory	Core	3
0311-322	ECON 322	Econometrics-I	Core	3
0311-323	ECON 323	Research Methodology	Core	3
0311-324	ECON 324	Political Economy of Underdevelopment	Core	3
		One choice from two elective courses		
0311-325	ECON 325	Urban Economics	Elective	3
0311-326	ECON 326	Energy Economics	Elective	3
0311-320	ECON 320	Viva Voce III	Core	1.5
		Total		**16.5**

d. Fourth Year Courses:

4th Year 1st Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-411	ECON 411	Microeconomic Theory and Application	Core	3
0311-412	ECON 412	Econometrics-II	Core	3
0311-413	ECON 413	History of Economic Thought	Core	3
0311-414	ECON 414	Project Appraisal	Core	3
0311-415	ECON 415	Econometrics Lab	Core	1.5
		One choice from two elective courses		
0311-416	ECON 416	Health Economics	Elective	3
0311-417	ECON 417	International Business	Elective	3
		Total		**16.5**

4th Year 2nd Semester

BNFQ Code	Dept. Code	Title	Category	Credits
0311-421	ECON 421	Macroeconomic Theory and Application	Core	3
0311-422	ECON 422	International Finance	Core	3
		Two choices from four electives courses		
0311-423	ECON 423	Labor Economics	Elective	3
0311-424	ECON 424	Economics of Industrial Organization	Elective	3
0311-425	ECON 425	Data Analytics	Elective	3
0311-426	ECON 426	Globalization and Regional Economics	Elective	3
		One choice from two capstone courses		
0311-427	ECON 427	Research Report	Capstone	3
0311-428	ECON 428	Field Work	Capstone	3
0311-420	ECON 420	Viva Voce IV	Core	1.5
		Total		**16.5**

Note: Courses with 03 (three) credits will be evaluated on 100 marks and courses less than 03 (three) credits on 50 marks. The details are given in Part D of this curriculum.

Description of all courses of the program including the following information each course

1st Year 1st Semester

BNFQ Code: 0311-111,   Dept. Course Code: ECON 111

Course Title: Principles of Microeconomics,   Credits: 3

Rationale of the Course
The course provides an introduction to the operation of a market economy and the problem of how best to allocate society's scarce resources. The course considers the way in which various decision making units in the economy (individuals and firms) make their consumption and production decisions and how these decisions are coordinated. It considers the laws of supply and demand, and introduces the theory of the firm, and its components, production and cost theories and models of market structure. The various causes of market failure are assessed, and consideration is given to public policies designed to correct this market failure.

Course Objectives
The primary objective of the course is to acquaint students with the basic concepts of microeconomics. The course particularly emphases on the behavior of individual economic agents such as consumers, producers, investors and exporters when they confront multiple or competing choices concerning the use of scarce resources. The theory consumers and producers behaviors remain at the core of the course, which will basically be taught with verbal and graphical exposition.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply the basic concepts of scarcity and opportunity cost;
CLO 2. Demonstrate the deep understanding of the determinants of demand and supply and price elasticity;
CLO 3. Explain the theory of consumer behavior;
CLO 4. Explain the theory of the firm and producer behavior;
CLO 5. Identify market structures of perfect and imperfect competition;

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Basic Foundation of Economics** What is Economics? Nature and Scope of Economics, Microeconomics vs. Macroeconomics, Positive vs. Normative Statement, Scarcity and Choice, Opportunity Cost, Choices and Efficiency; Production Possibility Frontier; Fundamental problems of an economic society; Different economic systems and their relative strengths and weaknesses in solving these problems, Role of Government.	*CLO 1*

Unit 2	**Demand and Supply** Laws of demand and supply; Demand and supply curves; Determinants of Demand and Supply, Movement along demand/supply curves; Causes of shifting of demand/supply curves. Market equilibrium; Effects of subsidies and taxes; Price ceiling and price floor; Consumer and producer surplus.	*CLO 2*
Unit 3	**Elasticities of Demand and Supply** Elastic and inelastic demand; Price, income and cross elasticity of demand; Determinants of price elasticity; Price elasticity and total expenditure.	*CLO 2*
Unit 4 A	**A. *Utility Analysis*** Cardinal vs. ordinal utility; Total and marginal utility; Law of equi-marginal utility and determining optimal purchase; Deriving the law of demand form the law of equi-marginal utility; The diamond-water paradox;	
Unit 4 B	**B. *Indifference Curve Analysis*** Characteristics of Indifference Curve, Budget Line, Consumer Equilibrium, Income Consumption Curve (ICC), Price Consumption Curve (PCC), Substitution Effect, Income Effect and Price Effect, Normal Goods, Inferior Goods and Giffen Goods.	*CLO 3*
Unit 5	**Production Function** Concept of Production and Production Function; Concept of Short-run and Long-run; Average, Marginal and Total Product Curve; Law of Diminishing Marginal Return; Iso-quant and the Ridge line; Returns to scale.	*CLO 4*
Unit 6	**Cost Function** Fixed Cost and Variable Cost Average; Average and Marginal Cost curves in the short-run; Average and Marginal Cost Curves in the long-run; External Economies and Diseconomies.	*CLO 4*
Unit 7	**Theory of the Firm - Outputs and Prices** Firm's goals - profit maximization; Marginal revenue and marginal cost; Guide to optimal quantity of output; Fundamental role of decisions at the margin.	*CLO 4*
Unit 8	**Market Structure –** **(a) Perfect Competition:** Characteristics; Competitive firm and its demand curve; Normal vs. supernormal profits; Short-run vs. long-run equilibrium; Firm and industry short-run supply curves; Industry equilibrium; Perfect competition and economic efficiency. **(b) Monopoly Market –** Sources of monopoly; Natural versus artificial monopoly; Short-run and long-run equilibrium; Monopoly power. **(c) Imperfect Competition:** Monopolistic competition and oligopoly: properties.	*CLO 5*

Texts:

1. Baumol, W. and Blinder, A. (2010).*Economics: Principles and Policy*, Harcourt Brace Jovanovich.
2. M. Parkin (2003).*Microeconomics*, 6th Edition, Addision Wesley.

References:

1. J.E. Stiglitz (2003).*Principles of Microeconomics*, 3rd Edition, Norton &Company, Inc P.A.
2. A. Koutsoyiannis (1979). Modern Microeconomics, Macmillan Press Ltd.
3. Samuelson and W.D. Nordhaus (2010).*Economics*, 19th Edition, McGraw Hill.
4. R.G. Lipsey and K. A. Chrystal (2004).*Economics*, 10th Edition (FirstIndian Edition), Oxford University Press.
5. R.G. Lipsey and K. A. Chrystal (2004).*Economics*, 15th Edition, OxfordUniversity Press.
6. W. J. L. Ryan and D. W. Pearce. Price Theory.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	**Strategies**: Verbal and graphical exposition; Problems solving	Question & Answer Quizzes Homework Tutorials Class Tests
CLO 2	**Strategies**: Verbal and graphical exposition; Problems solving	As above
CLO 3	**Strategies**: Verbal and graphical exposition; Problems solving	As above
CLO 4	**Strategies**: Verbal and graphical exposition; Problems solving	As above
CLO 5	**Strategies**: Verbal and graphical exposition; Problems solving	As above

BNFQ Code: 0541-112, Dept. Course Code: ECON 112

Course Title: Basic Mathematics for Economics Credit: 3

Rationale of the Course

The course is intended for students without sufficient background of Mathematics who wish to obtain knowledge of mathematical techniques suitable for economic analysis. It assumes very little prerequisite knowledge. The approach is informal and aims to show students how to do and apply the mathematics they require for a successful study of economics. This course aims to teach the mathematics not the economics, but applications are considered.

Course Objectives

The objectives of the course are to

- Improve the mathematical skills necessary to study economics.
- Identify, solve and interpret the characteristics of each family of functions: linear, polynomial, exponential, logarithmic and quadratic.
- Analyze nonlinear functions using differential calculus.
- Demonstrate an understanding of the rules of differentiation as they apply to multivariable functions.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. How to build models by expressing words in symbols, numbers and equations.

CLO 2. Develop analytical skills.

CLO 3. Use and explain the underlying principles, terminology, methods, techniques and conventions used in the course.

CLO 4. Develop an understanding of differential equations techniques used in economic theory.

CLO 5. Encourage students to think about applying these mathematical tools in their own research, if necessary, with suitable modifications.

CLO 6. Solve economic problems using the mathematical methods described in the course.

Course Content:

Unit	Topic/Content Summary	CLOs
Unit 1	**Introduction to Mathematics for Economics:** Role of Mathematics in Economics, Mathematical vs. literary presentations of economic models, Mathematical reasoning, Mathematical Models and their uses.	CLO 1
Unit 2	**Review of Elementary Mathematics:** Algebraic expressions, Variables, Constants and Parameters, Exponents, Equations and system of Equations, Linear, Cubic and Quadratic Equations, Straight Lines and Curves, Slopes and Intercept and Tangent, Graphs, Economic Applications of Graphs and Equations, Permutations and Combinations, The Binomial Theorem.	CLO 2,3
Unit 3	**The Number System & Elementary Theory of Sets:** Integers, Rational and Irrational numbers, the continuum of Real, imaginary and complex numbers, Inequalities, Solutions of linear and quadratic inequalities, Absolute Value Intervals, Sets, Relationship between sets, Basic set operations, Laws of set operations, Convex and Concave sets, Bounded and Unbounded sets.	CLO 1,4
Unit 4	**Functions and Relations:** Definition, Range and Domain of a Function, Types of Functions, Identity- Product- Inverse-Constant Polynomial, Rational, Nature of Logarithmic and Exponential Functions, Derivatives of such functions, The Number, Use of Logarithmic and Exponential Functions in Economics, Non-Algebraic Functions- Linear and Non-Linear Models.	CLO 1,3
Unit 5	**Market Models and National Income Models:** One-commodity market models; Two-commodity market models; Determination of equilibrium price and quantity; Impact of tax and subsidy on equilibrium price and quantity; Burden of tax on producers and consumers; Benefits of subsidy.	CLO 4,5
Unit 6	**Introduction to Matrix Algebra:** Definition; Dimension/order of a matrix; Row vector; Column vector; Square matrix; Identity matrix; Idempotent matrix; Addition, subtraction and multiplication of matrices; Matrix inversion; Solving system of equations with matrix algebra; Cramer's rule and inverse matrix rules.	CLO 4,6
Unit 7	The Concept of Derivative: Limit Continuity and Differentiability of a function, Rules of Differentiation, Partial and Total Derivatives, Increasing and Decreasing Functions, Concavity and Convexity, Asymptote, Curve Sketching, Uses of Derivatives in Economics.	CLO 4,5

Texts:

1. Chiang, Alpha C. and Wainwright Kevin, Fundamental Methods of Mathematical Economics, Fourth Edition, McGraw-Hill, Inc., 2005.
2. Dowling, Edward T., Introduction to Mathematical Economics, 3/ed, Schaum's Outline Series,Mcgraw-Hill,Inc.,2003.

References:

1. Simon, Carl P. and Lawrence Blume, Mathematics for Economists, Viva Books, 2010.
2. Michael Hoy, John Livernois, Chris McKenna and Ray Rees, Mathematics for Economics, 2/ed, Jun 11, 2001.
3. Knut Sydsaeter, Peter Hammond, Essential Mathematics for Economics Analysis, 3/ed, 2008.
4. Monga, G.S., Mathematics and Statistics for Economics, Vikas publishing House PVT LTD, 1975.
5. Allen, R G D, Mathematical Analysis for Economists, ELBS-McMillan, London, 1938.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO 1	*2*	*1*	*1*	*1*	*1*	*1*
CLO 2	*2*	*1*	*1*	*2*	*1*	*1*
CLO 3	*1*	*1*	*2*	*1*	*1*	*1*
CLO 4	*1*	*2*	*1*	*1*	*1*	*1*
CLO 5	*1*	*2*	*1*	*2*	*1*	*1*
CLO 6	*2*	*1*	*1*	*2*	*1*	*1*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	**Strategies**: Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 6	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0542-113,   Dept. Course Code: ECON 113

Title: Basic Statistics for Economics   Credit: 3

Rationale of the Course
This course introduces some basic concepts of different data, data sources, scientific notation and variables which make idea for students for future research. Topics include frequency distribution, descriptive measures and different types of graphical presentation. Different types measures of central tendency, variance and standard deviation and their use in economic sense also discuss here. This course also discusses data's nature and moments, skewness and peaked of a series. Relationship between different variables and some of the importance index number also introduce here which are very important in everyday life.

Course Objectives
The primary objective of the course is to acquaint students with the basic concepts of statistics and analyze statistical data properly in different way. The course particularly emphases on the importance of statistics in economic field. This course also help student to understand the main features of traditional and modern statistics, analyze statistical data properly, understand the role of formal statistical theory and informal data analytic methods.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Learn basic concept of Statistics and different data, data sources, scientific notation and variables.
CLO 2. Learn to present different types of data in organized tabular form and show different graphical presentation. Explain basic statistical methods relevant to upper division interdisciplinary courses.
CLO 3. Learn different important statistical method like mean, average, variance etc. for problem solving in everyday life.
CLO 4. Learn characteristics of a distribution, their nature of skewedor peakedness of any distribution.
CLO 5. Think critically and independent thinking requiring research beyond textbook, through projects, interdisciplinary examples and exercises.

Course Contents

Unit	**Topic/Content Summary**	**Corresponding CLOs**
Unit 01	**Introduction:** i. Statistics ii. Population and sample iii. inductive and descriptive statistics iv. variables – discrete and continuous variables v. founding of data vi. scientific notation vii. functions rectangular coordinates viii. graphs, equations ix. inequalities, logarithms, subscript x. notation, summation notation.	*CLO 1*
Unit 02	**Frequency Distributions:** i. Raw Data, Arrays ii. Frequency distributions iii. class Intervals, Class limits and Class boundaries iv. The size of the class interval	*CLO 2*

	v. the class mark; vi. general rules for forming frequency distribution vii. histogram; cumulative frequency distribution and Ogives viii. relative frequency distributions and percentage ogives.	
Unit 03	**Measures of Central Tendency:** i. The arithmetic mean ii. Properties of the arithmetic mean; Arithmetic mean computed from grouped data; iii. The geometric mean iv. The harmonic mean; v. The relation between arithmetic, geometric and harmonic means; vi. The median; quartiles and percentiles; vii. The mode; viii. Empirical relationship between mean, median, and mode.	*CLO 3*
Unit 04	**Measures of Dispersion:** i. The range ii. The semi interquartile range iii. The mean deviation iv. The variance v. The standard deviation vi. properties of the standard deviation coefficient of variation vii. Standardized variable viii. z-scores	*CLO 3*
Unit 05	**Skewness, Kurtosis, Moments:** i. Moments for grouped data ii. Relations between moments iii. Computation of moments for grouped data iv. moments in dimensionless form v. Population moments vi. Skewness vii. Kurtosis.	*CLO 4*
Unit 06	**Correlation Analysis:** i. Relationship between variables ii. The correlation coefficient iii. Rank correlation iv. Remarks concerning the correlation coefficient v. The least-squares coefficient vi. Explained and unexplained variation vii. The standard error of estimate.	*CLO 5*
Unit 07	**Index Number:** i. Applications of index numbers ii. Problems involved in the computation of index numbers iii. Laspeyres, Pasche, and Fisher's ideal index Cost of living index	*CLO 5*

Texts:

1. Anderson, Sweeney & Cochran, Statistics for Business and Economics, Cengage, 12th Ed.
2. Mann: Introduction to Statistics

References:

1. Miah and Miah: Introduction to Statistics
2. Murry R. Spiegel: Theory & Problems of Statistics.
3. Robert D. Mason, Douglas A. Lind: Statistics
4. Webster &Allen: Applied statistics for business and economics.
5. Wonnacatt and Wonnacott: Introducing Statistics
6. M. Nurul Islam: An Introduction to Statistics & Probability.
7. S.P. Gupta: Advanced Practical Statistics.
8. Newbald, Paul, Prentice Hall: A comprehensive nonmathematical introduction to statistics with lots of worked-out problems.
9. S. P. Gupta and M. P. Gupta, Business Statistics, 14th enlarged edition, Sultan Chand & Sons. New Delhi, 2006.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*2*	*2*	*1*	*3*	*1*	*1*
CLO2	*2*	*3*	*2*	*3*	*2*	*3*
CLO3	*2*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	**Strategies**: Verbal and mathematical exposition; Presentation, Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	Q&As Quizzes Homework Assignments Tutorials Class Tests
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0222-114,   Dept. Course Code: ECON 114

Course Title: Emergence of Bangladesh Credit: 3

Rationale of the Course/Course Description

This course depicts the socioeconomic and historical profile of Bangladesh which includes geo-political history, Rise of Bengali Nationalism, Liberation War and Birth of Bangladesh, Government Structure and Constitution of Bangladesh, Rise in Democracy and Capitalism, Cultural, Heritage, Economic History of Bangladesh. The issues of sociology, culture, ethnicity, and urbanization will also be addressed in this course.

Course Objectives

The aim of the course is to make students acquaint with the national heritage, culture and history of Bangladesh that let them be a good and responsible citizen of the nation. It will also help them to analyze many facts from sociological perspectives.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1.Able to analyze the geo-political history of the nation;
CLO 2. Understand the rise in Bengali nationalism that gave birth of the nation Bangladesh;
CLO 3. Value the ethnical characteristics of the nationals;
CLO 4. Articulate the government structure, constitution and rise in democracy in Bangladesh
CLO 5. Compare and analyze the indicators regarding the development of social, cultural, economic, educational and political situation of Bangladesh with other nations.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction** Sources of History, History in Nation Building.	*CLO 1*
Unit 2	**Ancient Bengal** Ancient Geography and trade links with other world-Pala and Sena Dynasties.	*CLO 2*
Unit 3	**Medieval Bengal** Muslim Conquest of Bengal, Socio-economic and cultural changes, Unification of Bengal. The Development of Bengali language and Literature. The Independent Sultanate in Bengal-Bengal under the Mughals, the Nawaabi Rule in Bengal (1700-1765)	*CLO 2*
Unit 4	**Modern Period** British Colonial Rule. Introduction of Zamindari System and decline of socioeconomic condition, Resistance movements, English education and its impact, Revival of statehood in Bengal, the Growth of Indian National Congress, the Creation of New Province of East Bengal and Assam, Muslim League (1906, Bengal Pact (1923).	*CLO 3*

Unit 5	**Autonomous Bengal 1937-1947 (East Pakistan as a province of Pakistan)** Foundation of Awami League, Language Movement of1952, united Front, and Fall of Muslim League, the Military Rule of Ayub Khan, Economic Disparity between the two regions, Cultural suppression of West Pakistan, 6-pointMovement, Mass upsurge in1969 the Rule of Yahya Khan, Election of 1970 the War of Independence and the Emergence of Bangladesh..	*CLO 4*
Unit 6	**Bangladesh Society and Culture** The Sociological Perspective, Primary Concepts, Actors of social life, Social Structure and Process, Social Institutions, Culture and Civilization, City and Country, Social Change, Problems of Society, Social Problems of Bangladesh, urbanization Process and its impact on Bangladesh Society will be covered.	*CLO 5*

Texts:

1. Dr. Sumon Das and M.N. Mohabbat, *Bangladesh studies and culture*, Human Publications, 7th Ed., 2016.
2. Giddens, A. (2009). *Sociology*, 6th Edition, Polity Press, UK.

References:

1. A. M. A. Muhith. *Bangladesh: Emergence of a Nation* (UPL)
2. Sirajul Islam (Ed.). *History of Bangladesh (Economic, Socio-cultural and Political)*: 1704-1971 (The Asiatic Society of Bangladesh).

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*2*	*2*	*3*	*2*	*1*	*3*
CLO2	*1*	*1*	*1*	*2*	*1*	*3*
CLO3	*1*	*1*	*2*	*3*	*1*	*2*
CLO4	*2*	*2*	*3*	*3*	*2*	*3*
CLO 5	*3*	*2*	*3*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	**Strategies**: Lecture and Discussion;	Q & As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Lecture and Discussion;	As above
CLO 2	**Strategies**: Lecture and Discussion;	As above
CLO 3	**Strategies**: Lecture and Discussion;	As above
CLO 4	**Strategies**: Lecture and Discussion;	As above
CLO 5	**Strategies**: Lecture and Discussion;	As above

BNFQ Code: 0611-115, ***Dept. Course Code: ECON 115***

Course Title: Computer Fundamentals **Credit: 3**

Rationale of the Course
The Course provides a fundamental understanding of organization and components of computer; operating systems and focus on the Microsoft Office Applications (Microsoft Word, Microsoft Excel and Microsoft PowerPoint). The course topics include Basics and Fundamentals of computer applications. Students will also be covering the basic concepts in Computer Hardware, Software, Operating Systems, Networking, Databases, as well as the usage of the Internet and conversion of Microsoft file format into various other file formats.

Course Objectives
The aim of this course is to enable the student to use the computer effectively in a multitude of academic scenarios.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. To understand the operational basics of personal computers.
CLO 2. Understand the basic parts of a computer system and their relationships.
CLO 3. To learn office productivity tools for personal management as well as work productivity.
CLO 4. Understand the rules and etiquette of Internet access.

Course content

Unit	Topic/Content Summary	CLOs
Unit 1	Introduction to Computer: Basic Organization; Type; History and generations of computers; Applications; Microcomputer system and I/O units in block form; Components of Microcomputers; Hierarchical disk partitions.	
Unit 2- A	Operating Systems: *MS-DOS:* Introduction, The concept of files and directories; Commands and their parameters; Internal and external commands.	
Unit 2- B	Operating Systems: *Basic DOS Operations:* Listing, Viewing, Copying, Renaming, Deleting of Files; Wildcard file, Specifications; Introducing Windows, its use.	
Unit 3- A	Word Processing: *Introduction to MS Word:* Introduction; Basic operations; Advanced operations writing equations, creation tables, footnotes and endnotes, macros, importing graphs, page formatting, Other operations.	
Unit 3- B	Word Processing: *Introduction to MS Power Point:* Introduction; Making Slides; Slide design; Animation schemes; Presentation of slide; other functions.	
Unit 3.C	Spreadsheet (Microsoft Office Excel): Introduction to MS Excel, Basic.	
Unit 4	Networks, Internet, WWW and Email	

Text and References:

1. *Fundamentals of Computer for Undergraduate Courses in Commerce and Management*, ITL Education Solutions Limited, Pearson, 2011.
2. Cripps, Martin: *Introduction to Computer Hardware.*
3. Mursil, Paul W & Smith, Crecill L.: *Introduction to Computer Science.*
4. Porad Arpad Barna Dan L.: *Introduction to Microcomputers and Microprocessor.*
5. Sina, Pradeep K.: *Computer Fundamentals.*
6. Tanenbaun Andrew S.: *Computer Network.*
7. Rahman, Lutfar and Md. Alamgir, *Modern computer*

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*2*	*2*	*2*	*2*
CLO2	*2*	*3*	*3*	*2*	*2*	*1*
CLO3	*3*	*3*	*3*	*2*	*1*	*2*
CLO4	*3*	*3*	*3*	*2*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

Corresponding CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Strategies: Lecture, Discussion, Presentation, Computer Lab Practical	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	As above	As above
CLO 3	As above	As above
CLO 4	As above	As above

BNFQ Code: 0611-116, Dept. Course Code: ECON 116

Course Title: Computer Lab Credits: 1.5

Rationale of the Course

Computer Lab is one plus half (1.5) credit hours course that teaches the basics of using a computer. This course runs 14 weeks and is designed for students with little to no computer experience. This is a complete lab based course where students will learn these applications by working on class assignments in the lab.

Course Objectives

The aim of this course is to enable the student to use the computer effectively in a multitude of academic scenarios.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Develop a vocabulary of key terms related to the computer and to software program menus and identify the components of a personal computer system.
CLO 2. Demonstrate mouse and keyboard functions and demonstrate window and menu commands and how they are used.
CLO 3. Demonstrate how to organize files and documents on a USB/hard drive and compose, format and edit a word document.
CLO 4. Send email messages (with or without attachments) and navigate and search through the internet; and WenCT.

Course content

Unit	**Topic/Content Summary**	**CLOs**
Unit 1.A	Computer Components, Memory & Storage,	CLO 1
Unit 1. B	Hardware & Software, Disk partition.	CLO 1
Unit 2	Operating Systems – MS- DOS, MS Windows.	CLO 2
Unit 3.A	MS Word	CLO 2
Unit 3.B	MS Excel	CLO 2,3
Unit 3.C	MS – PowerPoint	CLO 3
Unit 4	E-mail, Internet. Network	CLO 4

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*2*	*3*
CLO2	*1*	*2*	*1*	*2*	*2*	*3*
CLO3	*2*	*2*	*3*	*2*	*2*	*3*
CLO4	*2*	*3*	*2*	*2*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Exercise in the laboratory	Assignment, Discussions, Other(Student Learning Survey)
CLO 2	As Above	Assignment, Discussions, Other(Respond to student posts Using information from readings)
CLO 3	As above	Assignment, Discussions, Other(Respond to student posts Using information from readings)
CLO 4	As above	As above

1st Year 2nd Semester

BNFQ Code: 0321-121,   Dept. Course Code: ECON 121

Course Title: Principles of Macroeconomics   Credits: 3

Rationale of the Course

This course intends to acquaint the students with the basic concepts of macroeconomic theory and to provide them with an understanding of how the overall economy works and what the likely consequences of various macro policies are. Identification of their determinants, and interrelationship amongst them. This course also examines how public policies impact upon the macro aggregates.

Course Objectives

The main objective of this course is to train students with basic macroeconomic concepts and theories. With this course students are expected to learn the simple relationship and ideas in the measurement of macro aggregates such as national output, unemployment, consumption and savings, investment, inflation etc., It will also assist them to develop suitable solutions for practical policy purposes and there by generating skills so that they can take up challenging careers in business and the government.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply the basic concepts of macroeconomics.
CLO 2. Understand the determinants of national income.
CLO 3. Explain overall term of consumption and savings function.
CLO 4. Explain the concept of aggregate demand and aggregate supply.
CLO 5. Understand concept of inflation and unemployment.

Course Contents

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Basic Concept** i. Development of macroeconomics ii. Major Macroeconomic Problems – (Inflation, unemployment and low growth rate); Relationship among macroeconomic variables; Macroeconomic policy & goals iii. Role of Government	*CLO 1*
Unit 2	**National Income Accounting** i. Circular flow of national income ii. Measurement of national income iii. Product, income, and expenditure method iv. Real and nominal GNP and GDP v. Methods of measuring national income in Bangladesh vi. Size, composition and trend of GDP and GNP at constant and current price in Bangladesh vii. Problems of measuring national income in Bangladesh viii. Growth rate ix. Measuring the cost of living	*CLO 2*

Unit 3	**Consumption and Savings Function** i. Consumption and Consumption function; Average and marginal propensity to consume; ii. Savings function: Average and marginal propensity to save iii. Keynes' Psychological Law of Consumption iv. Consumption function Puzzle	*CLO 3*
Unit 4	**Aggregate Demand and Aggregate Supply Model** i. Aggregate demand-consumption savings and investment ii. Aggregate supply-short-run and long-run; iii. Macroeconomic equilibrium iv. Simple model of Income determination v. Concept of Multiplier	*CLO 4*
Unit 5	**Inflation, Unemployment and Business Cycles** i. Concepts of inflation and unemployment ii. Measurement of inflation iii. Cost-push and demand-pull inflation iv. Measuring unemployment rate v. Types of unemployment vi. Phillips curve, Wage, Price and Productivity vii. Demand and supply side factors explaining inflation in Bangladesh viii. Business Cycles	*CLO 5*

Texts

1. Mankiw, N. G., Macroeconomics, South-Western Cengage, 2009. 6th Edition.
2. Campbell R. McConnell, Stanley L. Brue and Sean.M.Flynn, Macroeconomics: Principles, Problems, and Policies, 20th Edition, McGraw-Hill, 2015.

References

1. Branson, W. H., Macroeconomic Theory and Policy, 3rd Ed. East-West Press.
2. Blanchard, Macroeconomics, 4th edition, Pearson, 2010. v. R.G. Lipsey and K. A. Chrystal (2004): Economics, 10th Edition (First Indian Edition), Oxford University Press.
3. Baumol, W. and Blinder, A.: Economics: Principles and Policy, Harcourt Brace Jovanovich. vii. Samuelson, Paul A. and William D. Nordhaus, Macroeconomics, 19th Edition, Mc Graw Hill, 2012.
4. N. Gregory Mankiw. Macroeconomics Worth Publisher, 2007.
5. Agarwal, Vainta, Macroeconomics- Theory and Policy, Pearson, 2010.
6. M. Parkin, Macroeconomics, 6th Edition, Addison Wesley, 2003.
7. Diulio, Eugene, Schaum's Outlines Macroeconomics, 3rd Edition, Mc Graw Hill, 2007. 3

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	**Strategies**: Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-122, ***Dept. Course Code: ECON 122***

Course Title: Mathematical Economics-I **Credits: 3**

Rationale of the Course

This course will introduce mathematical concepts and their applications in economics. Topics covers in this course are mainly – differential calculus and it application in economics, integration and application of integration in economics, matrices algebra with application to economics.

Course Objectives

The main purpose of this course is to improve the mathematical skills of the students necessary to study economics. In particular, the focus is on linear algebra, optimization, and calculus. Students will be expected to have a working knowledge of elementary algebra and introductory calculus including the differentiation and integration of real-valued functions.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply standard techniques of differential calculus in economics applications.

CLO 2.Analyze the optimization problems in response to the behavior of firms profit maximization and cost minimization.

CLO 3. Understand the usage of exponential and logarithmic functions in explaining economic phenomena.

CLO 4.Understand linear algebra and its application in economics; learn

CLO 5. Apply integral calculus to find out consumer and producer surplus.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**- Differential Calculus:** *Rules of Differentiation and their use in comparative statics:* Rules of differentiation for a function of one variable; Rules of differentiation involving two or more functions of the same variable; Rules of differentiation involving functions of different variables; Partial differentiation; Application to comparative static analysis; Note on Jacobian determinants. *Comparative-Static Analysis of General-Function Models:* Differentials; Total differentials; Rules of Differentials; Total Derivatives; Derivatives of implicit functions; comparative-statics of general-function models; Limitations of comparative statics.	*CLO 1*
Unit 2	**Introduction to Optimization:** *Optimization-A Special Variety of Equilibrium Analysis:* Optimum values and extreme values; Relative maximum and minimum; Second and higher derivatives; Second-derivative test; Maclaurin and Taylor series; Nth derivative test for relative extremum of a function of one variable.	*CLO 2*
Unit 3	**Optimization Problem:** *Optimization-The Case of More than One Choice Variable:* The differential version of optimization condition; Extreme values of a function of two variables; Quadratic forms; Objective functions with more than two variables; Second-order conditions in relation to concavity and convexity; Economic applications; Comparative-static aspects of optimization. *Optimization With Equality Constraints:* Effects of a constraint; Finding the stationary values; Second-order conditions; Quasiconcavity and Quasiconvexity; Utility maximization and consumer demand; Homogenous functions; least-cost combination of inputs; Nonlinear programming and Khun-Tucker conditions; Maximum-value functions and the Envelope theorem; Duality and the Envelope theorem.	CLO 2
Unit 4	**Matrices and Special Determinants and Their use in Economics:** Determinants and nonsingularity; Third-order determinants; Minors and Cofactors; Laplace expansion and higher-order determinants; properties of a determinants; cofactor and adjoint Matrices; Inverse Matrices; Solving linear equations with the inverse; Cramer's rule for matrix solutions; The Jacobian; The Hessian; The discriminant; Higher-order Hessians; The bordered hessian for constrained optimization;	*CLO 3*
Unit 5	**Input-Output Analysis:** The basic idea, The input coefficient matrix, Final demand; Mathematical representation of the model; Solution for appropriate levels of output; The Hawkins-Simon condition; Uses in national economic planning and its limitations.	*CLO 4*
Unit 6	**Economic dynamics and Integral Calculus:** Dynamics and Integration; Indefinite and Definite Integrals; Improper Integrals; Economic Applications of Integrals – Marginal to Total, Consumer's Surplus, Producer's Surplus, Growth-Investment relationship;	*CLO 5*

Texts:

1. A. C. Chiang. Fundamental Methods of Mathematical Economics, McGraw-Hill, London: 1984
2. M. Hoy, J. Livernois, C. McKenna, R. Rees & T. Stengos. Mathematics for Economics, Prentice Hall of India, New Delhi: 2006.
3. Edward T. Dowling. Introduction to Mathematical Economics, McGraw-Hill, London: 1992.

References:

4. Simon, Carl P. and Lawrence Blume. Mathematics for Economists, Viva Books, 2010.
5. Sydsæter, K., & Hammond, P. J. (2008). *Essential mathematics for economic analysis*. Pearson Education.
6. Monga, G.S., Mathematics and Statistics for Economics, Vikas publishing House PVT LTD, 1975.
7. Allen, R G D, Mathematical Analysis for Economists, ELBS-McMillan, London, 1938

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*3*	*1*	*1*	*3*
CLO2	*3*	*2*	*3*	*1*	*1*	*3*
CLO3	*3*	*2*	*2*	*1*	*1*	*3*
CLO4	*3*	*1*	*1*	*1*	*1*	*3*
CLO 5	*3*	*1*	*3*	*1*	*1*	*3*

1: Low　　2: Medium　　3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical, and Mathematical exposition; Problems solving.	Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving.	As above
CLO 2	Verbal, graphical, and mathematical exposition; Problems solving.	As above
CLO 3	Verbal, graphical, and mathematical exposition; Problems solving.	As above
CLO 4	Verbal, graphical, and mathematical exposition; Problems solving.	
CLO 5	Verbal, graphical, and mathematical exposition; Problems solving.	As above

BNFQ Code: 0542-123,   Dept. Course Code: ECON 123

Course Title: Statistics for Economics-I   Credits: 3

Rationale of the Course/Course Description

This course covers elementary probability theory, discrete and continuous probability distribution, mathematical expectations, sampling method and sampling distribution. Other important distributions likechi-square, Student’s and the distributions with their Uses also will be covered.

Course Objectives

The aim of the course is to enable the students to appreciate the richness of Statistical Science and invite them to the probabilistic thinking.

Course Learning Outcomes (CLOs): Upon completion of the course student will be able to
CLO 1. Understand various types of distribution and their applications.
CLO 2. Understand various types of sample distributions and their applications in economics.
CLO 3. Learn how to design sampling for economic survey.
CLO 4. Capable to analyze various statistical tests.

Course content

Unit	Topic/Content Summary	CLOs
Unit 1	**Elementary Probability Theory:** Definition of probability; Conditional probability; independent and dependent events; mutually exclusive events; probability distributions; relation between population, sample mean and variance; Combinatorial analysis; Fundamental principle of permutations and combinations; approximation of n!	CLO 1,2
Unit 2	**Probability Distribution:** Binomial and Poisson Distributions and their properties and Uses. The Normal Probability Distribution - Concepts, Area under the Normal Curve, the Standard Normal Probability Distribution, Application of the Standard Normal. Normal Approximation to the Binomial Distribution, Central Limit Theorem.	CLO 1,2
Unit 3	**Mathematical Expectation:** Expected value; Properties of Expected Value; Variance; Properties of Variance; Covariance; Conditional Expectation; Conditional variance..	CLO 1,2
Unit 4	**Sampling Methods and Sample Survey:** Advantages of Sampling, Types of Sampling, Sampling Error, Non-Sampling Error, Objectives and Importance of Sample Survey, Definition of Population, Appropriateness of Data to be collected, Designing a Questionnaire, Choice of the Sampling Unit, Sample Size, Sample Design and Sample Selection, Internal and External Validity of Sample Selection.	CLO 1,2,3
Unit – 5	**Sampling Distribution:** Population and Sampling Distributions, Mean and Standard Deviation of , Sampling from a Normally Distributed Population, Sampling from a Non-Normal Population, Application of the Sampling Distribution of , Population and Sample Proportions, Mean, Standard Deviation and Shape of the Sampling Distribution, Application of the Sampling..	CLO 2,3
Unit – 6	**Other Important Distributions:** Definitions, Characteristics and Properties of chi-square, Student’s t and the F distributions with their Uses.	CLO 3,4

Text:

1. Anderson, Sweeney & Cochran, *Statistics for Business and Economics,*Cengage, 12th Ed.
2. Mann: *Introduction to Statistics.*
3. Myan and Miah: *Introduction to Statistics.*

References:

1. Allen Webster: *Applied Statistics for Business and Economics.*
2. S.P.Gupta: *Advanced Practical Statistics.*
3. Wonnacott and Wannacott: *Introduction to Statistics.*
4. MurryR.Spiegel: *Theory & Problems of Statistics.*

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-4)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	**Strategies**: Lecture, Discussion, Practice Exercise	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Lecture, Discussion, Practice Exercise	As above
CLO 3	**Strategies**: : Lecture, Discussion, Practice Exercise, Problems solving	As above
CLO4	**Strategies**: : Lecture, Discussion, Practice Exercise ,Problems solving	As above

BNFQ Code: 0311-124, Dept. Course Code: ECON 124

Course Title: Basics in Business and Accounting Credit: 3

Rationale of the Course

This course introduces student's different functions and purposes of business, marketing and management concepts and terminology. Students will obtain a broad understanding of the fundamentals of business organizations and operations. It is also an introduction to the accounting model and financial statements with emphasis on the concepts and terminology needed to understand a corporate report. Topics include conceptual framework for financial accounting; accounting equation, process: double-entry recoding process, the accounting cycle: journalizing, posting to the ledger, preparation of trial balance, special journals; preparation of work sheet, adjustments, closing entries, post-closing trial balance, reversing entries, preparing the financial statements.

Course Objectives

The primary objective of the course is to acquaint students with the basic principles of business including management and marketing in one segment. In another segment, it will introduce the accounting model and financial statements with basic accounting terminology needed to understand the corporate financial behavior.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Develop students understanding of the basic knowledge of business concepts;
CLO 2. Understand the types of business firm, entrepreneurship, franchising, CSR, business ethics, laws and international business;
CLO 3. Explain the principles of management and marketing;
CLO 4. Explain the conceptual framework for financial accounting
CLO 5. Underst and the accounting process, cycle and preparation of financial statements

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**The Business Enterprise:** Motives and function of business, Explain the goal of a business. Identify the key stakeholders that are involved in a business. Describe the business environment to which a firm is exposed. Describe the key types of business decisions. Forms of Business Ownership, Describe the advantages and disadvantages of a sole proprietorship, Partnership and corporation, Franchising,. Business ethics and social responsibility, Describe the responsibilities of firms to their customers, creditors, stake holders, environment, communities	*CLO 1* *&* *CLO 2*
Unit 2	**Management:** Fundamentals of Management: Definition, purpose and principles of management, management process, skills, Planning– meaning, nature, types, steps, Organization– nature, types and effectiveness of functional organization, , Staffing - meaning, nature, recruitment & selection, promotion, demotion, Directing— leadership & its types, sources of power, creativity & innovation. Motivation and Controlling – meaning, nature, types & principles.	*CLO 3*

Unit 3	**Marketing:** Developing the Marketing Mix: Product and Services Strategy, New Product Development and Product Life-Cycle Strategies , Marketing in the Changing World-- Creating Customer Value and Satisfaction, The marketing Environment, Developing Marketing Opportunities and Strategies -- Marketing Research and Information Systems, Consumer Markets and Consumer Buyer Behavior, Market Segmentation, Targeting and Positioning for Competitive Advantage.	*CLO 3*
Unit 4	**Introduction and Conceptual Framework for Financial Accounting:** Purpose and Nature of Accounting Information - Uses and Users of Accounting Information, Basic Objectives; GAAP, Basic Assumptions, Principles, and Constraints	*CLO 4*
Unit 5	**The Accounting Process and Cycle:** Double-Entry Recording Process: Accounting Equation - Effects of Transactions on the Accounting Equation, Steps of the Accounting Cycle - Identification and Recording of Transactions and Other Events - Journalization, Posting to the Ledger, Preparation of Trial Balance, Finalization of Accounts, Special Journals: Advantages of Special Journals, Cash Receipts Journal, Sales Journal, Purchases Journal, Cash Payments Journal, and General Journal, Adjustments.	*CLO 5*
Unit 6	**Financial Statements:** Income Statement - Importance of Income statement, Limitations of Income Statement, Preparation of Income Statement, Single-Step, Multiple Step, Balance Sheet , Usefulness of the Balance Sheet, Limitations of the Balance Sheet, Preparation of Balance Sheet.	*CLO 5*

Texts:

1. Philip Kotler & Gary Armstrong : Principles of Marketing; Latest edition.
2. Griffin, W. Ricky, "Management" Houghton Miffing Company. Latest edition.
3. Jerry J. Weygandth, Donald E. Kieso, and Paul D. Kimmel. Accounting Principles, 8th Edition, John Wiley and sons, 2006.Latest edition.

References:

4. Steven J. Skinner, Introduction to Business; Latest edition.
5. Hafizuddin, M., Basic Accounting, 6th Edition, The Engel Publications, 2002.Latest edition.
6. Needles & Anderson - Principles of Accounting; Latest edition.
7. Pyle & Larson - Fundamentals of Accounting Principles; Latest edition.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Teaching Learning Strategy with CLOs

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO1	**Strategies**: Verbal and graphical exposition; Problems solving	Quizzes, Homework Tutorials, Class Tests
CLO2	**Strategies**: Verbal, graphical and Problems solving	Quizzes, Homework Assignments Tutorials, Class Tests
CLO3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	Homework, Assignments Presentations Tutorials, Class Tests
CLO4	**Strategies**: Verbal and Problems solving	Homework Assignments Tutorials, Class Tests
CLO 5	**Strategies**: Verbal, mathematical exposition; and Problems solving	Homework Assignments

BNFQ Code: 0231-125,   Dept. Course Code: ECON 125

Course Title: Communicative English   Credits: 3

Rationale of the Course

This course will help learners to develop their essential language skills and make them academically and professionally well equipped. The course recognizes the increasing demand for practical English communication skills and thus develops the students' proficiency in listening, speaking, reading, and writing. The topics covered include basic grammar rules and sentence structure, creating various job-related documents, practicing speaking and listening for practical applications. It also makes sure that students are ready to take part in international discussions, academic pursuits, and career endeavors.

Course Objectives

This course introduce the four basic skills of communicative English – Reading, Writing, Speaking and Listening. This course aims to improve the participants' vocabulary and grammar understanding in order for them to communicate effectively. It helps students to communicate in the language in a variety of real-life circumstances with competence and confidence.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Identify the fundamental rules of grammar and word usage so they can talk or write simple sentences to communicate their views.

CLO 2. Understand the rules of writing brief yet purposeful paragraphs and apply said rules in their own writing.

CLO 3. Develop their academic English skills in order to comprehend articles in Economics textbooks and journals.

CLO 4. Develop their professional language skills needed for English proficiency tests.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	Tense, Article, Morals, Preposition.	*CLO 1, 3, 4*
Unit 2	Sentence structure.	*CLO 1*
Unit 3	Vocabulary building and Using Dictionary.	*CLO 2*
Unit 4	Paragraph writing	*CLO 2, 3, 4*
Unit 5	CV, Job Application, Employment letter writing	*CLO 3, 4*
Unit 6	Speaking in distinct context: everyday life, academic and business situation.	*CLO 4*
Unit 7	Interactions: free conversation, group discussion, debate, formal and information presentations, public speaking.	*CLO 4*
Unit 8	Nonverbal Communication: body language, eye contact and facial expression.	*CLO 4*
Unit 9	Listening for comprehension, Listening for specific information, Listening for zest and details, Listening for note seeking.	*CLO 4*

Texts:

1. Thomson, A. J. and A. V. Martinet. A Practical English Grammar.
2. Billa, Q. Mostain. Foundation English for Undergraduates.
3. Maniruzzaman, M. Basic English Language Skills.

References:

1. Lewis, N. How to Read Better and Faster.
2. Sharma, R.C. and Mohan, K. Business Correspondence and Report Writing.
3. A. Ashley. A Handbook of Commercial Correspondence.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*1*	*1*	*1*	*1*	*2*	*2*
CLO2	*1*	*1*	*1*	*2*	*2*	*2*
CLO3	*1*	*1*	*1*	*2*	*2*	*2*
CLO4	*1*	*1*	*1*	*2*	*2*	*2*

1: Low 2: Medium 3: High

Mapping Teaching learning and assessment strategy with CLOs

Week	Teaching Learning Strategy/Tools	Assessment Strategy/ In-Class Assessment
CLO 1	(i) Lecture, (ii) Discussion & Conversation, (iii) Presentation, (v) Group work	Mid-terms, quizzes, Role-playing
CLO 2	(i) Lecture, (ii) Discussion & Conversation, (iii) Presentation, (iv) Language Lab Practical (v) Group work	Mid-terms, quizzes, Role-playing and mock interviews

CLO 3	(i) Lecture, (ii) Discussion & Conversation, (iii) Presentation, (iv) Language Lab Practical (v) Group work	Mid-terms, quizzes, Role-playing and mock interviews
CLO 4	(i) Lecture, (ii) Discussion & Conversation, (iii) Presentation, (iv) Language Lab Practical (v) Group work	Mid-terms, quizzes, Role-playing and mock interviews

BNFQ Code: 0314-126,   Dept. Course Code: ECON 126
Course Title: Introduction to Sociology   Credits: 03

Rationale of the Course
This course is designed as a way of understanding the social world. It will provide students with the fundamentals of sociological knowledge. It intends to teach students core but basic topics of sociology including theories and methods, culture, society, social organization, social stratification, and social change. Above all, it provides students from the ECON with the skills to understand society's basic ideas and concepts from sociological points of view.
Course Objectives

Primary objective of the course is give basic sociological ideas and concepts including society, community, social process, culture, and social structure. The specific objectives are:

- Provide students with knowledge of the major theoretical approaches and methods of studying sociology.
- Help students gain knowledge on different social institutions including the family, marriage, kinship, and religion.
- Help students develop insight to address Social Inequality, stratification and social control.
- Provide students with basic knowledge on global environmental issues and population.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply the basic concepts of scarcity and opportunity cost.
CLO 2. Understand the determinants of demand and supply, and price elasticity.
CLO 3. Explain the theory of consumer behavior.
CLO 4. Explain the theory of the firm and producer behavior.
CLO 5. Understand market structures of perfect and imperfect competition.

Course Content

Unit	Topic/ Content Summary	CLOs
Unit 1	**Introduction to Sociology:** Definition, Nature, Scope, Origin & Development of Sociology.	CLO 1, 3
Unit 2	**Methods of studying Sociology:** Scientific Method & techniques for Sociological Investigation.	CLO 2, 3
Unit 3	**Basic Concepts and Social Processes:** Society, Community, Association, Institution, Group, Cooperation, Conformity, Competition, Conflict, Assimilation, and Accommodation.	CLO 1, 3, 4
Unit 4	**Culture:** Concept of culture, Components of culture, Cultural integration, Cultural variation, Multiculturalism and Cultural Pluralism.	CLO 1, 3, CLO 5
Unit 5	**Society and Social Structure:** Different Types of Human Societies: From Hunting Gathering to Industrialization.	CLO 1, 4

Unit 6	**Social Institutions**: Marriage, Family, Kinship, Religion,.	CLO 1, 5
Unit 7	**Social Inequality and Stratification**: Gender, Race and Economic Stratification, Social Mobility, Poverty. Concept and origin of Social Inequality	CLO 3, 5
Unit 8	**Social Change:** Factors & Theories.	CLO 4, 5
Unit 9	**Population & Environment:** Population Growth, Reproductive Health and Technology, Ecology, Ecosystem, Threats to Global Environment.	CLO 1, 5

Texts:

1. Bottomore, T. B. (1964). *Sociology: A Guide to Problems and Literature.* London: George Allen & Unwin, Ltd.
2. Henslin, J. M. (2004). *Sociology: a down-to-earth approach* (3rd ed.). NSW: Pearson Australia.
3. Giddens, A. (2009). *Sociology* (6th ed.). Cambridge: Polity Press.

References:

1. Inkles, A. (1964). *What Is Sociology? an Introduction to the Discipline and Profession* (7th ed.). Denvor: Prentice Hall.
2. MacIver, R. M., & Page, C. H. (1965) Society. London: Macmillan and Company, London
3. Robertson, I. (1997). *Sociology: A Brief Introduction.* New York: Worth Publishers, Inc.
4. Schaefer, R. T., & R.P. Lamm, R. P. (1997). Sociology: A Brief Introduction (2nd ed). New York: McGraw Hill.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Teaching-Learning Strategy with CLOs

CLOs	**Teaching-Learning Strategy**	**Assessment Strategy**
CLO 1	Lecture and Visual Presentation, Class Discussion	Class Participation, Assignment preparation and Presentation
CLO 2	Lecture and Visual Presentation, Class Discussion	Class Participation & Midterm, Assignment preparation and Presentation
CLO 3	Lecture and Visual Presentation, Class Discussion	Class Participation & Midterm, Assignment preparation and Presentation
CLO 4	Lecture and Visual Presentation, Class Discussion	Class Participation & Midterm, Assignment preparation and Presentation
CLO 5	Lecture and Visual Presentation, Class Discussion	Class Participation & Midterm, Assignment preparation

BNFQ Code: 0311-120, ***Dept. Course Code: ECON 120***
Course Title: Viva-Voce-I **Credits: 1.5**

Content:
An examination board will conduct the oral examination. The syllabus is not only the courses taken in a year but also the contemporary issues in economics. This course will test basic knowledge in economics and the ability to apply such knowledge to the address practical problems.

2nd Year 1st Semester

BNFQ Code: 0311-211, ***Dept. Course Code: ECON 211***
Course Title: Intermediate Microeconomics **Credits: 3**

Rationale of the Course
The course considers the way in which various decision-making units in the economy (individuals and firms) make their consumption and production decisions and how these decisions are coordinated. It considers the laws of supply and demand, and introduces the theory of the firm, and its components, production and cost theories and models of market structure. The various causes of market failure are assessed, and consideration is given to public policies designed to correct this market failure.

Course Objectives
This course is a study of the microeconomic theory with an emphasis on utilizing mathematical tools to analyze various economic issues, such as consumer behavior, revealed preferences and theory of production and cost. Topics also covers the theory of consumer choice, including applications to income-leisure choice and intertemporal consumption; isoquant theory of production; allocative efficiency.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Explain the theory of consumer behavior.
CLO 2. Examine consumer preferences for different competitive goods.
CLO 3. Explain the theory of the firm and producer behavior.
CLO 4. Discussed different market structures and competitive strategy.
CLO 5. Understand the sources of market power and Imperfect competition.

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**The Theory of Consumer Behavior:** ***A.*** Consumer Preferences, Assumptions about Preferences, Indifference Curves, Perfect Substitutes, Perfect Complements, Bads, Neutrals, Satiation Discrete Goods, Well-Behaved Preferences, The Marginal Rate of Substitution, Other Interpretations of the MRS, Behavior of the MRS, Implications of the MRS Condition, Cardinal Utility, constructing a Utility Function, Estimating Utility Functions, Some Examples of Utility Functions, Example: Indifference Curves from Utility, Perfect Substitutes, Perfect Complements, Quasi-linear Preferences, Cobb-Douglas Preferences, Concave Preferences, Marginal Utility, Marginal Utility and MRS, Utility for Commuting, *Cobb-Douglas Preferences, Optimal Choice.*	*CLO 1*
Unit 2	**The Theory of Consumer Behavior:** The theory of Revealed Preference - The Idea of Revealed Preference, From Revealed Preference to Preference, Recovering Preferences, The Weak Axiom of Revealed Preference (WARP), The Strong Axiom of Revealed Preference (SARP), Inverse Demand functions, Marshallian and Hicksian demand functions, , Slutsky's equation, The slutsky's equation and Intertemporal choice.	*CLO 2*
Unit 3	**Theory of Producers Behavior:** Short-run and Long-run Analysis of production and Cost function, Returns to Scale, Economies of Scope, Dynamic changes in cost –	*CLO 3*

	thelearning curve, Technological Progress and International Competition, Input demand functions,	
	Production Functions: Cobb-Douglas production function; Constant Elasticity of Substitution (CES) production function; Marginal productivities; Elasticity of Substitution; Degree of homogeneity and returns to scale; Euler's theorem and distribution. The Khun-Tucker conditions, Duality in production, Cost function from Cobb-Douglas technology, factor prices and cost functions.	*CLO 3*
Unit 4	**Market structure and competitive strategy:** Profit maximization and Perfect competition: Assumptions; short-run equilibrium – equilibrium of the firm, derivation of the supply curve of the firm and industry, equilibrium of the industry; Long-run equilibrium – equilibrium of the firm and industry; Optimal resource allocation,	*CLO 4*
Unit 5	**Market power and Imperfect competition:** Monopoly and Monopsony– Monopoly power, Source of monopoly power, equilibrium price and output in the short and long-run, derivation of supply curve, social cost of monopoly power.	*CLO 5*

Texts:

1. Varian, Hal R., Intermediate Microeconomics, 2nd Edition, Viva Books,2009.
2. Robert S. Pindyck, Daniel L. Rubinfeld and Prem L. Mehta; *Microeconomics.*

References:

1. Henderson, James M. and Richard E. Quandt: *Microeconomic Theory: AMathematical Approach,* 3rdEdition, McGraw Hill, 2003.
2. Salvatore, Dominick, *Microeconomics Theory and Applications,* 4thEdition, Oxford University Press, 2003.
3. Varian, Hal R., *Microeconomic Analysis,* 3rd Edition, Viva Books, 2009.
4. Koutsoyiannis, A., Modern Microeconomics.
5. Chauhan, S. P. S., *Microeconomics an Advanced Treatise,* PHI Learning,2009.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical and mathematical exposition; Problems solving	Q & As Quiz Homework Assignments

CLO 2	Graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0541-212,   Dept. Course Code: ECON 212
Course Title: Mathematical Economics-II   Credits: 3

Rationale of the Course
This course particularly emphasizes the application of mathematical tools such as differential equations and difference equations for explaining dynamic economic phenomena. The concept of time path, dynamic stability of equilibrium, and solving simultaneous dynamic Equations remain at the core of the course, which will be basically taught by way of graphical approach and mathematical exposition. A study of dynamic Input-Output model, Solow Growth Model, A market model with price Expectation, A market model with inventory, Samuelson Multiplier Acceleration Interaction Model, and the inflation unemployment model are also covered with mathematical application. In addition, the course was devised to provide a rudimentary introduction to linear programming. This course also gives a demonstration of mathematical package(s) in problems using a computer. The computer lab sessions will practice students the application of the software in finding mathematical solutions.

Course Objectives
The purpose of this course is to provide students with the necessary mathematical skills to pursue more advanced courses in economics. Economics applications are considered throughout the course although this course aims to teach mathematics rather than economics.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Develop an understanding of differential and difference equations techniques used in economic theory.
CLO 2. Critically analyze and evaluate economic models by using formal mathematical methods.
CLO 3. Apply simultaneous differential and difference equations techniques in analyzing dynamic economic phenomena.
CLO 4. Analyze the national economy in input-output framework.
CLO 5. Explain the time path and dynamic stability of equilibrium.
CLO 6. Learn the technique of optimization under inequality constraints.
CLO 7. Use mathematical software package(s) in solving rigorous mathematical problems easily.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Differential Equation:** What is Differential Equation? Classification of Differential Equation, *First-order Differential Equations:* First order linear differential equations with constant coefficient and constant term; Dynamics of market price; Variable coefficient and variable term; Exact differential equations; nonlinear differential equation of the first order and firstdegree; The Qualitative Graphic Approach; Solow Growth Model. *Higher Order Differential Equations:* Second-order Linear Differential Equations with Constant Coefficients and Constant term; Complex Numbers and Circular Function; Analysis of the Complex Root Case; A market model with price Expectation; The interaction of inflation and unemployment; Differential Equations with variable Term; Higher Order Linear Differential Equations; Economic applications.	*CLO 1,CLO 2, & CLO 5*
Unit 2	**- Difference Equation:** Definition and concepts of Difference Equation; Discrete time, Difference and Difference equations. *First-Order Difference Equations:* Solving a first-order difference equation; The Dynamic Stability of Equilibrium; The Cobweb Model; A market model with inventory; Non-Linear Difference Equations-The Qualitative Graphic Approach. *Higher-order Difference Equations:* Second-order linear difference equation with constant coefficients and constant term; Samuels on MultiplierAcceleration Interaction Model; Inflation and Unemployment in discrete time; Generalization to the variable-Termand Higher-Order Equations	*CLO 1, CLO 2, & CLO 5*
Unit 3	**Simultaneous Differential Equations and Difference Equations:** The genesis of dynamic systems; Solving simultaneous Dynamic Equations; Dynamic Input-Output Models; The inflationun employment model; Two variable phase Diagrams, Linearization of a Non-Linear Equation System, Economic Applications.	*CLO 2, CLO 3, CLO 4&CLO5*
Unit 4	**Linear Programming:** Distinction between classical and linear programming approach; Primal and dual; Their economic implications; solution by graphical and the simplex method.	*CLO 6*
Unit 5	Solving Rigorous mathematical problems	*CLO 7*

Texts:

1. A. C. Chiang. Fundamental Methods of Mathematical Economics, McGraw-Hill, London: 1984
2. M. Hoy, J. Livernois, C. McKenna, R. Rees & T. Stengos. Mathematics for Economics, Prentice Hall of India, New Delhi: 2006.
3. Edward T. Dowling. Introduction to Mathematical Economics, McGraw-Hill, London: 1992.

References:

1. T. Yamane. Mathematics for Economists: An Elementary Survey, Prentice Hall, New Delhi: 1973.
2. W. J. Baumol: Economic Theory and Operations Analysis, EEE-Series, Prentice Hall Publications.
3. W. J. Baumol: Economic Dynamics-An Introduction: The MacmillanCompany.
4. R. G. D.Allen: Mathematical Economics, St. Martini Press Inc.
5. Handerson & Quandt: Microeconomic Theory-A Mathematical Approach
6. M.D. Intriligatar ; Mathematical Optimization and Economic Theory, Prentice Hall
7. Mathematical User Guide.
8. Math Lab User Guide

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*3*	*2*	*1*	*3*
CLO2	*3*	*2*	*3*	*1*	*1*	*2*
CLO3	*3*	*2*	*3*	*1*	*1*	*3*
CLO4	*3*	*3*	*3*	*2*	*1*	*3*
CLO 5	*3*	*1*	*2*	*1*	*1*	*2*
CLO 6	*3*	*2*	*2*	*1*	*1*	*3*
CLO 7	*3*	*1*	*3*	*1*	*1*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical, and Mathematical exposition; Problems solving.	Q&Ans. Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving.	As above
CLO 3	Verbal, graphical, and mathematical exposition; Problems solving.	As above
CLO 4	Verbal, graphical, and mathematical exposition; Problems solving.	As above
CLO 5	Application of the software	As above

BNFQ Code: 0311-213, Dept. Course Code: ECON 213

Course Title: Agriculture and Rural Economics Credits: 3

Rationale of the Course

This course will give students an introduction to the economics of agriculture and rural livelihood. Topics covers the introduction of agriculture as an industry; economies of agricultural production; farm management; land economics; rural organization; agricultural credit and finance; agricultural law; agricultural marketing; agrarian reform; agricultural policy; agricultural prices; structure and scope of Bangladesh agricultural sector.

Course Objectives

The primary objective of the course is to introduce students to the fundamental concepts of agriculture, broad sector of agriculture and rural livelihood. This course emphasises the significance of agriculture in various economic sectors. This course also assists the student in comprehending the agricultural input supply; production; farm management; land economics; rural organization; agricultural credit and finance; agricultural marketing; agrarian reform and agricultural policy.

Course Learning Outcomes (CLOs):

Upon successful completion of the course the student will

CLO 1. Articulate the basic concepts and underlying principles of microeconomic theory in agriculture and rural economics.

CLO 2. Learn the scenario of technology diffusion, green revolution and rural livelihoods.

CLO 3. Explore the theories of land ownership, reforms, land use, exchange and welfare relating to rural structures and development problems in Bangladesh.

CLO 4. Learn the role of economists and the state in agricultural and rural development and reasons for labor forces migration from rural to urban areas.

CLO 5. Learn about agricultural financing, marketing and policies in Bangladesh.

Course Content

Unit	**Topic/Content Summary**	**Corresponding CLOs**
Unit 1	**Introduction:** i. The nature and scope of agricultural economics ii. Characteristics of Rural Sector –Types of farming iii. Farm business organization of agricultural production iv. Size of firm v. Peasant economy, subsistence and commercial farming-collective and capitalist farming.	*CLO 1*
Unit 2	**Technology Diffussion and Rural Livelihoods:** i. Green Revolution and agricultural growth-Technology diffusion-impact on Poverty scenario- Crop diversification. ii. Water market and labor market **iii.** Mechanization of Agriculture.	*CLO 2*
Unit 3	**Land and livelihoods:** i. Land ownership and tenurial structure- ii. Productivity and efficiency iii. Agroforestry system iv. land use system (farm size and productivity) – Landlessness and economic opportunity v. Land reforms: Tenancy Market	*CLO 3*
Unit 4	**Non-farm activities (NFA) and Rural institutions:** i. Todaro’s Migration theory-Causes of rural-Urban or Rural-Rural Migration ‘Push’ and ‘Pull’ factors – Growth of NFAs-Costs and Benefits ii. Lewis Model iii. Tenancy market-Credit market (with reference to the role formal and informal institution like, NGOs, Krishi Bank etc.)	*CLO 4*

Unit 5	**Agricultural Marketing:** i. Concept of Marketing margin and Marketed Surplus ii. Role of Middlemen Functions of agricultural-markets-Forced iii. commercialization hypothesis iv. Rise of super markets and changes in marketing chains.	*CLO 5*
Unit 6	**Agricultural Policies in Bangladesh:** i. National agricultural policy objectives ii. crop production, seeds, irrigation, fertilizer and pest management iii. Agriculture research, Price, Credit Subsidy and rural iv. development.	*CLO 5*

Text:

1. Drumond, H. Evan. *Agricultural Economics,* 2nd edition, Prentice Hall,2004.

References:

2. Penson, J.B., Capps, O., Rosson, C.P., and Woodward, R. T., *Introduction to Agricultural Economics,* 4th or 5th Edition, Pearson Prentice Hall,New Jersey, 2006.
3. Cramer, Gail L. *Agricultural Economics and Agribusiness,* 8th edition, John Wiley, 2001.
4. Milton Snoddgrass, Luther T. Wallace. *Agriculture, Economics and Resource Management,* Prentice-Hall 1980.
5. Ghatak and Ingersent - Agricultural and Economics Development.
6. Heady - Economics of Agricultural Production and Resource Use.
7. Colman and Young - Principles of Agricultural Economics.
8. T.W. Schultz - Economic Organization of Agriculture.
9. Darren Warriener - Land Reforms in Principle and Practice.
10. Mosharraf Hossain (ed.) - Agricultural Sector Review.
11. Elcher and Lawrence (eds.) - Agriculture in Economics Development.
12. K. A. Siddique, A Handbook on Agricultural Economics, Shahityo Kutir, Bogra, 1973.
13. Government of Bangladesh: Five Year Plans.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*1*	*3*	*3*	*2*	*1*	*3*
CLO2	*1*	*3*	*3*	*1*	*2*	*1*
CLO3	*3*	*3*	*3*	*3*	*3*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*3*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal, Discussion and Presentation	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, Discussion, case study and Field Visit	As above
CLO 3	Verbal, graphical and presentation	As above
CLO 4	Verbal, graphical, case study and presentation	As above
CLO 5	Verbal, discussion and presentation	As above
CLO 5	Verbal, discussion and presentation	As above

BNFQ Code: 0311-214,   Dept. Course Code: ECON 214
Course Title: Resource Economics   Credits: 3

Rationale of the Course
This course provides an introduction to the field of resource economics, focusing on the economic analysis of natural resources and their management. Students will explore the fundamental principles, theories, and tools used to understand the allocation, utilization, and sustainability of natural resources. Topics covered include resource scarcity, supply and demand dynamics, market structures, policy interventions, and the economic impact of resource extraction and consumption. The course emphasizes the evaluation of resource management policies and their implications for economic growth, environmental sustainability, and social welfare. Students will develop analytical skills to assess resource markets, model resource allocation, and analyze the economic consequences of resource management decisions. The course also highlights interdisciplinary perspectives, incorporating ecological, social, and ethical considerations in the study of resource economics.

Course Objectives
The primary objective of resource economics is to analyze and understand the allocation, utilization, and management of natural resources from an economic perspective. This field of study aims to examine the relationship between natural resources and economic systems, and to provide insights into the optimal utilization, conservation, and sustainability of resources.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Understand basic concepts and scope of natural resource economics;
CLO 2. Evaluate the economic impact of resource management policies;
CLO 3. Explore the relationship between natural resources and economic development;
CLO 4. Inform policy formulation and contribute to sustainable development goals;
CLO 5. Promote interdisciplinary research and collaboration.

Course contents mapped with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Concepts of Resources** Definition and classification, supply and demand for resources, market failure, non-market failure, externalities, opportunity cost and other cost, public (collective)goods, common property resources, materials balance model.	CLO 1
Unit 2	**Resource Allocation and Optimization** Static optimization, Dynamic optimization, Continuous-time problems, Discounting, optimal extraction of renewable and non-renewable resources.	CLO 2
Unit 3	**Renewable Resources** Growth and yield function, Optimal steady state and approach dynamics, Optimal investment strategy, Common property resource, Fishing as a search problem, Theory of resource regulation – Optimal forest rotation.	CLO 3
Unit 4	**Nonrenewable Resource** Depletion and Discovery, Competitive and monopoly mining industries, Exploration principle, Hotelling rule, Inverse demand function, Theory of optimal depletion, Security froman economic perspective, Resource Scarcity.	CLO 3
Unit 5	**Recyclable Resources** Efficient allocation of recyclable resources, Tax treatment of minerals, Product durability, Functional and fashion obsolescence, Economics of water resources, Policies to promote recycling.	CLO 4
Unit 6	**Valuing the Environment** Total economic value, Overview of Valuation Techniques, Revealed preference methods, Stated preference methods.	CLO 4
Unit 7	**Unit 7- Contemporary Issues in Resource Managements** Global energy politics and Bangladesh, Irreversible development, Tragedy of commons, Depletion of water in world and Bangladesh.	CLO 5

Texts

1. Field, B. C. & Field, M. K. (2016) Environmental Economics: An Introduction,(7th ed.) McGraw-Hill Education.
2. Harris, Jonathan M. and Roach, Brian. (2018) Environmental and Natural Resource Economics A Contemporary Approach, (4th Ed.) Routledge.

References:

3. Field, B. C., (2008). Natural Resource Economics: An Introduction, (2nd Ed.)Waveland Press, Inc.
4. Perman, R. Ma, Y., Mcgilvray, J. & Common M., (1999). Natural Resources and Environmental Economics, (2nd Ed.), Prentice Hall.
5. Titenberg, T., (2012) Environment and Natural Resource Economics, (9th Ed.)Pearson Education, Inc.
6. Anderson, D. A. (2010). Environmental Economics and Natural Resource Management. (3rd Ed.). Routledge, New-York.
7. Pearce, D. and Turner, R. K., (1990) Economics of Natural Resources and the Environment, Harvester Wheatsheaf, London.
8. Fisher, A. C., Resource and Environmental Economics, Cambridge UniversityPress.
9. Freeman, A. M., The Measurement of Environment and Resource Values, 3rd Ed., Washington, D.C., 1999.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO1	2	3	2	2	1	2
CLO2	3	2	2	3	1	2
CLO3	2	3	3	3	2	3
CLO4	1	3	2	3	2	3
CLO 5	1	3	3	2	2	3

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q&Ans. Quizzes Homework/Assignments Presentations Tutorials/Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-215, Dept. Course Code: ECON 215

Course Code:0311 ECON 215 Course Title: Money and Banking Credits :3

Rationale of the Course

Money and Banking concerns everyone in personal and business life. This Course will find answers of; Who creates and controls money in the economy? What role do banks play in the process of money creation? Who regulates banks and why? What are the new trends, challenges and opportunities facing banks? Between money and credit, which play bigger role in real economy? How are the members of this class concerned with money and banking? What role do they foresee for themselves in this domain?

Course Objectives

The aim of this course is to:

- Offer fundamentals of modern monetary economics, monetary policy, and explanation of inflation.
- Enable the students to understand how the monetary policy works under different economic conditions.
- Link among monetary policy, money, inflation, trade etc.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Be able to demonstrate an understanding of the functions of money and the financial system..

CLO 2. Understand the main determinants of interest rates in the bond and money market;

CLO 3. Understand the importance of asymmetric information problems and the use of regulation.
CLO 4. Examine models to explore the causes and consequences of monetary policy decisions.
CLO 5. Understand how central banks conduct monetary policy.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Money Market:** Definition of money; Evolutions of money; Functions of money; Importance of money and kinds of money; money and capital markets	*CLO 1*
Unit 2	**Capital Markets:** Surplus and deficits; Short-term security markets; Functions of short-term capital markets; Long-term markets; Valuation in long-term capital market; Financial Deepening and Security market; The stock exchange; Government policies; privatization and the capital market in Bangladesh.	*CLO 2*
Unit 3	**Concepts of Banking:** Emergence of Banking; Definition of different monetary and banking instruments and terms; Classifications of according to structure; Unit banking and branch banking, Chain banking; group banking; Mixed banking.	*CLO 2*
Unit 4	**Commercial Banking:** Growth, Objectives, principles, functions, Balance sheet and portfolios of commercial banks; Monetary base, Reserve base; Multiplier expansion of credit with leakage & without leakage; the money multiplier; Islamic baking – profit & loss sharing (PLS) system. **Central Banking :**Growth, Objectives, principles, powers, functions and role of central bank; Monetary policy; Role of a central bank in maintaining internal and external balance. **Specialized Banking:** Objectives and functions of selected specialized banks in Bangladesh; Bangladesh Development Bank (BDBL), Bangladesh Shilpa Rin Sangstha (BSRS), Grameen Bank, Bangladesh Krishi Bank, Investment Corporation of Bangladesh.	*CLO 3*
Unit 5	**E-Banking:** General Overview of E-banking and history of E-banking, Importance of E-banking, human involvement and E-banking, E-banking technologies- personal computer banking, Telephone banking, branch networking, E-banking technologies/ electronic delivery channels- ATM, electronic cards, mobile phone banking, E-zwich, Web strategy, Problematic issues in e-banking and e-commerce, E-banking and risk management.	*CLO 4*
Unit 6	**Comparative Banking System in Selected Countries:** UK, USA, Japan and Bangladesh.	*CLO 4*
Unit 7	**International Financial Institutions:** The structure of International Banking; The international money and capital markets; Role of International monetary institutions, IMF, World Bank, IDB; Towards a New International Monetary System; International Monetary Development in the last decades; Monetary unions, The systems of Reserve Assets; Eurodollars and its characters.	*CLO 5*

Texts:

1. Peter S. Rose & M. H. Marquis, Money and Capital Markets, McGraw Hill Irwin, 2006.
2. Frederic S. Mishkin. The Economics of Money, Banking, and Financial Markets, Harper Collins College Publications, 1995.

References:

1. Fabozzi, Frank J., F. Modigliani, F.J. Jones and M.G. Ferri, *Foundation of Financial Markets and Institutions*, Pearson, 2009.
2. Miller, R. L. and Pulsinelli, R. W. Modern Money and Banking, McGraw-Hill, Singapore, 1985.
3. David R. Kamerschen. Money and Banking, South-Western Pub. Co., 1992.
4. Dadley G. Luckett: Money and Banking.
5. M. P. Vaish: Money Theory
6. S.N. Sen: Central Banking in under developed Money Market
7. W.A. Shaw: Theory and Principles of Central Banking.
8. Meyer: Monetary Economics and Financial Markets

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*2*	*1*	*2*	*2*
CLO2	*3*	*3*	*1*	*2*	*2*	*2*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*2*	*2*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0611-216, ***Dept. Course Code: ECON 216***

Course Title: Math Lab **Credits: 1.5**

Rationale of the Course/Course Description

This course will equip student with the concepts and applications of selected topics in mathematic. In addition, students will gain an understanding of using specialized mathematics and mathematical packages such as Matlab, Mathematica etc. As demonstration of their learning, students will be encouraged to solve rigorous mathematical problems.

Course Objectives

The aim of this course is to enable the student to use the mathematics and mathematical packages to solve various problems of academic scenarios.

Course Learning Outcomes (CLOs): At the end of the course the student should be able to:

CLO 1. Apply the software to calculate basic mathematics;
CLO 2. Draw to dimensional graphs;
CLO 3. Solve equations/system of equations;
CLO 4. Solve the difference and differential equations;
CLO 5. Solve the matrix algebra.

Course content

Unit	Topic/Content Summary	CLOs
Unit 1	**Basic Concepts:** 1.1 Characters, Constants and Variables. 1.2 Build-In Functions. 1.3 Basic Arithmetic Operations. 1.4 Sum and Product. 1.5 Loops. 1.6 Conditional Expression. 1.7 Miscellaneous.	CLO 1
Unit 2	**Two Dimensional Graphics:**2.1 Introductions to Graphing. 2.2 Plotting Functions of a Single Variable. 2.3 Redrawing and Combining Plot. 2.4 Additional Graphics Commands.	CLO 2
Unit 3	**Equations:** 3.1 Solving Algebraic Equations. 3.2 Solving Transcendental Equations.	CLO 3
Unit 4	**Calculus:** 4.1 Limit of Functions. 4.2 Derivatives 4.3 Partial Derivatives. 4.4 Maximum and Minimum Values. 4.5Antiderivatives. 4.6 Definite Integrals. 4.7 Multiple Integrals.	CLO 3,4
Unit 5	**Ordinary Differential Equations:** 5.1 Analytical Solutions. 5.2Numerical Solutions.	CLO 4
Unit 6	**Linear Algebra:** 6.1 Matrix and Their Types. 6.2 Matrix Operations (Addition, Subtraction, Multiplication). 6.3 Linear Systems of Equations.	CLO 5

Course Learning Outcomes (CLOs) and Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*3*	*2*	*3*
CLO2	*1*	*2*	*1*	*2*	*2*	*3*
CLO3	*1*	*2*	*3*	*2*	*2*	*3*
CLO4	*2*	*2*	*3*	*2*	*2*	*3*
CLO 5	*1*	*2*	*1*	*2*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy/Tools**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Lecture, Discussion, Practical Exercise, Presentation and Interpretation. Computer Application	**Assignment, Discussions, Other**
CLO 2	As above	As above
CLO 3	As above	As above
CLO 3	As above	As above
CLO 4	As above	As above
CLO 5	As above	As above

2nd Year 2nd Semester

BNFQ Code: 0311-221,   Dept. Course Code: ECON 221

Course Title: Intermediate Macroeconomics   Credits: 3

Rationale of the Course

This course presents models of classical, Keynesian and modern macroeconomics. Topics includes product market and money market with IS-LM model with effects of monetary and fiscal policies. It covers modern macroeconomics models of consumption, investment and aggregate demand almost in closed economy. It also covers interaction of product and labor markets along with changes in equilibrium.

Course Objectives

This course aims to familiarize students with growth determinants emphasizing systematically on product, money and labor markets. The students will be equipped with simultaneous equilibrium and mechanism of economic expansion along with changing effect of monetary and fiscal policy tools.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Understand product, money and labor markets and their systematic interactions;
CLO 2. Appraise critically the impact of fiscal and monetary policies on economic growth
CLO 3. Analyze issues underlying contemporary macroeconomic policy debates in Bangladesh

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Review of Macroeconomics** GNP, GDP and economic growth Macroeconomic indicators	CLO 1
Unit 2	**Classical View of Macroeconomics** Pillars of Classical Macroeconomics; Labour Market- wage flexibility; Product Market equality, Say's Law;	CLO 1
Unit 3	**Keynesian view and subsequent thoughts:** Keynes' criticism of the classical view. Keynesian theory of income and employment determination Money Market – Motives for holding money, Monetarists – Quantity theory of money, Fiscalists vs New Classical views	CLO 1
Unit 4	**Demand Side Equilibrium:** Aggregate Demand, Investment Demand curve, Deriving the AD Curve, Multipliers and the AD, Product market and the IS curve, Money Market, LM curve and the Liquidity trap, Equilibrium in IS – LM model	CLO 1, 2
Unit 5	**An Introduction to Monetary and Fiscal Policy:** Fiscal Policy effects on demand in four quadrant diagram. Monetary Policy effects on demand in four quadrant diagram. Monetary and Fiscal Policy in IS – LM model, Interaction of Fiscal & Monetary policies	CLO 2
Unit 6	**Monetary, Fiscal, and Income Policy:** Monetary and Fiscal Policy in the Static Model. Fiscal and Monetary Multipliers in the Static Model. Multipliers and Effectiveness of Aggregate Demand. Excess Demand and income growth,	CLO 2,3
Unit 7	**Consumption hypothesis:** Absolute income hypothesis; Relative income hypothesis; Permanent income hypothesis, Life cycle hypothesis.	CLO 2

Unit 8	**Supply-side equilibrium** Simple depression model, labor market, Aggregate demand for labor, Supply of labor, Equilibrium in labor market, Expectation and Supply of labor, Aggregate supply of labor in the short and long run, Determining equilibrium output, employment, rate of interest and price level	CLO 1, 2

Texts:
1. William H. Branson. Macroeconomic Theory and Policy, Harper & Row, 1989.

References:

1. R. Dornbusch, S. Fisher, and S. Richard. Macroeconomics, McGraw-Hill, 2000.
2. Agarwal, Vainta, *Macroeconomics*- Theory and Polity, Pearson, 2010.
3. Mankiw, N. G., *Macroeconomics*, Cengeng, 2009.
4. Samuelson, Paul and William D. Nordhaus, *Macroeconomics,* 19th Edition, Mc Graw Hill, 2012.
5. G. Ackley: *Macroeconomics Theory and Policy*, International Edition, Collier and McMillan, 1986.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*2*	*3*	*1*	*3*	*2*	*2*
CLO2	*3*	*3*	*1*	*3*	*1*	*2*
CLO 3	*3*	*2*	*1*	*3*	*2*	*2*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quiz Homework Assignments
CLO 2	Graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-222,   Dept. Course Code: ECON 222
Course Title: Public Economics   Credits: 3

Rationale of the Course
This course provides a basis for the economic analysis of public policy issues. It analyses the role of public sector in the economy, its functions, management techniques, taxation, and the efficiency of the resources usage. The focus of the course is on the main parts of public finance – taxation and spending. Issues related to the role of the state, public choice and fiscal federalism are also examined. The course develops an analytical framework for the evaluation of public policy. The prerequisites of the course are intermediate microeconomics and macroeconomics, calculus.

Course Objectives
This course investigates the role of the public sector in the economic arena. This course attempt to explain why government intervention is needed, how it influences the behavior of the private sector and what the welfare effects of such influences are. Topics covered may include welfare economics, market failures, innovation policy, and political economy. Students are expected to discuss different questions, related to the public sector, and solve problems.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to,
CLO 1. Explain the economic rationale for the existence of the state.
CLO 2. Explain the sources of market failure, potential policy responses and strengths and weakness of the government in addressing market failure.
CLO 3 Describe the major items of Bangladesh Government revenue and expenditure.
CLO 4 Understand key concepts characterizing types, properties, and effects of taxes and publicly provided goods.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction:** Definition of private and Public Economics, Emergence of Public Economics as a separate branch of Economics, Scope and limitations of Public Finance, Economic functions of the Government, Tools of the Government to achieve its objectives, Market failure and Rationale for Government intervention, Income distribution and Merit goods.	CLO 1
Unit 2	**Theory of Public Goods:** Definition and classification of public goods, The nature of Market failure in the presence of public goods, public goods and Government intervention, Demand for public goods, The Free rider phenomenon.	CLO 2
Unit 3	**Theory of Externalities:** Definition and classification of Externalities, Market failure and Government intervention, The Coase Theorem, Tragedy of the Commons	CLO 2
Unit 4	**Structure of Local Govt.:** Intergovernmental fiscal relation- Local government Finance-decentralization theorem. The Tiebout hypothesis, Local government revenues and expenditure and central government grants. Definition and features of Bureaucracy, Bureaucratic theories.	CLO 3
Unit 5	**Public Expenditure:** Major heads of public expenditure, Theories of public expenditure, effects of public expenditure, income distribution, Definition and characteristics of PEM.	CLO 3
Unit 6	**Budget:** Different concept of Budget, Cost-Benefit analysis, Unified or multiple budget process- preparation.	CLO 4
Unit 7	**Taxation:**	CLO 4

	Different sources of revenue, Classification of taxes, Requirements of a good tax system-,Canons of taxes, Horizontal and Vertical utility, Taxation and Deadweight loss, Tax evasion and Tax avoidance, Principles of taxation, Tax incidence, market structure and elasticities of demand and supply, Tax incidence and General Equilibrium, Direct and Indirect taxes, Personal income tax, Corporate income tax, Sales and Value added tax, Effect of taxes on labour , Trade off between leisure and income, Income and substitution effects.	

Texts:

1. Jonathan Gruber. Public Finance and Public Policy (5th Edition), New York: Worth Publishers, 2016
2. Harvey S. Rosen. Public Finance (seventh ed.), McGraw-Hill, 2005 (b) References:

References:

1. Bhatia H. L.: Public Finance, 27th Ed. Vikas Publishing House Pvt. Ltd., 2010.
2. Edward K. Browning and Jacquelene M. Browning: Public Finance and the Price System, (fourth ed.), Macmillan Publishing Company, 1994
3. J. Stigltz: Economics of Public Sector, 3rd Edition, William Norton, 2002
4. Herber, Bernard P., Modern Public Finance, 6th Edition, Richard D Irwin Inc. 1998.
5. Ganguly, S., Public Finance – A Normative Approach, Nababharat Publishers, 1989.
6. Musgrave, R. A. and P. B. Musgrave: Public Finance in Theory and Practice, 6th Edition, McGraw Hill, 2004.
7. M. Veseth: Public Finance, Reston Publishing Company, 2nd edition, 1990.
8. J. R. Aronson: Public Finance, McGraw Hill, 1985.
9. M. I. Hossain: Sarkari Arthababostha (in Bengali), 2nd edition, Aligarh Liabrary, Dhaka, 1987
10. Due and Friedlander: Government Finance-Economics of Public Sector.
11. Kamal Siddiqui: Local Government in Bangladesh, 3rd Edition, The University Press Limited.

Mapping Course Learning Outcome(CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*1*	*2*	*2*
CLO2	*3*	*3*	*2*	*3*	*2*	*2*
CLO3	*3*	*2*	*3*	*2*	*2*	*2*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	Teaching learning strategy	Assessment strategy/ In class assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO 2	Verbal, graphical and Problems solving	Q & AS Quiz Homework Assignments

CLO 3	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO4	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments

BNFQ Code: 0542-223,   Dept. Course Code: ECON 223
Course Title: Statistics for Economics-II   Credits: 3

Rationale of the Course
This course extends towards the hypothesis testing and interval estimation to differences between means and proportions and to population variances. Covers tests of goodness of fit and independence, experimental design and analysis of variance, simple and multiple regression analysis and forecasting, and nonparametric methods.

Course Objectives
The objective of this course is to provide an understanding for the economics student on statistical concepts to include measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting.

Course Learning Outcomes (CLOs)
CLO 1. How to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
CLO 2. How to apply discrete and continuous probability distributions to various economic theory problems.
CLO 3. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
CLO 4. Learn non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.
CLO 5. Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis, for forecasting and also perform ANOVA and F-test.
CLO 6. To facilitate an understanding of the main branches of basic statistical inference, and to develop the ability to use statistical techniques to analyze data and assess the accuracy of the resulting estimates and conclusions.

Course Content:

Unit	Topic/ Content Summary	Corresponding CLOs
Unit 1	**Statistical Estimation Theory:** Introduction statistical Estimation and properties of a statistical estimator, Unbiased and Biased Estimator, Efficient and Inefficient Estimator, Point and Interval Estimators, Small Sample Properties, Confidence Intervals, Construction of confidence intervals.	CLO 1
Unit 2	**Hypothesis Testing:** Introduction, Procedure of Testing Hypotheses, One-Tail and Two Tail Testing; Type I and Type II Errors, Testing Hypothesis about the Population Mean and about between Two Means. Statistical Decision, Statistical Hypothesis, Null Hypothesis Alternate Hypothesis, Tests of Hypothesis & Significance, Types of Error, Level of significance, Tails of A Test; Large Sample: Characteristics of Standard Score (z) Tests of Hypothesis Concerning Large Samples	CLO 2

	Test of Hypothesis about Population Mean, Difference Between Two Means, Population Proportion & difference Two Proportions. Chi-Square Test: Characteristics of X2 Distribution, Goodness of Fit Test, Test of Independence. T-distributions.	
Unit 3	**Non-Parametric Statistics:** Introduction, Advantages of Non-Parametric Tests, Limitations, Sign Test, Run Test, Wilcoxon Matched Pairs Signed Ranks Test, The Fisher Exact Probability Test, The Median Test, Other No-Parametric Tests.	CLO 2
Unit 4A	**Analysis of Variance:** Introduction, Assumptions in ANOVA, The F Distribution, one-way Classification Model, Two-way Classification Model.	CLO 3
Unit 4B	Relationship between Confidence Interval Procedures and Tests of Hypothesis, Classical vs. Bayesian Methods of Statistics and Their uses in Economics.	CLO 3
Unit 5	**Regression Analysis:**	CLO 4, 5
Unit 6	**Introduction to Time Series Analysis:** Characteristics movements of time series; Classification and estimation of time series movements – trend, seasonal variations, cyclical variations, irregular variations.	CLO 5, 6

Texts:

1. Mann: Introduction to Statistics.
2. S. P. Gupta: Advanced Practical Statistics.

References:

1. Allen Webster: Applied Statistics for Business and Economics.
2. Murry R. Spiegel: Theory & Problems of Statistics.
3. Myan and Miah: Introduction to Statistics.
4. Wonnacott and Wannacott: Introduction to Statistics.
5. Lind & Mason: Statistical Techniques in Business and Economics.
6. Paul Newbald: Statistics for Business and Economics, Prentice Hall.
7. Freund, J.E., Ronald, E. Walpole: Mathematical Statistics, Prentice Hall.
8. A.M. Mood, F. A. Graybill, and D.C. Boes: Introduction to the Theory of Statistics, McGraw-Hill.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*2*	*1*	*1*	*2*	*3*	*3*
CLO2	*1*	*3*	*3*	*2*	*3*	*3*
CLO3	*2*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*2*	*2*	*2*	*2*	*3*
CLO 5	*1*	*1*	*3*	*1*	*2*	*3*
CLO6	*3*	*3*	*2*	*3*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy:

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests Final Examination
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-224,   Dept. Course Code: ECON 224
Course Title: Bangladesh Economy   Credits: 3

Rationale of the Course

This course offers the understanding of socio-economic features and studies of the macro-economic performance of the economy of Bangladesh within the context of socio-political reality; sectoral development and analysis of the sectors in a general equilibrium framework; agriculture, industry, foreign trade and foreign aid in Bangladesh; financial institutions and monetary management as well as fiscal policy in Bangladesh; technology, human resource development and the long term performance of Bangladesh.

Course Objectives

The course aims to provide students with a comprehensive understanding Bangladesh's economy, including its main sectors, trade and investment patterns, development challenges, and socio-economic indicators. This may also involve exploring strategies for sustainable development and poverty alleviation.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO: 1.Learn about the structure of Bangladesh economy with policy relevance;
CLO: 2. Understand the nature of the improvement of Bangladesh economy over time and the process of economic development;
CLO: 3. Capable of analyzing the economic policy issues and their impacts.
CLO: 4. Critically evaluate various development planning in Bangladesh.

Course contents mapped with CLOs

Unit	Topic/ Content Summary	Corresponding CLOs
Unit 1	**Introduction: Bangladesh Economy Achievements and Impediments** Socio-economic indicators of Bangladesh, Macroeconomic scenario of Bangladesh economy, Growth and Structural Change: An Overview, Growth and structure of output, Demographic transition, Change in the structure of employment, Major impediments and their measures.	CLO 1
Unit 2	**Strategy for Agricultural Development** Objectives; Growth of output; Employment opportunities and Income distribution; Methods of Attaining the objectives; Cropping Pattern – HYV technologies; Institutional reforms; Food production and Food Security issues.	CLO 2
Unit 3	**Industrial Development and Policy** Experiences with Nationalization, De-nationalization and Privatization, Problems of industrializations; Export led and import-substitution industrializations; Problems and Prospects of public and private sector industries; Export Processing Zones (EPZs) and Special Economic Zones (SEZs); The Liberalization Regime, Foreign Exchange Regimes and Industrial Growth, Investment Trend, and Foreign Direct Investment (FDI); Role of Public and Private Sectors.	CLO 2
Unit 4	**Human Resource Development** Population Policy; Human Resource Development through Education and training; Poverty alleviation and employment generation; Export of manpower.	CLO 3
Unit 5	**Bangladesh and the World Economy** *Foreign Trade:* Composition of Export and Import, Trade after 2005, Regional Trade, India Bangladesh trade, WTO and Bangladesh. *Self-Reliance and Aid Dependence:* Role of Foreign Aid, Concept of Self-Reliance and Reality, Structural Adjustment Policies and Self-Reliance.	CLO 3
Unit 6	**Economic Policy and Development** Monetary and Fiscal Policies; Trade Policies; Exchange Rate Policies; Money Laundering and Corruption; Good governance.	CLO 4

Unit 7	**Planning and Development** Experiences of Development Planning in Bangladesh: The First Five Year Plan 1973 – 78; The two Year Plan1978 – 90; The Fifth Five Year Plan 1997 – 2002; Poverty Reduction Strategy Papers (PRSP); Most recent Five Year Plan.	CLO 4

Texts

1. Khan, Azizur Rahman. (2015). The Economy of Bangladesh: A Quarter Century of Development, 1st Ed., Palgrave Macmillan.
2. Barai,Munim Kumar, (2020) Bangladesh's Economic and Social Progress: From a Basket Case to a Development Model, 2nd Ed., Palgrave Macmillan.

References

1. M Shamsul Kabir Khan and Dr. Daulatunnaher Khanam, Bangladesh Studies.
2. Khan, Azizul I. and Mahabub Hossain, Strategy of Development in Bangladesh.
3. Muhammad Ruhul Amin: Bangladesh Revisited: A comprehensive Study of an Asian nation.
4. Faland and Parkinson, Bangladesh: A Test Case of Development.
5. Different Reviews published by the Centre for Policy Dialogue.
6. Statistical Yearbooks and bulletins published by Bangladesh Bureau of Statistics.
7. Five Year Plan Documents, Government of Bangladesh.
8. Annual Economic Reviews, Government of Bangladesh.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO1	1	2	3	2	1	1
CLO2	1	1	2	2	1	1
CLO3	2	1	3	2	1	3
CLO4	1	2	1	4	2	3

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	Teaching Learning Strategy/Tools	Assessment Strategy/ In-Class Assessment
CLO 1	**Strategies**: Verbal and graphical exposition; Problems solving **Tools**: Books; Handouts; Multimedia; Online resources	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
CLO 4	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above

BNFQ Code: 0311-225,   Dept. Course Code: ECON 225
Course Title: Environmental Economics; Credits: 3

Rationale of the Course

The protection and sustainable management of the natural environment is an area of growing concern across the globe. It is widely recognized that most environmental problems, whether small-scale or global, are the result of a complex interaction of natural processes with economic forces and decisions. The course examines the continuing conflict between market forces and environmental integrity and explains how economic theory views their relationship between economic activity and the natural world. Examples of local, regional, national, and international issues are presented and discussed.

Course Objectives

The course will give students an opportunity to develop a critical understanding of the different ways in which economic decisions, market forces, and government policies can affect environment. After completing the course students will be able to explain how the economy and the environment interact, understand the conflict between market forces and environmental integrity, develop critical understanding of different ways in which economic decisions, market forces and government policies can affect environment.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply the basic concepts of economy and environment and market failure.
CLO 2. Understand the ecosystem condition and economics pollution.
CLO 3. Explain overall term of pollution control and economic incentives for environmental protection.
CLO 4. Explain the concept of valuing the environment.
CLO 5. Understand concept of environmental input-output modeling.

Course Contents

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**The Economy and Environment** i. Inter-linkages between the economy and environment ii. Laws of Thermodynamics iii. Role of Government	*CLO 1*
Unit 2	**Market Failure** i. Incomplete Markets ii. Externalities iii. Risk Markets iv. Future Markets v. Non- exclusion and the commons vi. Non-rivalry and Public goods vii. Non-convexities, Asymmetric Information	*CLO 1*
Unit 3	**Ecosystem and Ecosystem Condition**: i. Concepts and nature	*CLO 2*
Unit 4	**Economics Pollution** i. Pollution flows	

	ii. Pollution Stocks and Pollution Damage iii. Optimal Pollution and Efficient Pollution iv. Steady State Analysis v. A simple static model of pollution vi. A dynamic model of pollution vii. Air and Water pollution	*CLO 2*
Unit 5	**Pollution Control** i. Criteria for choice of Pollution control instruments ii. Cost efficiency and Cost-effective pollution iii. Economic incentive instruments iv. Instruments for conserving biodiversity	*CLO 3*
Unit 6	**Economic Incentives for Environmental Protection** i. Price rationing- Charges and Subsidies ii. Liability Rules iii. Non- compliance fees iv. Bonds and Deposit Refunds v. Quantity rationing- Marketable Permits; Evaluative Criteria vi. Practical conditions for use of economic incentives vii. Environmental Management	*CLO 3*
Unit 7	**Valuing the Environment** i. Dimensions of Value ii. Environmental Valuation Techniques iii. Ethics and Social choice iv. Measuring values and benefits v. Measuring welfare changes vi. Indirect Measurement vii. Major steps in CBA viii. Irreversibility ix. Risk and Uncertainty	*CLO 4*
Unit 8	**Environmental Input-Output Modeling** i. Environmental input-output analysis ii. Costs and prices iii. Computable General Equilibrium models	*CLO 5*

Texts

1. Field, B. C., Environmental Economics: An Introduction, 2nd Ed. Waveland Press, Inc., 2008
2. Tom Tietenberg., Environmental Economics and Policy, 4th ed., 2004. Chapters 1,2,4,5.

References

1. Thomas, Janet M, Scott J. Callan, Environmental Economics, 1st Edition, South-Western Cengage Learning, 2007.
2. Charles D. Kolstad; Environmental Economics
3. N. Hanley, J. F. Shogren and B. White: Environmental Economics in Theory and Practice, Palgrave, Macmillan, 1997
4. R. Perman, Yue Ma, J. Mcgilvray, and M. Common: Natural Resources and Environmental Economics, Second Edition, Prentice Hall, 1999.
5. J. Bojo, K.-GoranMaler and L. Unema: Environment and Development: An Economic Approach, Second Revised Edition, Kluwer Academic Publishers, 1992
6. Ulaganathan Sarkar (ed.) Environmental Economics, Oxford University Press, 2001.
7. M. Freeman: The Measurement of Environment and Resource Values, Third Edition, Washington, D.C., 1999.

8. Per-olov Johansson: Cost- Benefit Analysis of Environmental Change, Cambridge University Press, 1996

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Field Level Problems solving/Field Visit	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0542-226, ***Dept. Course Code: ECON 226***

Course Title: Statistics Lab **Credit: 1.5**

Rationale of the Course

This course provides an application-oriented introduction to the statistical components of SPSS Statistics and EViews software . Students will review several statistical techniques and discuss situations in which they would use each technique, how to set up the analysis, as well as how to interpret the results. This includes a broad range of techniques for exploring and summarizing data, as well as investigating and testing relationships. Students will gain an understanding of when and why to use these various techniques as well as how to apply them with confidence, interpret their output, and graphically display the results.

Course Objectives

The primary objective of this course is to learn basic data analysis with SPSS and EViews . Students'll learn how to enter data, define variables, and perform variable manipulation and transformation. After creating the data set, students will learn how to use SPSS and EViews to analyze the data.

Specifically, students access to general statistical analysis and econometric analyses, such as cross-section and panel data analysis and time series estimation and forecasting. SPSS and EViews combines spreadsheet and relational database technology with the traditional tasks found in statistical software.

Course Learning Outcomes (CLOs)
CLO 1. Define the scope and the subject matter of SPSS and EViews.
CLO 2. Introduction to statistical analysis.
CLO 3. Test hypotheses about individual variables.
CLO 4. Test the relationship between categorical variables and scale variables.
CLO 5. Test on the difference between two group means and more than two group means.
CLO 6. To estimate linear equations and systems of linear equations models of time series data with various methods.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	What is Data and Types of Data 1. Introduction of SPSS and Excel	*CLO 1,2*
Unit 2	2. Data input in SPSS and Excel, Input Data Checking. 3. Analysis of Secondary Data by SPSS and Excel. 4. Analysis of Primary Data by SPSS and Excel. 5. Analysis of the Response Rate by SPSS and Excel.	*CLO 2*
Unit 3	6. Analysis of the Background Information by SPSS and Excel 7. Quantitative Data Analysis by SPSS and Excel 8. Categorical Data Analysis by SPSS and Excel Multiple Responses Analysis by SPSS and Excel	*CLO 2,3*
Unit 4	Graphical Presentation of Data by Excel and SPSS	*CLO 4,5*
Unit 5	Statistical Analysis (Hypotheses Testing) by SPSS: Mean and Standard Deviation i. t-test ii .ANOVA iii .Correlation iv. Chi-square test v. Simple Linear Regression	*CLO 4,5*
Unit 6-A	Results presentation and interpretation	*CLO 5,6*
Unit 6 B	Interpretation of factor analysis using SPSS	*CLO 6*
Unit 7	Overview of the EViews	*CLO 7*
Unit 8	Workfiles and Workfile pages - getting data into EViews. • How EViews understands/organizes data: The structure of a • workfile. • Creating blank Workfiles for three types of data structures. • Bringing data into blank Workfiles. • Creating Workfiles by reading data in EViews. • Creating Workfile pages.	*CLO 2,3*
Unit 9-	Series and Groups: EViews data objects. • Creating new Series and Groups. • Data analysis in one click: Series and Group menu items. • Auto-Series.	*CLO 4,5*

Unit-10	Estimation in EViews: a first look. • S Specifying and estimating an Equation. • E Equation objects. • E Equation output. • Multiple regression analysis. Introduction to other EViews objects. • Graph objects. • Table objects. • x Text objects. • Spool objects	*CLO 6*

Text:

1. IBM SPSS Statistics 21 Brief Guide

References:

1. A Handbook of Statistical Analyses using SPSS
   Sabine Landau and Brian S. Everitt
2. EViews 12 User's Guide I

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*3*	*2*	*3*	*2*	*3*
CLO2	*1*	*2*	*1*	*2*	*1*	*3*
CLO3	*1*	*2*	*1*	*1*	*2*	*3*
CLO4	*1*	*1*	*2*	*1*	*1*	*3*
CLO 5	*1*	*1*	*1*	*1*	*1*	*3*
CLO6	*3*	*3*	*3*	*2*	*1*	*3*

1: Low　　2: medium　　3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Group discursion Group work Workshop Case Study Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quizzes Homework Group discursion Group work
CLO 3	Verbal, graphical and mathematical exposition; Problems	Q&As

	solving	Quizzes Homework Group discursion
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quizzes Homework Group discursion
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quizzes Homework Group discursion Group work Workshop Case Study Assignments Presentations Tutorials Class Tests
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quizzes Homework Group discursion Group work Workshop Case Study Assignments Presentations Tutorials Class Tests

BNFQ Code: 0311-220, ***Dept. Course Code: ECON 220***
Course Title: Viva-Voce-II **Credits: 1.5**

Content:
An examination board will conduct the oral examination. The syllabus is not only the courses taken in a year but also the contemporary issues in economics. This course will test basic knowledge in economics and the ability to apply such knowledge to the address practical problems.

3rd Year 1st Semester

BNFQ Code: 0311-311,   Dept. Course Code: ECON 311
Course Title: Microeconomic Theory   Credits: 3

Rationale of the Course
The course consists of two parts. In the first part presents the partial equilibrium analysis of market structure and competitive strategy, market power and imperfect –monopoly, monopsony, monopolistic competition and oligopoly. The second part of the course is devoted to economics of risk and uncertainty. During the course both rigour and intuition will be emphasized.

Course Objectives
The primary objective of the course is to familiarize students with the basic concepts of market power and imperfect market, risk and uncertainty of microeconomics. The course particularly emphases on the partial equilibrium analysis of market structure and competitive strategy. After successful completion of the course, students will be able to evaluate the market outcomes and price behavior under various market structure.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Analyze individual consumers' and producers 'decision-making under risk and uncertainty;
CLO 2. Analyze movement of the competitive market towards equilibrium;
CLO 3. Evaluate the market outcomes and price behavior under market power and Imperfect competition

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Linear Expenditure System:** Definition, Properties of expenditure function, Separable and additive utility function, Indirect utility function, Duality in consumption, The problem of choice in situation involving risk, Attitudes towards risk, Corner solution and bliss, application of choice under rationing, composite commodity theorem.	*CLO 1*
Unit 2	**Risk and Uncertainty:** Risk and uncertainty in demand choice, Measuring risk, Uncertainty and utility; The expected utility hypothesis; Cardinal and ordinal utilities; risk aversion and risk preference; Insurance and lotteries; Household portfolio decisions; mean variance analysis, Reducing risk and uncertainty, Behavioral economics	*CLO 1*
Unit 3	**Market for Factors of Production:** Factors of Production; Demand and Supply of Factors of production; Labor Market; Demand and supply of labor; Marginal Productivity Theory; Wage determination, Reasons for wage differential, Rent and Quasi-rent.	*CLO 2*
Unit 4	**Market Power and Imperfect Competition:** Pricing with market power- Price discrimination; International price discrimination and dumping, Intertemporal price discrimination and peak load pricing, monopsony power, Limiting market power – The Antitrust Law. Monopolistic Competition-Features, short run and long run price and output under monopolistic competition, usefulness. Oligopoly- Features, Models, Price competition, Competition versus collusion, Price rigidity, Price signaling, Price leadership, Cartels.	*CLO 3*

Texts:

1. Robert S. Pindyck, Daniel L. Rubinfeld and Prem L. Mehta; *Microeconomics.* H.A. John Green: *Consumer Theory.*
2. Dominick Salvatore, *Microeconomics: Theory and Applications.*

References:

1. Henderson and Quandt: *Microeconomic Theory.*
2. Layard and Walters: *Microeconomic Theory*.
3. D. M. Kreps: *A Course in Microeconomics.*
4. William Green et. al. *Theory of Microeconomics.*
5. Chauhan, S. P. S., *Microeconomics An Advanced Treatise,* PHI Learning, 2009. R.G. Lipsey and K. A. Chrystal (2004).*Economics*, 15th Edition, Oxford University Press.
6. W. J. L. Ryan and D. W. Pearce. Price Theory.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-3)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Lecture, Discussion, Practice Exercise	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 1	Verbal, graphical and mathematical	As above
CLO 2	Lecture, Discussion, Practice Exercise	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-312,   Dept. Course Code: ECON 312
Course Title: International Trade Theory   Credits: 3

Rationale of the Course
Study of the international trade theories including comparative advantage, Heckscher-Ohlin model, and new trade theories such as intra-industry trade models and offer curve. On policy side, the course covers analysis international trade policy and measures, as well as international economic integration and policy regarding international investment and development.

Course Objectives
The primary objective of the course is to acquaint students with the basic concepts of international trade. The course particularly emphases on the relationship between international trade and the nation's standard of living. The concepts of the law of comparative advantage will explain the basis for trade and show the gains from trade which will be basically taught by way of verbal and graphical exposition. This course also provides the knowledge of tariff & nontariff trade barriers and their effects on consumers & producers.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Understand the relationship between international trade and the nation's standard of living.
CLO 2. Understand the law of comparative advantage & explain the basis for trade and show the gains from trade.
CLO 3. Understand how relative commodity prices and the comparative advantage of nations are determine under increasing costs &the basis for trade and show the gains from trade.
CLO 4.Show the how equilibrium price at which trade takes place is determined with offer curve & explain the meaning of terms of trade.
CLO 5. Explain how international trade can result from economies of scale and product differentiation leads to the intra-industry trade.
CLO 6. Understand the technological gap and product cycle models of trade and relationship between transportation costs &environmental standard on international trade.
CLO 7. Describe the meaning and effect of tariff ,quotas & other nontariff trade barriers.
CLO 8. Understand the meaning of trade creation, trade diversion & the dynamic benefits of economic integration.
CLO 9. Understand the relationship between international trade & economic development.
CLO 10. Explain the political economy of protectionism and strategic & industrial policies.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction to International Trade Theory:** Importance of international business; Subject matter of international business; Identify the most important economic problem; What is international trade and why trade?	*CLO 1*
Unit 2	**International Trade Theory:** Mercantilism views on trade; Absolute advantage: Adam smith; Comparative advantage: David Ricardo; Opportunity cost Theory	*CLO 2*

Unit 3	**International Trade and Standard Theory:** Gains from Trade: Gains from trade: Constant opportunity cost Theory; Increasing opportunity cost Theory; Identical factor endowments but different tastes; Identical factor endowments and identical tastes; different factor endowments but identical tastes; Assumptions, Factor endowments and Heckscher- Ohlin theory; Empirical Test of Heckscher-Ohlin theory: Leontief Paradox; Stolper-Samuelson Theorem, The Factor Price Equalization Theorem; Rybezynski Theorem	*CLO 3*
Unit 4	**Equilibrium Analysis:** Terms of Trade (TOT), Partial equilibrium analysis; General equilibrium analysis; Measurement of terms of trade.	*CLO 4*
Unit 5	**International Trade and Dynamic Technology:** Imperfect Market: The Theory of Imperfect competition and international trade; The Significance of Intra-Industry Trade, Why Intra-Industry Trade matters? Technological Gap and Product cycle model; Cost of transportation, non-traded commodities, Location of industry and Environmental standard theory	*CLO 5*
Unit 6	**International Trade and Economic Growth:** Growth and Trade: Small country; Growth and Trade: Large country; Growth and Trade: Changes taste in both Countries; Backwash Effect, Immiserizing Growth, The Prebisch-Singer Thesis	*CLO 6*
Unit 7	**International Trade Policy:** Tariff Barriers: Trade Restriction: Theory of tariff structure; Partial Equilibrium analysis of tariff: Small country; General Equilibrium analysis of tariff: Small country; General Equilibrium analysis of tariff: Large country; Optimum tariff and retaliation, Effective Protection, Types of Tariffs.	*CLO 7*
Unit 8	**International Trade Policy and New Protectionism:** Nontariff Barriers: Trade Restriction: Nontariff barriers and instruments; Arguments for protectionism: Infant industry, Strategic trade policy with game theory; Export Taxes, Export Subsidies, Quantitative Restrictions, International Cartels-OPEC, The Voluntary Export Restraints, Dumping, Other Non-tariff Barriers.	*CLO 7*
Unit 9	**Economic Integration and Customs Union:** Free Trade and Efficiency, Additional Gains from Free Trade, Political Arguments for Free Trade, National Welfare Arguments Against Free Trade, Income Distribution and Trade Policy, International Negotiation and Trade Policy – GATT, EEC, Trade Liberalization, Preferential Trading Arrangements – Customs Union, Economic Union, Trade Creation and Trade Diversion.	*CLO 8*
Unit 10	**Trade Policy in Developing Countries:** Import Substitution Industrialization, Problems of Trade Policy in a Dual Economy Like Bangladesh, Export Oriented Industrialization, The East Asian Miracle – The Facts of Asian Growth, Trade Policy in the High-Performance Asian Countries (HPAEs).	*CLO 9*
Unit 11	**Global Institutions, RTAs and Trade:** History of trade policy: Trade agreement act, GATT, Kennedy round, Tokyo round, Uruguay round, Doha round and WTO; WTO and Bangladesh: Its ‘Structure, Functioning, Ongoing Negotiation, Ao A, TRIPS, TRIMS, SPS – TBT etc. and Implication for Bangladesh.; WB, IMF, EC, ASEAN, BIMSTEC, SAFTA, and Others: Their Influence on International and Regional Trade.	*CLO 10*

Texts:

1. Salvator, Dominick: Introduction to International Economics, 11th Edition, John Willy & Sons, 2009.

References:

1. Bo Sodersten and Geoffrey Reed, *International Economics*, 3rd edition, Macmillan, 1994.
2. Paul R. Krugman and Maurice Obstfeld, *International economics: theory and policy*, 5th ed, Harper Collins, 2000.
3. Bayes, Abdul, *International Economics*, Jahangirnagar University, 1980.
4. Chacoliades: International Trade Theory and Policy
5. C. P. Kindelberger, International Economics, 4th edition, Richard D Irwin Inc., Illinois, 1993.
6. Centre for Policy Dialogue (CPD): World trade Organization and
7. Bangladesh.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*
CLO6	*3*	*2*	*1*	*2*	*3*	*3*
CLO7	*3*	*3*	*1*	*3*	*2*	*3*
CLO8	*3*	*3*	*3*	*3*	*2*	*3*
CLO9	*3*	*3*	*3*	*3*	*3*	*3*
CLO10	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quiz Homework Assignments
CLO 2	Graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Graphical and mathematical exposition; Problems solving	As above
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 7	Verbal, graphical and mathematical exposition; Problems solving	As above

CLO 8	Graphical and mathematical exposition; Problems solving	As above
CLO 9	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 10	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-313, Dept. Course Code: ECON 313
Course Title: Economic of Growth and Development Credits: 3

Rationale of the Course
It could be argued that economic growth and development are the most important topics that economists study. Governments all over the world worry about their countries' economic growth, and most individuals are concerned about their economic and social wellbeing. So, for economists and indeed all interested citizens, it is useful to understand how economies grow, what it means for an economy to be developed, and what barriers individuals and countries face in achieving development. We will work through a set of topics that will all contribute to this understanding. These include the measurement of human development, poverty and inequality, barriers to development with a focus on land, credit and insurance markets, education and health, theories of economic growth and development, the roles of international trade, foreign direct investment, technology manufacturing and government in the development process.

Course Objectives
The Course gives an overview of the concepts and approaches to Economic Development. The course also discusses Issues and concerns of economic development; it further gives insights to the theories and models of Economic growth. The course enables the student to get conceptual clarity, strengthens theoretical foundations and develops critical thinking skills.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Assimilate the basic concepts related to economic growth and development, and examine the different tools for measuring economic growth and development.

CLO 2. Explain the historical patterns and major theories of economics growth, such as classical, neoclassical and endogenous growth models.

CLO 3. Apply economic models and theories to analyze real-world case studies of economic growth and development in different countries.

CLO 4. Explain inequalities between rich and poor countries, how the differences have evolved over time and how other measurements of quality of life correlates with per capita income.

CLO 5. Evaluate different characteristics of world demographics and explain how population growth affects other economic circumstances.

Course Contents

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Nature of Development & Underdevelopment** i. Meaning of Economic Development ii. Growth vs. Development iii. Economic Development vs. Welfare iv. Developing Countries: Conceptual Issues v. Measurement of Economic Development vi. Alternative Measures of Economic Development vii. PQLI and HDI viii. Determinants of Development ix. Lessons for the LDCs from the Late Developers	*CLO 1*
Unit 2	**Theories of Development** i. An Overview of the General Theories of Development ii. Classical Views: Smith, Ricardo, Mill and Malthus iii. Institutional Views: Schumpeter, Rostow, Innis and Polany iv. The Marxian View	*CLO 2*
Unit 3	**Theories of Economic Growth** i. The Solow Neoclassical growth model ii. Endogenous growth theory iii. Contemporary Models of Development and underdevelopment iv. Underdevelopment as a coordination failure v. Multiple Equilibria: A Diagrammatic Approach capital vi. The Big Push model vii. Balance and Unbalance growth viii. The O-Ring model ix. Component of Economic Growth- Capital, Labor and Technology x. Kuznets's six characteristics of modern economic growth	*CLO 3*
Unit 4	**Dualistic Development** i. The Conceptual Issues: Social Cultural and Political Dualism ii. Labor Surplus Economy and Choice of Techniques iii. Lewis and Fei-Ranis Models.	*CLO 3*
Unit 5	**Poverty, Inequality and Development** i. Measuring inequality size and functional distributions of income. ii. Poverty measurement iii. Headcount index iv. human poverty index v. Strengths and weaknesses to poverty measures vi. Poverty alleviation vii. Micro credit system viii. Role of NGOs ix. Kuznets' Inverted U Hypothesis.	*CLO 4*
Unit 6	**Population Growth** i. Population growth ii. Structure of the World Population iii. Age Structure and Dependency Burdens iv. Theory of demographic transition v. Malthusian population trap vi. Microeconomic Household theory of fertility.	*CLO 5*

Texts

1. Debraj Ray – *Development Economics,* Princeton University Press, 1998.
2. Michael P. Todaro – *Economic Development in the Third World,* 7th ed., Longman.
3. M. L. Jhingan, The Economics of Development and Planning, 34th edition, Vrinda Publication, 2003.

References

1. De Janvry, A. and E. Sadoulet (2016) *Development Economics: Theory and Practice,* Routledge NY.
2. G. M. Meier, Leading Issues in Economic Development, Oxford University Press, USA, 2004.
3. J. Robinson: Aspects of Development and Underdevelopment, 1979.
4. Lybbert, *Essentials of Economic Development Economics*, Rebel Text: Berkeley, California, 2013
5. M. Gillis et al., *Economics of Development,* 2nd ed., W.W. Norton, 1985.
6. P. Hill: Development Economics on Trial, Cambridge University Press, 1986.
7. R. L. Meier. Development Planning, McGraw Hill, 1995.
8. S. Ghatak. *An Introduction to Development Economics,* 2nd ed., Allen and Unwin, 1986.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*3*	*2*	*3*	*2*	*2*
CLO2	*3*	*3*	*3*	*3*	*3*	*2*
CLO3	*3*	*3*	*3*	*3*	*2*	*2*
CLO4	*3*	*3*	*3*	*3*	*3*	*2*
CLO 5	*3*	*3*	*2*	*3*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-314,   Dept. Course Code: ECON 314
Course Title: Financial Economics   Credit: 3

Rationale of the course
This course is designed to provide both a self-contained study of the principles of financial economics, and a bridge to higher level courses in economics and finance. The course makes students acquainted with the instruments of financial market and basic financial calculation. The lab session of the course will make student capable of solving real life business financial exercises and conduct financial assignments.

Course Objectives:
This course has been designed to:

- make students acquaint with the basic financial calculation with special reference to financial economics;
- have an understanding of how to think about the trade-off between risk and return;
- have an understanding of how to make capital investment decisions;
- have the ability to read literature in financial economics.

Course Learning Outcomes:
Upon a successful completion of the course, the students will be able to :
CLO 1. Describe the primary functions of the Financial System, the structure of the Financial Markets and its Instruments.
CLO 2. Assess the factors affecting investment decisions explaining alternative sources of finance and investment opportunities.
CLO 3. Apply and examine the principal methods of analysis and valuation of financial assets.
CLO 4. Demonstrate financial risk and its relation to financial decision.
CLO 5. Identify, analyze and deduce reasoned conclusions based on business data using computer applications, in order to perform financial analysis.

Course Contents

Unit	Contents	Corresponding CLOs
Unit 1	**Introduction:** Overview of the Financial System; Money and Capital market; Financial instruments.	CLO 1
Unit 2	**Financial Statement Analysis:** The balance sheet; The financial statement; Statement of retain earning; Ratio Analysis; Liquidity ratio, Asset management ratio; Debt management ratio; Profitability ratio.	CLO 1
Unit 3	**Time Value of Money:** Time lines; Future value; Present value; Annuity; Perpetuity.	CLO 2
Unit 4	**Bond Valuation:** Characteristics of Bonds; Types of Bond; Bond valuation; Bond yields.	CLO 2
Unit 5	**Stock Valuation:** Types of stocks; The market for common stock; Common stock valuation – constant growth; non-constant growth; Stock market equilibrium.	CLO 3
Unit 6	**Risk and Return:** Investment return; Measurement of Risk; Expected return; Relationship between risk and return; Stock return, stock risk and investment decision; Portfolio return and Portfolio risk.	CLO 3
Unit 7	**Cost of Capital:** WACC; Cost of debt; Cost of preferred stock; CAPM and risk adjusted cost of capital.	CLO 4

Unit 8	**Capital Budgeting:** Importance; Generating ideas for capital projects; Capital budgeting decision rules; NPV and IRR methods; MRR method;	CLO 4
Unit 9	**How Financial Securities are Created and Issued:** Introduction to capital market; Types of financial securities; Issuing bond; Issuing share – IPO; How stocks are traded.	CLO 4
Unit 10	**Computational Finance:** Demonstration on MS Excel for Financial Calculation; Financial Functions and commands; Financial Calculations using spreadsheet; use of templates.	CLO 5

Mapping of CLOs with PLOs:

CLOs	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CLO 1	3	2	2	3			
CLO 2	3	3	2	3			
CLO 3	3	3	1	3		3	1
CLO 4	3	3		2		2	1
CLO 5	2	3		2		3	1

L = Low M = Medium H =High

Mapping of CLOs with Teaching-Learning and Assessment Strategy:

(CLOs)	Teaching-Learning Strategy	Assessment Strategy
CLO 1	Lecture, Group Discussion.	Q/A Feedback, Class Test
CLO 2	Lecture, pair work, Group Discussion, Practice Drills	Q/A Feedback, Class Test, Presentation,
CLO 3	Lecture, pair work, Group Discussion, Practice Drills	Q/A Feedback, Spot Test /Quiz, Class Test, Demonstration
CLO 4	Lecture, pair work, Group Discussion, Practice Drills	Q/A Feedback, Spot Test /Quiz, Class Test, Demonstration
CLO 5	Lab demonstration, Group Work, Practice Drills	Q/A Feedback, Quiz Test, Lab Test, Demonstration, Presentation

Texts:

1. Bodie, Zvi, Robert C Merton and David L Cleeton, *Financial Economics*, 2nd Edition, Pearson, 2009.
2. Stephen F. Leroy & Jan Werner, *Principles of Financial Economics*, Cambridge University Press, 2001.

References:

1. Gitman & Hennessey, *Principles of Corporate Finance*, 2nd edition, Pearson.
2. Jonathan E. Ingersoll, *Theory of Financial Decision Making*, Rowman & Littlefield, 2000.
3. Shim, J.K. and J.G. Siegel, *Schaum's Outlines on Financial Management*, 2nd Edition, McGraw Hill, 2004.
4. Fischer, Donald E. and F. J. Jordan, *Security Analysis*
5. Robert Steiner, Mastering Financial Calculations, FT Prentice Hall

BNFQ Code: 0311-315, Dept. Course Code: ECON 315
Course Title: Blue Economy Credits: 3

Rationale of the Course

The Blue Economy encompasses the sustainable use of ocean resources for economic growth, improved livelihoods, and environmental preservation. As the traditional economic sectors face challenges due to resource depletion and environmental concerns, there is a growing need for a new economic framework that focuses on the sustainable utilization of marine resources. This course aims to equip undergraduate economics students with a comprehensive understanding of the principles, opportunities, challenges, and policy considerations related to the Blue Economy. By integrating economic theory with environmental and social dimensions, students will be prepared to address the complexities of managing ocean resources in a sustainable manner.

Course Objectives

i. To introduce students to the concept of the Blue Economy and its significance in the context of sustainable development.
ii. To analyze the economic, environmental, and social implications of Blue Economy activities.
iii. To explore innovative economic models, policies, and strategies that support sustainable Blue Economy development.
iv. To enable students to critically evaluate the trade-offs between economic growth and environmental conservation in maritime industries.

Course Learning Outcomes (CLOs): By the end of the course, students should be able to

CLO 1: Identify and categorize the different sectors of Blue Economy, such as fisheries, renewable energy, maritime transportation, tourism, and biotechnology.

CLO 2: Analyze the economic benefits and potential risks associated with various Blue Economy sectors.

CLO 3: Evaluate the environmental impacts of Blue Economy activities and propose strategies for mitigating negative effects.

CLO 4: Compare and contrast traditional economic approaches with Blue Economy principles in terms of resource management and economic growth.

CLO 5: Apply economic analysis techniques to assess the viability and profitability of Blue Economy projects.

CLO 6: Interpret and communicate complex Blue Economy concepts and findings effectively through written reports and oral presentations.

Values and Attitudes:

CLO 7: Develop an appreciation for interdisciplinary collaboration in addressing the challenges and opportunities of Blue Economy.

Course Content mapping with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction to the Blue Economy** i. Concepts and Principles ii. Definition and evolution of Blue Economy iii. Importance of the Blue Economy for sustainable development and ocean conservation iv. Key principles and pillars of the Blue Economy	*CLO*
Unit 2	**Sectors of the Blue Economy** i. Marine transportation and logistics ii. Fisheries and aquaculture iii. Renewable energy from the ocean iv. Coastal and marine tourism v. Marine biotechnology and pharmaceuticals	*CLO*
Unit 3	**Economic, Environmental, and Social Implications** i. Economic valuation of ocean resources and ecosystem services ii. Environmental impacts and conservation challenges iii. Socioeconomic considerations and community engagement	
Unit 4	**Policies and Governance in the Blue Economy** i. International agreements and conventions related to the ocean ii. National and regional policies supporting Blue Economy development iii. Regulatory frameworks for sustainable ocean management	*CLO*
Unit 5	**Balancing Economic Growth and Environmental Sustainability** i. Circular economy approaches in maritime industries ii. Innovation and technological advancements for sustainable practices iii. Case studies of successful and failed Blue Economy initiatives	*CLO*
Unit 6	**Environmental Considerations in Blue Economy** i. Ecosystem services and biodiversity conservation ii. Climate change impacts and adaptation strategies iii. Marine pollution and waste management	*CLO*
Unit 7	**Challenges and Opportunities** i. Conflicts between traditional resource use and Blue Economy development ii. Social equity and community engagement in Blue Economy projects iii. Overcoming barriers to innovation and sustainable practices	*CLO*
Unit 8	**Policy and Planning for Blue Economy** i. Developing integrated Blue Economy strategies ii. Case studies of successful Blue Economy policies iii. Multi-stakeholder collaboration and engagement	*CLO*

References

i. "Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs" by Gunter Pauli

ii. "The Ocean Economy in 2030" by World Resources Institute

iii. United Nations Sustainable Development Goal 14: Life Below Water

iv. Reports and publications from international organizations like the World Bank, FAO, and IMO.

BNFQ Code: 0311-316,   Dept. Course Code: ECON 316
Course Title: Economics of Disaster Management   Credits: 3

Rationale of the Course
The course provides an orientation on contemporary economic issues related with climate change and disaster risk reduction. From the economics perspective this course explains the functioning of the market mechanism and its failure in addressing climate change impacts and disaster risks together with various options for disaster risk reduction policies.

Course Objective:
The aim of this course is to:

- Orient with basic principles of social and political theory explaining actual social dynamics of climate change and disaster risk reduction policy
- Introduce students with different policies/frameworks on climate and disaster (e.g., Paris Agreement, Sendai Framework, and etc.)
- Introduce students with disaster risk reduction strategies

Course Learning Outcomes (CLOs): After completion of this course the students will be able to:
CLO 1. Gain knowledge on principles of economics and policy to key issues of climate change and disaster risk reduction, including mitigation and adaptation.
CLO 2. Assess the inter linkages between climate change and disaster risk.
CLO 3. Analyze the climate and disaster risk policies and realize the importance of climate change adaption and disaster risk reduction.
CLO 4: Acquaint with contemporary global policy/frame work addressing climate change and disaster risk.

Course Content

Unit	Topics/ Content summary	CLOs
Unit 1	**Introduction:** Key issues addressing climate change; Threats and challenges of arsenicosis with mitigation strategies; Pollution–types, sources; Distinction between hazard and disaster;	1,2
Unit 2	**Basic Concepts of Disaster:** Basic concepts of disaster preparedness, rescue, relief, rehabilitation and reconstruction; Natural hazards; Human-induced hazards; Industrial hazards; Hazard vulnerability.	1, 2
Unit 3	**Mitigation and Adaptation:** Scope of mitigation and adaptation; Difference between mitigation and adaptation; Types of adaptations; CBA of mitigation and adaptation.	2,3
Unit 4	**Disaster Risk Reduction:** Principles and practices; Disaster preparedness; Emergency response; Losses, relief and economic considerations of disaster; Need assessment; Indigenous coping to disaster, mitigation and preparedness;	2, 3
Unit 5	**Disaster Planning and Management:** National, regional, community, household and individual level development planning; Regulatory and institutional frame work for disaster planning and management in Bangladesh; National Disaster Policy; GO-NGO collaboration; Disaster Pressure and Release(PAR)Model.	3, 4
Unit 6	**Community Based Approaches to Disaster Management:** Participatory methods; Community mobilization; Facilitating self-help initiatives; Sustaining long-term community based disaster management.	2, 3

Unit 7	**Climate, Disaster, and Development:** Linkages among climate, disasters, and development; Impact of disasters on development; Politics, policy and law in climate change; Preventive measures; Adaptive measures; Future of climate change policy; Barriers to effective policy implementation, IPCC Assessment Report, Kyo to Protocol, disaster and climate related SDGs, Sendai Frame work.	2, 4

Texts:

1. Kelman,I.(2020).*DisasterbyChoice:HowourActionsTurnNaturalHazardsintoCatastrophes*,OxfordUniversityPress.
2. Wisner,B.,Blaikie,P.,Cannon,T.andDavis,I.(2014).*AtRisk:NaturalHazards,People's*
   a. *Vulnerability and Disasters*, Rout ledge.
3. Shaw,R.,Mallick,F.andIslam,A.(2013).*DisasterRiskReductionApproachesinBangladesh*,Tokyo:SpringerJapan.
4. Davis,I.R.andAlexander,D.E.(2022).AGlassHalf-FullorHalf-Empty?ADialogueonProgressinDisasterRiskReduction.Retrievedfromhttps://www.ucl.ac.uk/risk-disaster-reduction/sites/risk_disaster_reduction/files/half-glass_report_27-04-2022.pdf

References:

1. Aronoff, K., Battistoni, A., Cohen, D. A. and Riofrancos, T. (2019). *A planet to Win: Why We Needa Green New Deal*, Verso Books.
2. IPCC Sixth Assessment Report: https://www.ipcc.ch/assessment-report/ar6/

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-3)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*1*	*2*	*1*	*2*	*2*	*1*
CLO2	*2*	*1*	*1*	*2*	*2*	*1*
CLO3	*2*	*3*	*2*	*2*	*3*	*2*
CLO4	*1*	*2*	*1*	*1*	*2*	*1*

1: Low 2: Medium 3: High

Mapping teaching learning and assessment strategy with CLOs.

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	**Strategies**: Verbal and graphical exposition; Problems solving	Quizzes Homework
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	Quizzes Homework Assignments
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	Quizzes/ Assignments Presentations Class Tests
CLO 4	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving	Quizzes Assignments

3rd Year 2nd Semester

BNFQ Code: 0311-321,   ***Dept. Course Code: ECON 321***
Course Code: 0311 ECON 321 Course Title: Macroeconomic Theory Credits: 3

Rationale of the Course
This course is designed to provide students with an advanced understanding of macroeconomic concepts, theories, and models used in economic and policy analysis. The course employs the combined IS-LM and AS-AD frameworks to illustrate the complexity of macroeconomic policy outcomes. It presents an advanced exposition of output determination model in the IS-LM-BP framework. Students will obtain better understanding regarding the factors influencing AD in the open economy and closed economy. In addition, the course evaluates mainstream macroeconomic model to explain short-run and long-run Aggregate supply. It also highlights four prominent approaches to the demand for money. The various causes of macroeconomic instability such as inflation are assessed, and consideration is given to public policies designed to correct this instability. The course also puts emphasis on the evaluation of labor market principles and various theories/ model related to unemployment.

Course Objectives
The primary objective of the course is to acquaint students with macroeconomic theories and models and apply them to address macroeconomic issues in the real world. The course is prepared in a way in which the users can easily augment their previous knowledge with the new ideas. Also, the course aims to help users develop critical thinking skills, learn how to evaluate economic arguments, and understand the roles of Macroeconomic thought in guiding current economic policies and debates.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Understand the interaction between goods and the money markets.
CLO 2. Analyze the effectiveness of fiscal and monetary policies using the IS-LM-BP model
CLO 3. Explain the Short-run and Long-run aggregate supply curve.
CLO 4. Understand the approaches to the demand for money
CLO 5. Explain inflation in detailed and evaluate policies intended to remedy the inflation
CLO 6. Explain the labor market principles and the causes of unemployment using mainstream macroeconomic model

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Aggregate Demand** The goods market and the IS curve, The money market and the LM curve, The short-run equilibrium, Fluctuations with the IS-LM model, IS-LM as a theory of aggregate demand, Foreign exchange market, Exports and imports, Goods and assets markets equilibrium in an open economy, Internal and external balance, Exchange rate regimes, The balance of payments equilibrium with capital flows: the BP curve, The IS-LM-BP model, The small open economy under fixed exchange rate, The small open economy under flexible exchange rate, The Mundell-Fleming model-perfect capital mobility, perfect capital mobility and fixed exchange rates, perfect capital mobility and flexible exchange rates, Aggregate demand in an open economy.	CLO1,2

Unit 2	**Aggregate Supply** Short run Aggregate Supply-The sticky wage model; The Imperfect Information Model; The Sticky Price Model, Aggregate Supply Curve and the Phillips curve, Aggregate supply under the classical model, Aggregate supply under the imperfect foresight model, perfectly elastic aggregate supply, Long-run Aggregate supply.	CLO 3
Unit 3	**Demand for Money** Regressive Expectation Model, The Portfolio Balance Approach, Interest rate sensitivity of transitive demand for money, Square root formula, Money as a Consumers good and Producers good, Income and Interest elasticity of Demand of Money	CLO 4
Unit 4	**Inflation** Demand-pull and cost-push inflation, Validation of Inflation-NAIRU, The Phillips curve and structural determinants of inflation, Inflation-output curve: Okun's law, Dynamic aggregate demand, Determining the inflation rate & Output level in the short-run and long-run, Role of expected Inflation: Adaptive expectation, Rational expectation. Supply shocks inflation, Inflation in an open economy, Dynamic adjustment of Output & Inflation: Stagflation, Overshooting, perfect foresight expectations, Expected & Unexpected changes in monetary policy, Inflationary Inertia. Costs of inflation, Control of inflation	CLO 5
Unit 5	**The Labor Market and Unemployment** Production function, Demand for labor, Supply of labor, labor market equilibrium, Price expectations: perfect foresight, imperfect foresight model, complete money illusion, New Keynesian model. Expectations and short-run and long-run employment, Unemployment: Frictional, structural, and natural. Beveridge curve, Neo-classical theory of the labor market, Efficiency wage theory/model, Insider-outsider theory/model, Implicit contract theory/model, Imperfect information theory, The Shapiro Stiglitz model, Search and matching models.	CLO 6

Texts:

1. Mankiw, N. G. (2007). Macroeconomics, 7th Ed., Worth Publisher.
2. Dornbusch, R., &Fischer, S. (1990). Macroeconomics, 15thedition, McGraw-Hill.
3. Taslim, M.A., & Chowdhury, A. (2008). Macroeconomic Analysis, Prentice Hall.
4. Branson, William H. (1989). Macroeconomic Theory and Policy, 3rd Ed, Harper & Row
5. Romer D. (2012). Advanced Macroeconomics, 5th Ed. The McGraw Hill Companies, Inc.

References:

6. Blanchard (2010). Macroeconomics, 4th edition, Pearson.
7. Lipsey, R.G.,& Chrystal, K.A. (2004). Economics, 10th Edition (First Indian Edition), Oxford University Press.
8. Baumol, W.,& Blinder, A. ( ). Economics: Principles and Policy, Harcourt Brace Jovanovich.
9. Samuelson, Paul A. &William D. Nordhaus (2012). Macroeconomics, 19thEdition, Mc Graw Hill.
10. Campbell R. McConnel and Stanley L. Brue (2000). Macroeconomics: Principles, Problems, and Policies, 15th Edition, McGraw-Hill.
11. Parkin, M. (2003).Macroeconomics, 6th Edition, Addison Wesley.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO1	3	2	2	3	1	3
CLO2	3	3	1	3	2	3
CLO3	3	3	2	3	2	3
CLO4	3	1	1	3	2	3
CLO 5	3	3	1	3	3	3
CLO 6	3	3	2	3	3	3

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-322, Dept. Course Code: ECON 322
Course Title: Econometrics-I Credits: 3

Rationale of the Course

This course introduces students to the empirical analysis of relationships between economic variables. The course provides various concept of regression, correlation, OLS methods. The approach is based on linear regression theory, and emphasizes ‘hands on’ data analysis. The course will cover topics related to simple and multiple regression methods using cross-sectional data, focusing on issues of estimation and inference.

Course Objectives

It aims to help students develop a working knowledge of econometrics and its applications to real-world economic data. There will be an emphasis on how to apply the methods in practice, fostering the ability to conduct empirical research in economics and other social sciences.

Course Learning Outcomes (CLOs): On completion of the course, students are expected to be

CLO 1. Know the basic principles of econometric analysis.
CLO 2. Apply both the fundamental techniques and wide array of applications involving linear regression estimation.
CLO 3. Interpret the assumptions that underpin the classical regression model.
CLO 4. Learn how to apply regression analysis to real-world economic examples and datasets for hypo thesis testing and forecasting and
CLO 5. Formulate model and make adjustments for a number of common regression problems.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**The nature of Econometrics:** Definition and scope of econometrics; Goal of Econometrics; Division of Econometrics.	CLO 1
Unit 2-A	**Two-Variable Regression Model:** The simple linear regression model– Assumption of the model, Ordinary least Squares (OLS) Estimation, Properties of Least-Square estimators, R2 and Adjusted R2,	CLO 2,3
Unit 2-B	**Two-Variable Regression Model:** Hypothesis Testing. Extensions of the Two-variable linear regression Model, Regression through the origin, Scaling and units of measurement, Functional form of regression model	CLO 2,3
Unit 3	**Multiple Linear Regression Model:** The *k*– variable linear model, Assumption of the model, Ordinary least squares estimation, properties of the least squares estimators, R2 and Adjusted R2 , Hypothesis testing about individual regression coefficients; Matrix Approach.	CLO 3
Unit 4	**Dummy Variable Regression Model**: Definition of dummy variable; The nature of dummy variables; Use of dummy variables; Dummy variable in econometric model; Dummy variable trap; Dummy variable regression with more than one qualitative regressors; Dummy variable regression with a mixture of quantitative and qualitative regressors; Testing for structural stability of regression model – Dummy variable approach; Interaction effects using dummy variable; Use of dummy variable in seasonal analysis and in combining time series and cross section data; Interpretation of dummy variable regression results.	CLO 1
Unit 5	**Multicollinearity:** The nature of multicollinearity, Estimation in the presence of perfect multicollinearity; Estimation in the presence of high multicollinearity; Theoretical consequences of multicollinearity; Practical consequence of multicollinearity.	CLO 4

Texts:

1. Gujarati, D. N. and Sangeetha, *Basic Econometrics*, 5th Edition, Tata-McGraw Hill, 2009.
2. Gujarati, D. N. Econometrics by Example, Palgrave Macmillan, 2011.

References:

1. Wooldridge, J.M., *Econometrics,* Cengage Learning, 2009.
2. Dougherty, C., Introduction to Econometrics, 4th Edition, Oxford University Press, 2011.
3. G.S. Maddala; Introduction to Econometrics (2/e),1992.

4. J. Johnston : Econometric Methods (2/e and 3/e), 1972 and 1989.
5. E.R. Berndt ; The Practice of Econometrics, Addision Wesely, 1990.
6. W. H. Greene, Econometric Analysis, 5th edition, Pearson Education Inc., India, 2003.
7. A Koutsoyiannis, Theory of Econometrics, ELBS, 2nd edition, England, 1977.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*1*	*2*	*3*	*1*	*3*
CLO2	*2*	*3*	*3*	*3*	*2*	*3*
CLO3	*1*	*2*	*2*	*2*	*2*	*3*
CLO4	*2*	*3*	*3*	*2*	*2*	*3*
CLO5	*2*	*3*	*3*	*3*	*1*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Lecture, Discussion, Practice Exercise, Computer Lab Practical	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2,3	Lecture, Discussion, Practice Exercise	As above
CLO 2,3	Lecture, Discussion, Practice Exercise, Computer Lab Practical	As above
CLO 3	Lecture, Discussion, Practice Exercise, Computer Lab Practical	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Lecture, Discussion, Practice Exercise, Problems solving	As above
CLO 5	Lecture, Discussion, Practice Exercise, Computer Lab Practical	As above

BNFQ Code: 0311-323, ***Dept. Course Code: ECON 323***
Course Title: Research Methodology **Credits: 3**

Rationale of the Course
The course provides a vast knowledge about how to use various research methods in the area of economics. Topics include the technique of defining a research problem, various research design and their characteristics, describing different measurement and scaling techniques, methods of collection, processing and analysis of data, sampling fundamentals, and the theory of estimation, Report writing and Reference/Bibliography writing.

Course Objectives
The objective of the course is to make the students familiar with the art of using different research methods and techniques.

Course Learning Outcomes (CLOs): Upon successful completion of the course the student will be able to :

CLO 1. demonstrate understanding of and applying basic research concepts.
CLO 2. identifying various sources of information.
CLO 3. planning and conducting basic quantitative and qualitative research
CLO 4. demonstrate understanding of writing research proposal and research report of limited extent.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	Introduction: Meaning of Research; Objectives of Research; Characteristics of Research; Types of research, Research process; Problems encountered by researchers in Bangladesh.	CLO 1
Unit 2	Formulating the Research Problem: Definition of a research problem, Selecting the problem; techniques involved in defining a problem with illustration;	CLO 1
Unit 3	Formulation of Research Objectives: General and Specific Objectives; Characteristics of Objectives; Concepts, Indicators and Variables; Identifying variables; Measurement Scales; Constructing Hypotheses, Functions of hypotheses.	CLO 2
Unit 4	Preparing the Research Design: meaning and importance of research design; important concepts relating to research design; different research designs; important experimental designs.;	CLO 2
Unit 5	Sampling Design: Census vs. survey; steps in sampling design; criteria for selecting a sampling procedure; random sampling; Need for sampling; definition; sampling distribution; sampling theory; concept of standard error; estimating population proportion; sample size and its determination..	CLO 3
Unit 6	Methods of Data Collection: Methods of collecting primary and secondary data; selection of appropriate methods of data collection; case study methods; Research Tool – The Questionnaire, Types of Questionnaire, How to construct a Questionnaire, Piloting the Questionnaire. FGD, KII	CLO 3
Unit 7	Writing and presentation of research proposal	CLO 4
Unit 8	Processing and Analysis of data: Processing operations; some problems in processing, Data Analysis Methods – Qualitative data analysis, Content analysis, Quantitative data analysis.	CLO 4
Unit 9	Interpretation and Report writing: Meaning of interpretation; technique of interpretation; different steps in writing report; layout of the research report; precautions for writing research reports.	CLO 4
Unit 10	Referencing System: Reference writing, Bibliography writing.	CLO 4

Texts:

1. Ranjit Kumar, Research Methodology: AStep By Step Guide for Beginners, 5th Edition, Sage Publications Ltd, 2005.
2. C. R. Kothari. Research Methodology: Methods and Techniques (Second Edition), New Age International Publisher,2004.

References:

1. Sufian, Abu Jafar M., Methods and Techniques of Social Research, The University Press Limited, 2nd Edition, 2009.
2. Aminuzzaman, Salahuddin M., Essentials of Social Research, Osder Publication, 2011.
3. Islam, M.N., An Introduction to Research Methods, 2nd Edition, Mullick & Brothers, 2011.
4. L.L. Lapin, Quantitative Methods for Business Decisions. Dryden Press 1994 (2/e).
5. F. Perkins: Practical Cost-Benefit Analysis, McMillan, 1994.
6. R.J. Brent: Applied Cost-Benefit Analysis, Edward Elgar Publishing Limited, 1996.
7. S. Curry and J. Weiss: Project Analysis in Developing Countries, St. Martins Press, 1993.
8. Jain, Mahesh K. Research methodology and statistical evaluation, (New Delhi, India) Shree Publishers, 2005.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*3*	*2*	*1*	*1*
CLO2	*2*	*2*	*3*	*3*	*2*	*1*
CLO3	*2*	*2*	*3*	*3*	*2*	*3*
CLO4	*1*	*3*	*3*	*2*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Lecture, Discussion, Mini Project / Term paper, Presentation.	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 1	As above	As above
CLO 2	As above	As above
CLO 2	As above	As above
CLO 3	As above	As above
CLO 3	As above	As above
CLO 4	As Above	As above
CLO 4	As above	As above
CLO 4	As above	As above
CLO 4	As above	As above

BNFQ Code: 0311-324,   Dept. Course Code: ECON 324
Course Title: Political Economy of Underdevelopment   Credits: 3

Rationale of the Course
This course is an introductory overview of underdevelopment studies with attention to major schools of political economy, their intellectual origins and centrality to contemporary debates about economic development. This course provides an alternative approach to interpreting underdevelopment. Without understanding the theories of imperialism, world system, and the historical analysis, the problem of underdevelopment can hardly be understood.

Course Objectives
The prime objective of the course is to acquaint students with the political economy view of underdevelopment. In particular, students will gain insight into the arguments of Karl Marx, Paul Baran, A. G. Frank, Samir Amin, Hamza Alaviand others in explaining underdevelopment.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Identify and explain development and underdevelopment
CLO 2. Explain how underdevelopment arises as a product of a particular historical development
CLO 3. Appreciate/Evaluate the theories of imperialism
CLO 4. Discuss the external agents of development and underdevelopment
CLO 5. Demonstrate different modes of production under slavery, feudalism, capitalism, and socialism
CLO 6. Explore the Nexus between poverty and inequality

Course contents mapped with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**What is Political Economy?** i. From political economy to economics: Change in perspective; ii. Revival of the interest in political economy; **iii.** Recent and orthodox approaches to the problems of underdevelopment.	*CLO 1*
Unit 2	**What is Underdevelopment?** i. Underdevelopment: A survey of theories; ii. A Critique of orthodox theories of development from a radical perspective.	*CLO 1*
Unit 3	**Underdevelopment as a Product of History** i. Colonialism; ii. Underdevelopment and historical roots of poverty in the Third World Countries; iii. Dialectical relations between overall development of state and underdevelopment; iv. How imperialism grew; v. Why imperialism succeeded; vi. Forms of New-Colonialism.	*CLO 2*

Unit 4	**Political Economy of Underdevelopment and the World System Analysis** ***Marxist Theories of Imperialism*** *–* i. Marx ii. Luxemburg iii. Hilferding iv. Bukharin and Lenin	*CLO 3*
Unit 5	***A Historical Review of the Process of Development and Underdevelopment.*** **Theories of the World System Analysis** i. Paul Baran ii. A.G. Frank iii. Emmanuel iv. Samir Amin	*CLO 4*
Unit 6	**Mode of Production and Production Relations** i. Different modes of production ii. Slavery and Feudalism iii. Capitalism and socialism iv. Pre-capitalist mode of production – its continuous distribution and renewal v. Pre-capitalist mode of production in the colonial context vi. Colonization and peripheralization vii. The structure of colonial capitalism and its impeding effects on peripheral capitalist development **viii.** Present society	*CLO 5*
Unit 7	**Political Economy of Poverty** i. Poverty and inequality; ii. Pauperization; iii. Marginalization and polarization; iv. Technology and poverty; v. Politics and extended reproduction; vi. Politics and underdevelopment; vii. Culture of poverty; viii. Mass poverty and international response; **ix.** Mass poverty and national response.	*CLO 6*

Texts:

1. Anthony Brewer. Political Economy of Imperialism.

References:

2. Bagchi, A. K. (1993). *The Political Economy of Underdevelopment*. Cambridge University Press.
3. Baran, P. A. (1978). *The Political Economy of Growth*. Harmondsworth: Penguin Books.
4. Dobb, M. (1984). *Studies in the Development of Capitalism*. International Publishers.
5. Gough, K., & Sharma, H. P. (1973). *Imperialism and Revolution in South Asia*. Monthly Review Press.
6. Kay, G. B. (2015). Development and Underdevelopment: A Marxist Analysis. Palgrave Macmillan.
7. Roxborough, I. (1994). *Theories of Underdevelopment*. Macmillan.

8. Sweezy, P. M. (2016). *Theory of Capitalist Development*. Aakar Books.
9. Sen, A. (2018). State, Industrialization and Class Formations in India: A Neo-Marxist Perspective on Colonialism, Underdevelopment and Development. Routledge.
10. Wilber, C. K., & Glickmann, M. (1985). *The Political Economy of Development and Underdevelopment*. Royal Victorian Institute for the Blind Tertiary Resource Service.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*3*	*3*	*3*	*3*	*2*
CLO2	*2*	*3*	*3*	*3*	*3*	*2*
CLO3	*2*	*3*	*3*	*3*	*2*	*2*
CLO4	*3*	*3*	*3*	*3*	*3*	*2*
CLO 5	*3*	*3*	*3*	*2*	*3*	*2*
CLO 6	*3*	*3*	*2*	*3*	*3*	*2*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-325, ***Dept. Course Code: ECON 325***
Course Title: Urban Economics **Credits: 3**

Rationale of the Course

The field of urban economics addresses a wide variety of questions and topics. At the most general level, the field introduces space into economic models and studies the location of economic activity. Urban economics typically addresses three sets of questions, and this course is organized around these four areas. The first set of questions focuses on the development of urban areas. Why do cities exist and why do some grow more rapidly? How can local governments encourage such growth? The second set of questions addresses patterns of development within metropolitan areas. Why do certain parts of metropolitan areas grow more rapidly than others? How do firms and households decide where to locate within given metropolitan areas? What determines the price of land, and how do these prices vary across space? The third set of questions concerns the spatial dimensions of urban problems. In this class, we will focus on poverty, transportation, housing and suburban sprawl. Finally, in the last part of the class, we will briefly study the spatial aspects of local government.

Course Objectives

The overall aim of the course is to give an overview of how economic principles and forces are interrelated with urban development and urban life, with a particular focus on social and cultural aspects. Students are provided with a broad knowledge on how economic factors influence, and are influenced by, the design, use and experience of the built environment.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Identifying the factor that have driven the growth of cities historically and that drive it today including agglomerative economics.

CLO 2. Analyze and explain the evolution of urban land use pattern and density.

CLO 3. Analyze the cost and benefit of different kinds of land use regulations.

CLO 4. Explain the unique characteristics of housing markets and assess the arguments for government intervention.

CLO 5. Identify challenges facing cities in the future and how cities can manage them.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction:** Some Commonly used Concepts and Terms: What is urban economics? Major components in the field of urban economics. What is an urban area? Why different definitions of urban area? Market forces-land rent and land use within cities.	CLO 1
Unit 2	**Market Forces in the Development of Cities:** Why does city exist? A comparative advantage and urban development trade and transport cost-internal scale economics in production – agglomeration economics localization economics and urbanization economics-shopping externalities-imperfect substitutes and complementary goods-retail clusters. Where do cities develop? Transfer oriented and market-oriented firms' principle of median location – orientation towards local inputs, transport cost vs local input costs, role of government in the location of cities. How many cities? the analysis of market areas, determinants of market area, central place theory, regional hierarchy, retailing, how competition among firms leads to the development of hierarchical system of cities?	CLO 2
Unit 3	**Urban Land Market:** Economic and spatial relationships within an urban area, theories of urban land market including various distortions, the peculiarity of urban land rent and land use, various models and also interventions and policies of government including various land use control and zoning, political economy of urban land.	CLO 2
Unit 4	**Land Rent, Urban Land Use Controls and Zoning:** Urban land rent fertility and accessibility. Land use in the mono-centric functions of manufacturers, office firms, residential, agriculture, income and location, different trade off, general equilibrium of land use. Land use control-land use zoning-types and market effects of nuisance, fiscal and design zoning-city without zoning-legal basis for zoning.	CLO 3

Unit 5	**Urban Housing Market:** Economics of housing production, urban housing conditions, demand and supply of housing, residential location decisions, housing models, urban housing market, imperfections and various sub-system of housing, why slums exist and persist, government intervention and housing policy.	CLO 3
Unit 6	**Urban Transportation:** Interrelationships between transportation and other urban market, demand for urban transportation services-short run supply and pricing, transportation congestion and its implications.	CLO 4
Unit 7	**Urbanization and Economics Development Urban Economic Growth**: Urban labor market and economic growth, demand and supply sources of urban labor, economics base and input-output analysis, limitations. Economic factors and environments that are responsible for urbanization, the prerequisites of urbanization, factors that initiate and ensure continuity of urbanization process, differences in the growth pattern of urbanization in an advanced economy and developing economy, political economy of organization, world urban order hierarchy.	CLO 4

Text:

1. *Arthur O'Sullivan, Urban Economics, 8th Ed. McGraw-Hill, 2012.*

References:

1. *Koontz, O Donnel and Weihrich: Management.*
2. *Newman: Administrative Action.*
3. *Ernest Dale: Management Principles & Practices*
4. *Gary Dessler: Organization & Management – A Contingency Approach*

Mapping Course Learning Outcomes CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*2*	*2*	*2*	*1*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

Corresponding CLOs	Teaching learning strategy	Assessment strategy/ In class assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments

CLO 3	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO4	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments

BNFQ Code: 0311-326, ***Dept. Course Code: ECON 326***
Course Title: Energy Economics **Credits: 3**

Rationale of the Course
This course addresses the role of energy in the economy, economic methods for measuring and modeling energy, and economies of various energy sources, electricity markets, and market failures in energy market.

Course Objective:
The aim of this course is to:

- Develop an understanding of the various types of energy.
- Provide knowledge of appropriate economic theory to analyze energy markets.
- Acquaint students with appropriate economic theory and models to analyze recent energy policies.
- Describe present scenario of energy sector in Bangladesh.

Course Learning Outcomes (CLOs): After completion of this course the students will be able to:
CLO1. Understand different forms of energy and their role in economy and society.
CLO2. Apply appropriate economic theory to analyze energy markets and the behavior of energy market participants including governments, industry and consumers.
CLO3. Use economic theory and models to analyze contemporary energy policies.
CLO4. Understand current energy markets and policies in Bangladesh.

Course Content

Unit	Topics/ Content summary	CLOs
Unit 1	**Introduction:** Definition of energy; Classifications of energy; Energy supply chain; Energy accounting framework; Analysis of energy balance information; Common energy data issues.	CLO 1
Unit 2	**Energy Demand Analysis:** Basic rational choice model for energy demand – utility maximization for consumer, cost minimization of the producer; Energy demand decisions from behavioral economics perspective; Indicators for energy demand analysis – demand trend, growth rates, demand elasticities, energy intensities.	CLO 2, 3
Unit 3	**Sectoral Energy Demand:** Overview; Analysis at the sectoral level-industry, transport, residential and commercial, decomposition analysis, econometric approach, and end-use approach.	CLO 1
Unit 4	**Economic Analysis of Energy Investments:** Characteristics of energy projects; Economic analysis of energy projects: Identification of costs, Identification of benefits, Valuation of costs and benefits; Economic vs. financial investment analysis; Indicators of cost-benefit analysis; Uncertainty and risk in energy investment.	CLO 2, 3

Unit 5	**Energy Supply:** Non-renewable energy supply - exploration activities, production of coal, oil, and natural gas, depletion of resources, supply forecasting; Renewable energy supply – renewable energy sources, status of renewable energy at present, drivers of renewable energy	CLO 1
Unit 6	**Energy Pricing and Regulations:** Perfectly competitive market model; Market failures, Energy price determination in: monopoly, natural monopoly, existence of rent, externality and public good; peak and off peak pricing; Role of government in energy sector; Energy taxes and subsidies, Problems with traditional regulatory approach; Regulatory alternatives-incentive regulation, Regulation by contract, price-cap regulation,. ardstick competition.	CLO 2, 3
Unit 7	**Energy and Power Sector in Bangladesh:** Overview of energy sector; Overview of power sector-regulator, generation, transmission, distribution; Present power generation scenario; Recent energy and power policies.	CLO 2, 4

Texts

1. Banks, F.E. (2000). Energy Economics: A Modern Introduction: A Modern Introduction, Springer Science & Business Media.
2. Bhattacharyya, S.C. (2019). Energy Economics: Concepts, Issues, Markets, and Governance, Springer Nature.
3. Griffin, J.M. and Steele, H.B. (2013). Energy Economics and Policy, Elsevier.

References:

1. Mills, R. and Toke, A.N. (1985). Energy, Economics and the Environment.
2. Peter Zweifel, P.Z., Aaron Praktiknjo, A.P. and Georg Erdmann, G.E. (2017). Energy Economics: Theory and Applications, Springer.
3. Schwarz, P.M. (2017). Energy Economics. Routledge, ISBN 9780415676786

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-3)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*1*	*2*	*1*	*2*	*1*	*1*
CLO2	*2*	*3*	*1*	*2*	*1*	*2*
CLO3	*2*	*2*	*3*	*2*	*1*	*2*
CLO4	*1*	*2*	*1*	*3*	*1*	*2*

1: Low 2: Medium 3: High

Mapping teaching learning and assessment strategy with CLOs.

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Lecture, Presentation	Quizzes Homework
CLO 2	Lecture, Presentation Problems solving	Question and Answers, Quizzes, Homework Assignments
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	Quizzes/ Assignments Presentations, Class Tests
CLO 4	Verbal, Problems analysis	Quizzes, Assignments Class test

BNFQ Code: 0311-320, Dept. Course Code: ECON 320
Course Title: Viva-Voce-III Credits: 1.5

Content:
An examination board will conduct the oral examination. The syllabus is not only the courses taken in a year but also the contemporary issues in economics. This course will test basic knowledge in economics and the ability to apply such knowledge to the address practical problems.

4th Year 1st Semester

BNFQ Code: 0311-411,   Dept. Course Code: ECON 411
Course Title: Microeconomics Theory and Application   Credits: 3

Rationale of the Course
The course consists of two parts. In the first part presents the partial equilibrium analysis, elements of general equilibrium and the welfare economics. The second part of the course is devoted to economics of information and economic agents' decision under risk and uncertainty. This part also covers the game theory. During the course both rigour and intuition will be emphasized.

Course Objectives
The aim of this course is to:
 Introduce learners with the advanced level tools and theories of microeconomics.
 Build up skills to link between real-life economic affairs and economic theories.
 Make students able to apply acquired existing theoretical knowledge to model new theories.
Analyze the game theoretical concepts while the decision of economic
agents are take in rivalry position.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Imbues advanced level microeconomic theories and Solve and interpret constrained optimization problems in the light of linear programming model

CLO 2. Understand inter-industry relationship in the light of knowledge gathered from input-output analysis
CLO 3. Synthesize the relationship between market failures and information under risk and uncertainty
CLO 4. Identify the conditions/criteria of general equilibrium and overall welfare of the economy
CLO 5. Analyze the market player's strategic decisions;

Course Content :

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**General Equilibrium:** General equilibrium and economic efficiency, Partial versus general equilibrium analysis, Interdependence in the economy and markets, The Edge worth Box Diagram, Pareto Efficient Allocations, Walras Law, The Walrasian System, Existence, Uniqueness and Stability of Equilibrium (A graphical illustration) General equilibrium and economic efficiency in exchange, production, production and exchange simultaneously, Pareto optimality, General equilibrium and the allocation of resources, Prices of commodities and factors, Factor ownership and income distribution.	*CLO 1, CLO 2*
	Welfare Economics: Needs of welfare economics; Criterion of Social	

Unit 2	Welfare, Maximization of Social Welfare, Determination of the Welfare Maximizing Output-Mix, Commodity Distribution and Resource Allocation, Public Goods and Externalities, Welfare Maximization and Perfect Competition, Trade protection and economic welfare, Critique and Extensions	*CLO 3*
Unit 3	**Information Economics:** The Economics of search, The principle agent problem, Market signaling, moral hazard, hidden actions, Asymmetric information- market for lemons, adverse selections, market equilibrium, full information and hidden information, Asymmetric information in labor markets – Efficiency wage theory	*CLO 4*
Unit 4	**Game Theory:** Definition, Objects, Usefulness, Dominant Strategy, Mixed strategies, Nash Equilibrium, Battle of the sexes, Prisoner's Dilemma, Repeated Games, Sequential games, Threats, Commitments and Credibility, Tit for Tat Strategy, Strategic Moves, Entry deterrence, Strategic Moves and International Competition.	*CLO 4, CLO 5*

Texts:

i) Dominick Salvatore, *Microeconomics: Theory and Applications.*
ii. Robert S. Pindyck, Daniel L. Rubinfeld and Prem L. Mehta; *Microeconomics.*

References:

iii. Henderson and Quandt: *Microeconomic Theory.*
iv. Varian, Hal R., *Intermediate Microeconomic,* 2nd Edition, Viva Books, 2009.
v. Koutsoyiannis, A., Modern Microeconomics.
vi. Chauhan, S. P. S., *Microeconomics An Advanced Treatise,* PHI Learning, 2009.
vii. H.A. John Green: *Consumer Theory.*
viii. Layard and Walters: *Microeconomic Theory.*
ix. D. M. Kreps: *A Course in Microeconomics.*
x. William Green et. al. *Theory of Microeconomics.*

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*3*	*2*	*2*	*2*	*3*
CLO2	*3*	*2*	*3*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-412,   Dept. Course Code: ECON 412
Course Title: Econometrics- II   Credit: 3

Rationale of the course
This course is a logical extension of the ECON 323: Econometrics I which covers applied topics of econometrics for undergraduate student. Practical orientation and experiential case studies that apply the techniques to real-life data and models and theories that deal with the measurement of economic relationships are stressed and discussed throughout the course. The course would be a very useful material to students in their academic pursuit and could help to broaden their knowledge and understanding of econometrics further together with the help of econometric packages.

Course Objectives
This course has been designed to:

i. acquaint students identifying and applying extensions to the cross-sectional regression model which address special features of alternative data structures;
ii. help students learning the consequences of specifying equations incorrectly and the tests used to identify correct model specification and statistical criteria for choosing between models;
iii. orient students applying regression analysis to macroeconomic / time-series data and making forecast using econometric packages.

Course Learning Outcomes:

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

CLO 1. recognize types and consequences of identification and estimation problems and deal with the remedial issues.

CLO 2. understand how concepts and techniques of econometrics are used to estimate causal relationships from empirical data.

CLO 3. build economic model, estimate and test their validity using relevant data and econometric packages.

CLO 4. formulate simple research questions and carry out independent analyses of project reports and journal articles.

Course Contents

Unit	Contents	Corresponding CLOs
Unit 1	**Qualitative Response Regression Models:** Nature of qualitative response models (QRM), Linear probability model (LPM), application of LPM; Logit model, estimation techniques of logit model; Probit model, estimation techniques of probit model; Tobit model, estimation techniques of tobit model;	CLO 1
Unit 2	**Errors in Variables:** Specification Errors, Consequences, Detection and Remedial Measures	CLO 2
Unit 3	**Identification:** The problem of identification- notation and definition; Implications of the identification problem; rules of identification.	CLO 3
Unit 4	**Simultaneous Equation Systems:** Review of single equation model; the nature of simultaneous equation models; tests of simultaneity, exogeneity, Consistency of OLS; The Simultaneous equation bias; Solution to the simultaneous equation bias.	CLO 3
Unit 5	**Two-Stage Least Squares (2SLS) Method:** Over identified equation and application of 2SLS; Properties of the 2SLS method.	CLO 3
Unit 6	**Introduction to Time Series Econometrics:** Time series data and its properties, AR, MA process, stochastic process, spurious regression, Stationary and non-stationary time series tests of stationarity, unit root tests, cointegration tests, Exercise on applications.	CLO 4
Unit 7	**Heteroscedasticity:** The nature of Heteroscedasticity; OLS estimation in the presence of Heteroscedasticity; Consequences of Heteroscedasticity; Detection of Heteroscedasticity; Remedial measures.	CLO 5
Unit 8	**Autocorrelation:** The nature of the problem; OLS estimation in the presence of autocorrelation; the BLUE estimator in the presence of autocorrelation; Consequences of autocorrelation; Detection of autocorrelation; Remedial measures.	CLO 5
Unit 9	**Applied Econometrics using EViews:** Demonstration on Econometric Views (EViews); Solution of Practical Problems with EViews using real data; Solution of Practical Problems with EViews using macroeconomic time-series data.	CLO 4

Mapping of CLOs with PLOs:

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO 1	3	2	2	1		3
CLO 2	3	3	2	1		3
CLO 3	3	3	1	2		3
CLO 4	3	2		1		3

L = Low M = Medium H = Hight

Mapping of Course Learning Outcomes (CLOs) with Teaching-Learning & Assessment Strategy:

CLOs	Teaching-Learning Strategy	Assessment Strategy
CLO 1	Lecture, Group Discussion, Practice Drills	Q/A Feedback, Class Test, Spot Test /Quiz, Assignment
CLO 2	Lecture, Group Discussion, Practice Drills	Q/A Feedback, Class Test, Spot Test /Quiz, Assignment
CLO 3	Lecture, Pair work, Group Discussion, Practice Drills	Q/A Feedback, Spot Test /Quiz, Lab Test, Presentation
CLO 4	Lecture, Pair work, Group Discussion, Practice Drills	Q/A Feedback, Term paper, Presentation

Texts:

1. Gujarati, D.N. and Sangeetha, *Basic Econometrics*, 4th Edition, Tata-McGraw Hill, 2007.
2. Wooldridge, J.M., *Econometrics,* Cengage Learning, 2009.

Reference:

1. Dougherty, C., Introduction to Econometrics, 4th Edition, Oxford University Press, 2011.
2. G.S. Maddala; Introduction to Econometrics (2/e),1992.
3. J. Johnston : Econometric Methods (2/e and 3/e), 1972 and 1989.
4. E.R. Berndt ; The Practice of Econometrics, Addision Wesely, 1990.
5. W. H. Greene, Econometric Analysis, 5th edition, Pearson Education Inc., India, 2003.
6. A. Koutsoyiannis, Theory of Econometrics, ELBS, 2nd edition, England, 1977.
7. Enders, W., *Applied Econometric Time Series,* 2nd Edition, Wiley, 2004.

BNFQ Code: 0311-413, Dept. Course Code: ECON 413

Course Title: History of Economic Thought Credit: 3

Rationale of the Course

Economic thought is the history of economic theory. Our focus is on ten topics. We start with Ancient Economic Thought, where we think about the Hebrew, Greek and Kautilya economic thought. We then move to Mercantilism, Physiocrats, Classical and Neo-Classical Economy, Marist Economy and Modern economy Thought. The branch of history of economic thought continues to grow as the science of economics matures. New ideas, new concepts, terms, problems values make it necessary that the basic controversies and major contributions are reviewed. Since this course provides them with asolid background to the development of numerous theories and hypotheses in economics, it will provide them with a good understanding of the contemporary economics.

Course Objectives

The primary objective of the course is to introduce students to the fundamental concepts of economic history. This course emphasises the significance of various economic theories and their historical context, as well as the contributions of renowned economists. This course also assists the student in comprehending the primary characteristics of traditional and contemporary economics and in analysing various theories from various perspectives. This course concludes with a concise introduction to ancient economics and modern economics.

Course Learning Outcomes (CLOs)

This course is expected to develop a strong understanding among students in the developments of major ideas in economics. It will shed light in the state of the science of

economics in the past, on the course of its present movement and on the future direction. After completing the course students will be able to:
CLO 1. discuss critically how different economists in the past understood and analyzed the economic problem.
CLO 2. compare the work on founders of economics such as Adam Smith, David Ricardo, Thomas Malthus, Stanley Jevons, Karl Marx, Alfred Marshall, and others.
CLO 3. illustrate diverse theories of value, growth, rent, and decline of economic society.
CLO 4. perform with primary sources relating to the major writings that shaped the evolution of economic analysis.
CLO 5. Think critically and independent thinking requiring research beyond textbook, through projects, interdisciplinary examples and exercises.

Course Contents

Unit	Topic/Content Summary	Corresponding CLOs
Unit 01	**Ancient Economic Thought::** i. Hebrew Economic Thought – Economic Ideas ii. Greek Thought –Plato & Aristotle iii. Thought in Ancient India–Kautilya's Arthasastra.	*CLO 1*
Unit 02	**Formation of Modern Economic Thought in Europe:** i. Mercantalists ii. Physiocrats and European Socialists. iii. *Mercantilism:* Special Feature of Mercantilism Representative: Sir Thomas Mun, Philipp von Hornick iv. *Physiocrats:* Special Feature of Physiocrats; Representative: Francois Quesney, Quesney Economique Tableau.	*CLO 2*
Unit 03	**Classical School of Thought:** i. Adam Smith - Laissez Faire & Invisible Hand, Theory of Value, Division of Labor, Role of Government, Role of Capital, Taxation. ii. David Ricardo- Corn Laws or Age of Ricardian, Theory of Rent, Labor Theory of Value, Theory of Comparative Advantage. iii. The Major schools of Thoughts: Classical, Neoclassical, Keynesian and Marxian, Features, Essence: Comparative analysis.	*CLO 3*
Unit 04	**Marxian Ideas:** i. Wage Theory ii. Socio Economic Formation Capital Accumulation iii. Organic Composition of Capital, Surplus Value, Exploitation.	*CLO 3*
Unit 05	**Neo-classical School of Thought:** i. Marginal Revolution, Similarities & Dissimilarities With Classical Theory ii. Representative: William Stanley Jevons, Carl Menger, & Leon Walras. iii. *Alfred Marshall*- Marginal Utility, Price Elasticity of demand, Consumer Surplus, Real & Monetary flows, Time Element, Representative firm iv. Internal & External Economies, Neo-Classical Analysis.	*CLO 4*
Unit 06	**Keynesian Revolution:** i. Great Depression, Feature of Keynesian Economics	*CLO 5*

	ii. Departure from neo-classical, iii. Liquidity Preference, Circular Flow, Determinant, Effective Demand, Business Cycle, Military Economy	
Unit 07	**Welfare Economics:** Representative: A. C. Pigou, Pareto, J. R. Hicks.	*CLO 5*
Unit 08	**Modern Economic Thought:** i. Social choice theory, ii. Welfare Economics, iii. Rationality & Economic behavior, Poverty &Famines; Gender family and feminist economics, iv. Food famines & hunger.	*CLO 3*

Texts:

i. Screpanti, E. & Zamagni, S., (2006). *An Outline of the History of Economic Thought*, (2nd ed.). Oxford University Press.

ii. Brue, S. L. & Grant, R. R. (2013) *The Evolution of Economic Thought,* (8^{th}ed.). Cengage Learning.

References:

iii. Lokanathan, V. ,*History of Economic Thought;* 2004

iv. Hunt E. K. & Lautzenheiser, M. (2011). *History of Economic Thought- Acritical perspective,* (3rd ed.). M.E. Sharpe, Inc.

v. Medema, S. G. & Samuels, W. J. (2004). *The History of Economic Thought: A Reader*. (2nd ed.). Routledge.

vi. Jhingan, M. L., Girija, M., & Sasikala, L. (2014). History of Economic Thought. (3rd ed.). Vrinda Publications P Ltd.

vii. E.K. Hunt: *Property and Prophets: The Evolution of Economic Institution and Ideologies.*

viii. Kautilya: *Arthasastrya.*

ix. Schumpeter: *History of Economic Analysis.*

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*3*	*2*	*1*	*3*
CLO2	*1*	*3*	*3*	*1*	*2*	*1*
CLO3	*3*	*3*	*3*	*3*	*3*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*3*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy/Tools**	**Assessment Strategy/In-Class Assessment**
CLO 1	Verbal and Presentation	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and Presentation	As above
CLO 3	Verbal, graphical and presentation	As above

CLO 3	Verbal, graphical and presentation	As above
CLO 4	Verbal, graphical, Presentation and mathematical exposition;	As above
CLO 5	Verbal, graphical and presentation	As above
CLO 5	Verbal, graphical and presentation	As above
CLO 3	Verbal, graphical and presentation	As above

BNFQ Code: 0311-414,   ***Dept. Course Code: ECON 414***
Course Title: Project Appraisal   **Credits: 3**

Rationale of the Course
This course covers estimation of cost-benefit of projects, project planning and its non-market effects. It looks holistic on project selection, technical matters, institutional framework and logical framework in appraisal and evaluation. The techniques of monitoring and evaluation will complement for understanding project-planning system of both private and public sectors. This course is designed as a complete practice of cost benefit and cost effectiveness analyses of development projects with special reference to Bangladesh.

Course Objectives
The primary objective of the course is to introduce project as a micro-level planning and budgeting tool. The course particularly will develop students' ability to prepare investment project proposal for both private and public sector following logical analytical framework. The course ends with preparation of a sample project proposal, which will make students to confident in economic cost benefit analysis but also in monitoring and evaluation of project.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. apply the analytical framework, financial and economic appraisals of investment projects.

CLO 2. undertake cost benefit analysis along with non-marketed goods and market distortions.

CLO 3. prepare project proposal considering national and international policies and regulations.

CLO 4. monitor and evaluate ongoing and completed public and private sector projects.

Course Content

Unit	**Topic/Content Summary**	**Corresponding CLOs**
Unit 1	**Concept of Project:** Plan vs project, SWOT analysis to problem detection, types of project, project cycle, appraisal, implementation vs evaluation;	*CLO 1*
Unit 2	**Project Appraisal:** Types or aspects of appraisals, Stakeholder analysis, Logical framework approach; Problem analysis, Logframe, Critical path methods in scheduling, CPM as monitoring tools,	*CLO 2*
Unit 3	**Financial Appraisal:** Cost benefit vs cost effectiveness analysis, financial NPV, BCR and IRR as appraisal techniques;	*CLO 3*

Unit 4	**Measurement of Economic Prices:** Need for economic appraisal, Domestic vs. international prices; Domestic resource cost, valuing traded & non-traded goods; shadow exchange rate, social discount rate, shadow wage.	*CLO 3*
Unit 5	**Economic Appraisal:** Rational for economic analysis, decision for public project, economic NPV, BCR and IRR	*CLO 3*
Unit 6	**Environment and Project appraisal:** Reasons for valuations of environment externalities; IEA, EIA, mitigation measures, valuation methods, Cost benefit analysis with environment component.	*CLO 4*
Unit 7	**Risk and Uncertainty with project:** Definition; sensitivity analysis; Expected net present value; risk analysis-probability distributions.	*CLO 4*
Unit 8	**Public project and DPP:** Planning commission, project approval process, public regulations, DPP format,	*CLO 4*

Texts:

1. Frances Perkins: P*ractical Cost Benefit Analysis: Basic Concepts and Applications,* Macmillan, 1996.
2. European Commission, *Guide to Cost-Benefit Analysis (CBA) of investment projects,* 2015

References:

1. P. Gittinger, *Economic analysis of agricultural projects,* John Hopkins University Press, 1982.
2. Commonwealth of Australia, *Introduction to Cost Benefit Analysis*, Financial Management Reference Materials No 5, 2006.
3. ADB, *Guidelines for the economic analysis of projects.* Asian Development Bank, 2017
4. NORAD: *The Logical Framework Approach*, 1999
5. European Commission, *Introduction to monitoring and evaluation (M&E) utilizing the logical framework approach,* 2017.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*1*	*3*	*2*	*1*	*1*	*1*
CLO2	*1*	*2*	*3*	*2*	*1*	*1*
CLO3	*1*	*3*	*1*	*1*	*1*	*1*
CLO4	*1*	*3*	*3*	*2*	*1*	*1*

1: Low 2: Medium 3: High

Mapping teaching learning and assessment strategy with CLOs.

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Quizzes Homework
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	Quizzes Homework

		Assignments
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	Quizzes/ Assignments Presentations Class Tests
CLO 4	Verbal, graphical and mathematical exposition; Problems solving; Field visit the project site	Quizzes Assignments

BNFQ Code: 0311-415, ***Dept. Course Code: ECON 415***
Course Title: Econometrics Lab **Credits: 1.5**

Course Description
This course will equip student with the concepts and applications of selected topics in econometrics. In addition, students will gain an understanding of using specialized statistical and econometric software such as Eviews and Stata. As a demonstration of their learning, students will be encouraged to present a short empirical analysis on selected topics of interest.

Intended Learning Outcomes (ILOs):
At the end of the course the student should be able to:

- Estimate, analyze and interpret the principles of the linear regression model.
- Use statistical software package Eviews /Stata to solve computer exercises on econometrics.

- use Eviews / Stata for the empirical analysis of linear regression models
- estimate and analyse time series and panel data using Eviews / Stata.

Course Contents:

Unit	Contents
01	Fitting of Bivariate Regression and Multiple Regression Models, Analyzing Regression Results, the interpretation of the regression parameters, the standard error of the OLS-estimator, unbiased estimators, t-test and F-test, Analyzing Goodness of Fit of the Models, consequences of omitted variables, consequences of irrelevant variables, Identify the Best Model.
02	Checking Classical Assumptions and their violations; Multicollinearity, Heteroscedasticity; Autocorrelation Test. Re-estimation of regression removing problems of violations of Classical Assumptions, interaction effects, dummy variables
03	Reading and Managing Time Series Data, Construction of Time Series Plot, Evaluation of ACVF and ACF, Checking Stationarity by Different Techniques including Examination of ACVF and ACF, DF,ADF, Phillips-Perron Tests for Unit Root and Kwiatkowski-Phillips Schmidt-Shin (KPSS) Test for Trend Stationarity.
	Estimation of AR, MA, ARMA and ARIMA Models and Forecasting. Estimating and Forecasting by VAR Model-Cointegration test and ECM. Granger Causality.
04	Estimation of regression model with categorical variables and binary choice models – Logit and Probit models.
05	Analysis of panel data regression – Pooled regression, Fixed Effect and Random Effect models.

06	Problem Solving Though EViews/STATA: Empirical problems/ projects solving using EViews/STATA; Analysis of Data by EViews/STATA, Writing and Running Syntax in STATA to Solve Different Statistical Problems.

Course Requirements: ECON 113, ECON 123, ECON 213, ECON 323, ECON 413.

Teaching and Learning Strategies: (i) Lecture, (ii) Discussion, (iii) Practical Exercise, (iv) Presentation and Interpretation.

Required Resources: (i) Multimedia Projector, (ii) Computer Lab Facilities

Text:

I. "Basic Econometrics" by Damodar Gujarati and Dawn Porter, Fifth Edition 2009, McGraw-Hill. Offers a textbook treatment of the topics covered in this course.

References:

II. "Time Series Data Analysis Using Eviews" by I Gusti Ngurah Agung, 2009, John Wiley & Sons.
III. "Introduction to Time Series Using Stata" by Sean Becketti, 2013, Stata Press.
IV. Eviews/STATA user guide.

BNFQ Code: 0311-416,   Dept. Course Code: ECON 416
Course Title: Health Economics   Credits: 3

Rationale of the Course

Health economics as a discipline drew conceptual distinctions between health and other goods. Factors that distinguish health economics from other areas include extensive government intervention, intractable uncertainty in several dimensions, asymmetric information, barriers to entry, externalities and the presence of a third-party agent. The course covers topics the Production Function of Health, Demand for Health Care, Supplier Induced Demand for Health care, Healthcare Market, Health Insurance, Healthcare Financing and Equity, and Health System in Bangladesh.

Course Objectives

The primary objective of the course is to introduce students to the fundamental concepts of Health Economics. This course emphasises the significance of various microeconomic concept ,theories and their application in field of health care . This course also assists the student in comprehending different problems and characteristics of health economics and in analysing various theories from various perspectives. This course concludes with a concise introduction of demand- supply of health care, insurance, financing etc.

Course Learning Outcomes (CLOs):

On successful completion of this course students will be able to-

CLO 1. Interpret and appropriately apply the key concepts of economics within the context of the health system.

CLO 2. Understand why governments intervene in the health care sector to provide access to safe, effective and affordable health care.

CLO 3. Understand the major theories of the demand and supply for health care and importance of insurance in health.

CLO 4. Assess the impact of different financial incentives for consumers, doctors, hospitals and other participants in the health care sector.

CLO 5. Evaluate changes to health care policies and health care reforms and

CLO 6. Understand and describe the main features of the Bangladesh health system- in particular how it differs from other salient national health systems according to how services are delivered and purchased.

Course Contents

Unit	**Topic/ Content Summary**	**Corresponding CLOs**
Unit 01	**Introduction to Health Economics:** i. Do principles of Economics applyto health care? ii. Special characteristics of health care iii. Limited resources and Unlimited wants iv. Inter-sectoral Choice, Choice within the Health sector v. Optimality conditions, Choice between two projects vi. Marginal rule in the allocation of limited economic resources.	*CLO 1*

Unit 02	**The Production Function of Health:** i. Production function of Health, Measures of health ii. Morbidity and Mortality iii. Health care as an output of health services industry and as an input to health iv. Life style and health v. Role of Medicine, Public health, vi. Impact of nutrition and schooling on health vii. Determination of the allocation of resources to health care using health production function viii. Empirical studies on Health Production function.	*CLO 3*
Unit 03	**Demand for Health and Health Care:** i. Need versus Demand ii. Consumer as Health services producer iii. Grossman model, Criticism of Grossman model iv. Factors affecting demand care v. Empirical evidence.	*CLO 3*
Unit 04	**Asymmetric Information and Health Care:** i. Information and Market ii. Extent of problem of Asymmetric information in health sector, Health insurance and information iii. Adverse selection and Moral Hazard iv. The Agency Relationship, Agency and Health care, v. Consumer information, Prices and Quality.	*CLO 5*
Unit 05	**Supplier Induced Demand (SID):** i. SID Theory, SID in Demand – Supply framework ii. Alternative Models of SID iii. Empirical evidence of SID iv. Problem of Identification, Theoretical and Empirical Criticisms.	*CLO 3*
Unit 06	**Introduction to Insurance:** i. Risk and Insurance, Insurance terminology ii. Demand for Insurance iii. Risk aversion and Willingness to pay for Insurance iv. Supply of Insurance, The optimum level of Coverage v. Effects of Coinsurance and deductibles on demand vi. Loading costs and Insurance firm vii. Tax system and demand for insurance viii. Price for Insurance, Question for Uninsured..	*CLO 3*
Unit 07-	**Healthcare Financing and Equity:** i. Alternating approach to financing healthcare ii. User fee, Private Insurance, Social Insurance, Community financing/insurance iii. Tax revenue, Loan and Grants iv. Criteria of Choosing a financing system v. Goals of healthcare Financing policy, Cost recovery, efficiency vi. Equity in the Delivery and in the Finance of Healthcare vii. Are User changes efficiency and equity-enhancing?- Empirical findings	*CLO 4*
Unit 08	**Economic Evaluation of Health:** i. Meaning and importance of Economic evaluation ii. Cost- Minimization, Cost effectiveness iii. Costutility and Cost Benefit Analysis, Source of cost effectiveness data, iv. Allocating shared inputs v. Clinical Decision Analysis (CDA)	*CLO 5*

	vi. Methodological differences among techniques.	
Unit 09	**Health System in Bangladesh:** i. Health status of the population ii. Mortality and Mortality base indicators iii. Healthcare organizations iv. Health policies and programmes, Health Manpower Development v. Health services indicators vi. Development of private health facilities vii. Healthcare financing mechanism. viii. Health Policy and Market Failure ix. Government intervention in healthcare market x. Desirability and Feasibility of Social health insurance xi. Payment Mechanism under Social Insurance.	*CLO 2 & CLO 6*

Texts:

i. S. Folland, A.C. Goodman, M. Stano: *The Economics of Health and Healthcare*, 5th edition.

References:

ii. Feldstein, Paul J., *Economics of Health Care*, Cengage Learning, 2005.
iii. C. Phelps: Health Economics, Harper Collins, New York, 1992.
iv. M. F. Drummond, et al.: *Method of the Economic Evaluation of HealthCare Programs*, Oxford University Press, 1987.
v. Muzaffer Ahmed and M. Shuaib: *Health Care: Current Issues, in Experiences with Economic Reform: A Review of Bangladesh's Development* 1995, 1996, Center for Policy Dialogue, University Press Limited, 1995, 1996.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*3*	*2*	*1*	*2*
CLO2	*1*	*2*	*3*	*3*	*3*	*2*
CLO3	*3*	*3*	*3*	*3*	*3*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*3*	*2*	*3*	*3*
CLO 6	*1*	*2*	*2*	*3*	*3*	*1*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal, graphical and Presentation	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 3	Verbal, Graphical and Presentation	As above
CLO 3	Verbal, graphical, Mathematical exposition and Presentation	As above
CLO 5	Verbal, graphical and presentation	As above
CLO 3	Verbal, graphical and presentation	As above
CLO 3	Verbal, graphical, Presentation and	As above

	mathematical exposition;	
CLO 4	Verbal, graphical and presentation	As above
CLO 5	Verbal, graphical and presentation	As above
CLO 2, 6	Verbal, graphical and presentation	As above

BNFQ Code: 0311-417,   Dept. Course Code: ECON 417
Course Title: International Business   Credits: 3

Rationale of the Course
This course is designed to provide students with a basic understanding of the broad field of international business, presenting views from both the home and host country perspectives. Students will be equipped with the fundamental concepts and knowledge of international business operations.

Course Objectives:
This course has been designed to:
- acquaint students with three basic areas: underlying theories of international business, environmental factors affecting international activities, and the management of business functional operations in an international context.
- make capable of analyzing international situations and evaluate contemporary issues in international business.
- assessment process will offer students the opportunity to integrate everything they have learned in the course into a comprehensive framework, which will help make concepts seem more real, and aid in applying those concepts to everyday life.

Course Learning Outcomes:
Upon a successful completion of the course, the students will be able to:
CLO 1. Understand the fundamental theories, purposes and practices of international business, and better underst and why companies engageeinit.
CLO 2. Analyze the complexity of enteringan international market.
CLO 3. Explain the relationship between government (foreign and domestic) and international business.
CLO 4. Describe the importance of developing to lerance and respect for other cultures to enhance the irchances of success in the international market.

Course Contents

Unit	Contents	CLOs
01	**Foundation Concepts:** What is International Business? Globalization of Markets and the Internationalization of the Firm; Organizational Participants That Make International Business Happen	CLO 1
02	**The Environment of International Business:** Government Intervention in International Business; Regional Economic Integration; Emerging Markets, Developing Economies, and Advance Economies; The International Monetary and Financial Environment	CLO 2
03	**Strategy and Organization in the International Firm:** Strategic and Organization in the International Firm; Global Market Opportunity Assessment	CLO 2
04	**Entering and Operating in International Markets:** Exporting and Countertrade; Foreign Direct Investment and Collaborative Ventures; Licensing, Franchising, and Other Contractual Strategies;	CLO 3
05	**Functional Area Excellence:** Marketing in the Global Firm; Human Resource Management in the Global Firm; Financial Management and Accounting in the Global Firm	CLO 3

06	**Global Sourcing:** Trends toward outsourcing; Global sourcing and off shoring; Evolution of global sourcing; Benefits and challenges of global sourcing for the firm; Implementing global sourcing through supply-chain management; Risksin global sourcing; Strategies for minimizing risk in global sourcing; Implications of global sourcing for public policy and corporate citizenship.	CLO 4

Mapping of CLOs with PLOs:

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CLO 1	3	2	2	3	3		
CLO 2	3	3				3	
CLO 3	3		1	3	3	2	1
CLO 4	3	3		2	2		1

L = Low M = Medium H= Hight

Mapping of Course Learning Outcomes (CLOs) with Teaching-Learning & Assessment Strategy:

CLOs	Teaching-Learning Strategy	Assessment Strategy
CLO 1	Lecture, Group Discussion.	Q/A Feedback, Class Test
CLO 2	Lecture, pair work, Group Discussion, Practice Drills	Q/A Feedback, Class Test, Presentation,
CLO 3	Lecture, pair work, Grou p Discussion, Practice Drills	Q/A Feedback, Spot Test /Quiz, Class Test, emonstration
CLO 4	Lecture, pair work, Group Discussion, Practice Drills	Q/A Feedback, Spot Test /Quiz, Class Test, emonstration

Texts:

1. Cavusgil,S.T.,Knight, G. and Reise, J.R.(2012).***International Business: The New Realities* ,** Prentice Hall, 2nd Edition, 2012
2. Cavusgil,S.T.,Knight,G.andReise,J.R.(2008).*InternationalBusiness:Strategy,Management, and the New Realities*, Pearson Education, Inc.,USA
3. Caves,R.E.,FrankelJ.A.andJones,R.W.(1996).*WorldTradeandPayments:AnIntroduction*,5th edition,HarperCollins,NewYork.

References:

1. Ali,S.A.(1995).*ForeignExchangeandFinancingofForeignTrade*,LitaAcademics,Dhaka
2. *the New Realities*, Pearson Education, Inc.,USA.
3. Marko,P.(2020).GeopoliticalAlpha:AnInvestmentFrameworkforPredictingtheFuture ,*1st Edition.* ISBN-13:978-1119740216.
4. Hill,W.L.C.(2016).InternationalBusiness:CompetingintheGlobalMarketplace.McGraw-HillHigherEducation,11th Edition.ISBN:978-1-259-57811-3.
5. Ali,S.A.(1995).*ForeignExchangeandFinancingofForeignTrade*,LitaAcademics,Dhaka.

4^{th} Year 2^{nd} Semester

BNFQ Code: 0311-421,   Dept. Course Code: ECON 421
Course Title: Macroeconomic Theory and Application   Credits:3

Rationale of the Course
Macroeconomic Theory and Application is an in-depth study of the theories and models that form the foundation of macroeconomic analysis. This course builds upon the fundamental principles of macroeconomics and delves into advanced topics such as growth theory, economic fluctuations, overlapping-generation models, modern business cycle theory, and macroeconomic policy debates. Students will develop a comprehensive understanding of macroeconomic phenomena and gain the analytical tools necessary for advanced macroeconomic research.

Course Objectives
To provide students with a deep understanding of the theories of economic growth and their implications for long-term economic development and advance their logical ability.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Link and assess the major macroeconomic growth theories.
CLO 2. Relate economic theories with general economies and policy articulation.
CLO 3. Analyze the effectiveness of the economy in response to exchange rate policy.
CLO 4. Design an economic development plan by applying macroeconomic conceptions.
CLO 5. Understand macro variables and policies to conduct macroeconomic research.

Course Contents mapped with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Theories of Growth** Sources of economic growth. Solow Growth Model, Dynamics of Solow Growth Model, Steady state and convergence of the Solow growth model, Saving rate changes in the Solow model, The Golden rule level of capital, Population growth in the Solow model, Technological progress in Solow Growth Model.	CLO 1 & CLO 2
Unit 2	**Neoclassical Growth Model- Extended** Neoclassical Growth Equilibrium, The Classical Saving Function, The Kaldor Saving Function, Policies to promote growth: policy and practice, Research and Development, Endogenous Growth.	CLO 2
Unit 3	**Introduction to Economic Fluctuations** The Keynesian Cross, The Interaction Between Monetary and Fiscal Policy, The Mundell–Fleming Model, Should Exchange Rates Be Floatingor Fixed? The Impossible Trinity.	CLO 3
Unit 4	**Overlapping-Generation Models** The Sticky-Price Model, The Imperfect-Information Model, Inflation, Unemployment, and the Phillips Curve, The Ramsey-Cass-Koopmans Model; The Diamond Model.	CLO 3

Unit 5	**Modern Business Cycle Theory** Real Business Cycle Model-Productivity Shocks and Business Cycle Fluctuations, Solow Residuals and Business Cycle Fluctuations, Employment and Unemployment in the Real Business Cycle Model, Objections to the Real Business Cycle Model, Business cycle models with financial frictions.	CLO 4
Unit 6	**Macroeconomic Policy Debates** Stabilization Policy, Should Policy Be Active or Passive? Should Policy Be Conducted by Rule or by Discretion? Making Policy in an Uncertain World, Time Inconsistency and the Tradeoff Between Inflation and Unemployment, Policy games.	CLO 5

Texts

1. Mankiw, N. G. (2007) Macroeconomics, 7th Ed., Worth Publisher.
2. Mishkin, Frederic S. (2012)Macroeconomics Policy and Practice, Addison-Wesley.

References:

1. Branson, William H. (1989) Macroeconomic Theory and Policy, 3rd Ed. Harper & Row
2. Romer D. (2012) Advanced Macroeconomics, 5th Ed. The McGraw Hill Companies, Inc.
3. Blanchard, O. (2010) Macroeconomics, 4th edition, Pearson.
4. Dornbusch, Rudiger, S. Fischer and R. Startz, (2004) *Macroeconomics*, 9th edition, McGraw-Hill.
5. R.G. Lipsey and K. A. Chrystal (2004): *Economics*, 10th Edition (First Indian Edition), Oxford University Press.
6. M. Parkin, (2003)Macroeconimcs, 6th Edition, Addison Wesley.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO1	1	3	3	3	1	2
CLO2	1	3	3	2	1	3
CLO3	1	2	2	3	1	3
CLO4	3	3	2	2	2	3
CLO 5	3	2	2	1	2	3

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q&Ans. Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above

CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-422, ***Dept. Course Code: ECON 422***
Course Title: International Finance **Credits: 3**

Rationale of the Course
This course covers introductory material in the area of international monetary theory and policy. It examines the behavior of international financial markets, the balance of payments and exchange rates, interactions between the balance of payments, the exchange rate and domestic economic activity and ways of organizing the international monetary system.

Course Objectives
The primary objective of the course is to acquaint students with the ability to analyze and make managerial decisions in the context of a multinational firm.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Understand about the payments among nations and macroeconomic policies to adjust balance of payments disequilibrium.
CLO 2. Study the operation of foreign exchange markets and alternative exchange rate systems.
CLO 3. Acquire essential skills for managing foreign exchange risk and operating exposure.
CLO 4. Explain multinational corporations in international trade and the mechanisms for financing international trade.

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Unit 1-Balance of Payments:** Why BOPs are always balances? Conceptual issues—Surplus and Deficit; Credit and Debit; Empirical Application, Sustainability of Current Account Balance.	CLO 1
Unit 2	**Unit 2- Foreign Exchange Markets and Exchange Rates:** Foreign Exchange Rates: Function, equilibrium, fixed, flexible and managed, Types of Exchange rates, arbitrage, spot and forward rates, Foreign Exchange Risks: Hedging and speculation; Covered Interest Arbitrage; Covered Interest Arbitrage Parity; Covered Interest Arbitrage Margin.	CLO 2
Unit 3	**Unit 3- Exchange Rate Determination:** Purchasing Power Parity (PPP) Theory: Absolute and Relative PPP; Price Levels and the Exchange Rate in the Long Run: The Law of One Price, Purchasing Power Parity, A Long Run Exchange Rate Model based on PPP, Explaining the Problems with PPP, Beyond PPP-a General Model of Long Run Exchange Rates, International Interest Rate Differences and Real Exchange Rate, Real Interest Parity.	CLO 2

Unit 4	**Unit 4- Price Adjustment Mechanism:** Fixed and Floating Exchange Rates - Stability in a floating exchange, rate market-Marshall-Learner Condition-Determination of floating exchange rate; Macroeconomic Policy with Fixed Exchange Rates Devaluation: Elasticity Approach and Absorption Approach—Internal and External Balance. The Adjustment Process, Temporary vs. Fundamental Disequilibria, The Price Adjustment Mechanism-The Partial Equilibrium Model, The Effects of Devaluation (with reference to Bangladesh), J-curve Effect, The Price Specie Flow Mechanism.	CLO 3
Unit 5	**Unit 5-Income Adjustment Mechanism:** Determinants of Aggregate Demand in an Open Economy, Determinants of Consumption Demand, Determinants of Current Account, Effects of Real Exchange Rate on Current Demand, Asset Market Equilibrium, Policies to Maintain Full Employment.	CLO 3
Unit 6	**Unit 6-Open Economy Macroeconomics:** Adjustment Policies: Macroeconomic Policy with floating exchange rates— Mundell—Fleming Model-The Monetary Approach. Internal and external balance, Swan Diagram, Perfect capital mobility and flexible exchange rate, Interest rate differentials and exchange rate expectations, Fluctuation in exchange rate and their interdependence; The Model under Fixed Exchange Rate, Fiscal and Monetary Policy under Floating Exchange Rates, Policy under Perfect Capital Mobility, International Macroeconomic Policy Coordination	CLO 4

Texts:

i. Salvator, Dominick: Introduction to International Economics, 2nd Edition, John Willy & Sons, 2009.
ii. Paul R. Krugman and Maurice Obstfeld, International Tconomics: Theory and Policy, 5th Edition, Harper Collins, 2000.

References:

iii. Chacoliades: International Trade Theory and Policy
iv. Levi Maurice D. International Finance (Fourth Edition), McGraw-Hill, 2005
v. Bo Sodersten and Geoffrey Reed, International Economics, 3rd Edition, Macmillan, 1994.
vi. Maurice Lvi: International Finance
vii. Kaves, Jones and Frank: World Trade and Payment: An Introduction.
viii. Rivara Bartiz: International Finance and Open Economy Macroeconomics.
ix. O'Donald: Macro Economic Principles.
x. C. P. Kindelberger, International Economics, 4th edition, Richard D Irwin Inc., Illinois, 1993.
xi. S. Husted and M. Melvin, International Economics, 4th edition, Addison Wsley Longman Inc., New York, 1958.

Course Learning Outcomes (CLOs) and Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	Teaching learning strategy	Assessment strategy/ In class assessment
CLO 1	Verbal and graphical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments
CLO4	Verbal, graphical and mathematical exposition; Problems solving	Q & AS Quiz Homework Assignments

BNFQ Code: 0311-423,   ***Dept. Course Code: ECON 423***
Course Title: Labor Economics   **Credits : 3**

Rationale of the Course
This course is concerned with a group of topics on the microeconomic aspects of the labor market, in addition to selected topics on the macroeconomic issues of labor. It is essentially an application of microeconomic theory to the labor market. It is a course in wage and employment determination. It covers such topics as the supply of labor, labor force participation, the demand for labor, and details the market structure of wages. It also recounts for modification of traditional wage theory via an institutional approach. Economic aspects of labor unions, bargaining theories of wages, minimum wage legislations, labor supply incentives of various welfare programs, labor mobility, migration, and discrimination theories are issues of interest.

Course Objectives
The aim of this course is to:

- Enable students about labor force and its demand and supply.
- Encourage to understand the wage determination and employment related issues.
- Accumulate knowledge about labor market and trade union.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO 1. Apply the employers' incentives and behavior that determine the labor demand curve, implications of minimum wage laws, and effects of technological change on labor demand.
CLO 2. Understand various aspects of workers' labor supply behavior such as whether to work for pay as opposed to consuming leisure or working at home without pay.
CLO 3. The choice of occupations with different characteristics, workers' decision to invest in human capital and other investments designed to improve their earning capabilities, and various policy applications that affect workers' choice between work and leisure.
CLO 4. Articulate how the compensation of workers can be structured to create incentives for greater productivity.
CLO 5. Manipulate labor market effects of unions and the contemporary issue of growing income inequality;

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction to Labor Economics** What is labor economics? Labor markets; participants and institution; some basic definitions; The labor market of Bangladesh.	CLO 1
Unit 2	**Structure of Labor Market:** Participation decision and hours of work. Income and substitution effects. Labor supply over time Empirical for labor. Empirical evidence, The production function and marginal product, Short-run and long-run demand for labor. Elasticity of demand for labor. Empirical evidence. Competitive and Noncompetitive equilibrium. Labor market segmentation. Empirical evidence.	CLO 2
Unit 3	**Compensating Wage Differentials:** The neoclassical model, Hedonic Wages, Empirical evidence.	CLO 3
Unit 4	**Labor Market Discrimination:** Labor discrimination and its dimensions. Taste-for-discrimination model. The crowding model, occupational segregation. Empirical evidence	CLO 3
Unit 5	**Trade Union:** Determinants of labor unions, trade unions and collective bargaining. Monopoly unions. Efficient contracts. Strikes and threats. Empirical evidence.	CLO 4
Unit 6	**Job Search and Unemployment:** Steady rate of unemployment. Wage offer distribution. None-sequential and sequential search, Asking wage. Work incentives and the principal-agent problem, wages and unemployment. Empirical evidence	CLO 4
Unit 7	**Structure of Labor Market in Bangladesh:** Challenges of creating jobs, Gender gap, Challenges of equity and growth, Poverty reduction and social programs, Labor migration of Bangladesh.	CLO 5

Text:
(i) J. Borjas: Labor Economics. Second Edition, Md Graw Hill: Singapore. 2000.

References:
i. Kaufman, Bruce E. and Julic L. Hotchkiss, *Labor Market Economics,* South-Western Cengage Learning, 2003.
ii. Mc. Connell, R.Compbell. L Brue Stanley and Devid A. Macpherson: *Contemporary Labour Economics.* Sixth Edition McGraw-Hill: Singapore, Irwin. 2003.
iii. M. Ismail Hoosain. Syed A. Hye and Amin Muhannad Ali. *Structural Adjustment Policies and Labour Market in Bangladesh.* CIRDAP: Dhaka. 1998.
iv. Talikder MAS, Sram O Shipa, Bangla Academy: Dhaka, 1999.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*2*	*1*	*2*	*3*
CLO2	*3*	*3*	*3*	*1*	*2*	*3*
CLO3	*3*	*3*	*2*	*2*	*1*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Mapping of CLOs with teaching learning and assessment strategy

Corresponding CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition; Problems solving	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As above
CLO 5	Verbal, graphical and mathematical exposition; Problems solving	As above

BNFQ Code: 0311-424, Dept. Course Code: ECON 424
Course Title: Economics of Industrial Organization Credits: 3

Rationale of the Course
The course provides a graduate level introduction to Industrial Organization. It is designed to provide a broad introduction to topics and industries that current researchers are studying as well as to expose students to a wide variety of techniques. The course extends the theory of the firm and introduces real-world complications, such as contract enforcement, property rights, and limited information. The course analyzes the determinants of market power by firms, strategic interactions among firms, and the role of government regulation.

Course Objectives
The primary objective of the course is to the focus is on the structure and performance of markets that are imperfectly competitive, including entry deterrence strategies and barriers to entry, vertical control, market segmentation and price discrimination, mergers and acquisition, price and non-competition, and market equilibria with incomplete information.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Know the basic concepts of industrial organization & real-world markets in economics & be familiar with the modern developments of the theory of industrial organization.
CLO 2. Predict market outcomes in an imperfectly competitive market.
CLO 3. Explain the differences in market efficiency amongst the various market settings
CLO 4. Explain the strategies and responses of firms with the various market settings
CLO 5. Understand the sources of market power and Imperfect competition.
CLO 6. undertake theoretical and empirical research in the field of industrial organization

Course content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Basic Concepts:** Basic concepts and trend, Real World Markets and trends, Effective competition.	*CLO 1*
Unit 2	**Market Structure:** Defining markets and Categories of Competition, The elements of market structure, Degrees and Concepts of partial competition. Theories of Competition and Monopoly: Performance values, Competition and Performance, Effects of monopoly power.	*CLO 2*
Unit 3	**Performance:** (a) Effects of market power on prices, profits and efficiency, financial effects and efficiency, (b)Technological Progress: Concepts and relationship, optimal technological change, empirical analysis and R & D and innovation, Analysis of Patents (c) Fairness in Distribution and other Values: Benefits and costs of competition, fairness in distribution of wealth, income and opportunity.	*CLO 3*
Unit 4	**Determination of Market Structure:** (a) Finance, Merger and Public Policies: Capital Markets, Mergers, Other Determinants of Structure. (b) Economies and Diseconomies of Scale: Basic Concepts, Plan level economies and diseconomies, multi-plant economies and diseconomies, Basic Trends in technology and Methods of Research.	*CLO 4*
Unit 5	**Behavior and Related Topics:** (a) Concepts of the firms and motivation,	*CLO 5*

	(b) Monopoly, Dominance and Entry: Leading cases and trends in dominance, sources and sustaining factors in dominance, Concepts of entry and limit pricing, Firm's choice in the potential entry, the special case of ultra-free entry.	
Unit 6	**Public Policies:** (a) Antitrust Policies: The logic of antitrust policies, benefits and costs of such policies, biases of policies and effects of antitrust policies (b) Regulation, Deregulation and Privatization: Regulation of natural Monopoly, Deregulation, Public Enterprise, The Privatization of Public Firms.	*CLO 6*

Text:
i. William G. Shepherd: *The Economics of Industrial Organization*, Prentice Hall, New Jersey, 1990.

References:
i. Jean Tirole: *The Theory of Industrial Organization,* Prentice Hall of India Pvt. Ltd., New Delhi, 1996.
ii. Michael Waterson: *Economic Theory of Industry,* Cambridge University Press, 1984.
iii. R.R. Barthwal, Industrial Economics An Introductory Textbook, 3rd Edition, New Age International Publishers, 2010.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*
CLO6	*3*	*3*	*3*	*3*	*2*	*3*

1: Low 2: Medium 3: High

Mapping Course Learning Outcomes (CLOs) with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal, graphical and mathematical exposition; Problems solving	Q&As Quiz Homework Assignments
CLO 2	Graphical and mathematical exposition; Problems solving	As Above
CLO 3	Verbal, graphical and mathematical exposition; Problems solving	As Above
CLO 4	Verbal, graphical and mathematical exposition; Problems solving	As Above

CLO 5	Graphical and mathematical exposition; Problems solving	As Above
CLO 6	Verbal, graphical and mathematical exposition; Problems solving	As Above

BNFQ Code: 0311-425, ***Dept. Course Code: ECON 425***
Course Title: Data Analytics **Credits: 3**

Rationale of the Course

This course teaches graduate students the process of analyzing big data and discovering new information to support management decision making. Topics include the analysis of production data, analysis and management, and marketing research analysis.

Course Objectives:

- The core objectives of this course are to gain an understanding of how managers to use Data Analytics to formulate and solve business problems and support decision-making
- To become familiar with the processes needed to develop, report, and analyze financial and business data.
- To implement analytical models in the software tools, interpret the results of Data Analytics and their implications to business administrations and make data driven decision stooptimize the business process and address issues in economics and business.
- To identify key components of a Data Analytics process, implement analytical models in the software tools, interpret the results of Data Analytics and their implications and data driven decisions to optimize the financial and business process and address issues in economics and business.

Course Learning Outcomes: Upon successful completion of this course, students will be able to:

CLO1.	Implement analytical models in the software tools.
CLO2.	Interpret the results of Data Analytics and their implications to economics and business
CLO3.	Make data driven decisions to optimize the business process and address issues in economics and business.

Mapping of Course Outcome to Program Outcome

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1				√		√
CLO2	√					√
CLO3					√	√

1: Low 2. Medium 3. High

Course Contents

Unit	Contents	CLOs
Unit 1	Introduction to Data Analytics, Business Intelligence, and Decision Support	CLO 1
Unit 2	Business Intelligence and Data Warehousing	CLO 1
Unit 3	Data Cleaning and Visualization	CLO 2
Unit 4	Introduction to Data Mining	CLO 2
Unit 5	Predictive Analytics	CLO 2
Unit 6	Statistical Modeling: Regression Analysis	CLO 2
Unit 7	Similarity, Neighbors, and Clusters	CLO 2
Unit 8	Model Performance Analytics and Model Visualization	CLO 2
Unit 9	Representing and Mining Text	CLO 3
Unit 10	Introduction to Big Data	CLO 3
Unit 11	Emerging Data Analytics Trends and Future Impacts	CLO 3

Texts:

1. Provost,F.,& Fawcett,T.(2013). *Data Science for Business: What you need to know about data mining and data-analytic thinking*. "O'Reilly Media, Inc.".
2. Sharda, R., Delen, D., Turban, E., Aronson, J., & Liang, T. (2014). Business Intelligence and analytics. *System for Decision Support*.

References:

1. Miller,T.W.(2014). *Modeling technique sinpredictive analytic swith PythonandR: a guide to data science*. FT Press.

Mapping of Course Learning Outcomes (CLOs) with Teaching-Learning & Assessment Strategy:

CLOs	Teaching-Learning Strategy	Assessment Strategy
CLO 1	Lecture, Demonstration, &Interactive Discussion, Practical	Assignment, Class Test, Viva, Group work, Lab test.
CLO 2	Lecture, Demonstration, & Interactive Discussion	Assignment, Class Test, Viva
CLO 3	Lecture, Demonstration, & Interactive Discussion	Assignment, Class Test, Presentation, Viva

BNFQ Code: 0311-426,   Dept. Course Code: ECON 426
Course Title: Globalization and Regional Economics   Credits:3

Rationale of the Course
The course intends to focus on the competence to analyze local and global competition for attractive projects as well as the increasing responsibility of local, state, and national governments for development issues.

Course Objective:
The aim of this course is to:
- Provide a specialization with respect to planning and development and the strategies thereof in the pace of globalization.
- Give a framework for concepts theories and models related to regional development as well as aims at introducing disparities in regional development.

Course Learning Outcomes (CLOs): After completion of this course the students will be able to:
CLO1.Deal with the most known dimensions of globalization, and discuss the domestic economic and political implications.
CLO 2. Explore and consequences of trade and financial liberalization as well as the political side of global conflict and development.
CLO3. Conceptualize basic concepts and theories of regional economics and regional flows.
CLO4. Understand and discuss various models of regional development as well as summarize HDI and HPI in terms of real-world situations.

Course Content

Unit	Topics/ Content summary	CLOs
Unit 1	**Introduction:** Understanding Globalization - The concept of‘globalization’ - Is globalization new? Historical perspectives and evolution - The dimensions of globalization	CLO 1
Unit 2	**The Globalization of Trade:** The economic theory of trade integration- The distributional consequences of trade: inequality and power – The political consequences of trade: efficiency vs. compensation – Trade and development strategies: import substitution vs. export promotion.	CLO 1
Unit 3	**The Globalization of Financial Flows:** The logic of financial globalization: motives for liberalizing - Exchange-rate policies: political and economic dimensions - The domestic economic consequences of financial integration and exchange rate systems -Eroding State-capacity? Financial globalization vs domestic policy	CLO 2
Unit 4	**The Globalization of Development:** World development patterns: divergence and convergence - The political economy of aid: the donors. Who gives aid and why? - The political economy of aid: the recipients. Africa’s aid dependency and its political consequences.	CLO 2
Unit 5	**Regional development:** Concept of regional economics, regional competitiveness, Factors of Spatial Economic behavior, concept of regional income and problems in estimation.	CLO 3
Unit 6	**Economics of Location and Regional Flows**: Webers’ Theory of Industrial Location, Thunen’s theory of Agricultural Location, Christaller’s Central Place Theory, Ideal Economic Space of Losch Sargent, Florence’s theory of Industrial Location, Theory of unbalanced growth by Hirshchman, Migration: Types, Interfaces, Ramifications and models Concept of location quotient Conceptsrelated to Agglomeration, backwash effect, backward and forward linkages.	CLO 3

Unit 7	**Models of Regional Growth:** O-ring model, Gravity models, Cumulative Causation models, Markov's Chain Model of Inter-Regional Savings and Capital Growth, Growth Poles and Urbanization relevance of smart cities, Hausmann- Rodrik-Valeasco Growth Diagnostic Framework, HDI and HPI, Convergence and Divergence, concept of creative destruction.	CLO 4
Unit 8	**Regional Economic Development:** Economic development strategies in regional context, entrepreneurship in emerging domestic markets, alleviating the lagging performance of economically depressed communities and regions, regional planning in the developing world (Context of South Asia).	CLO 4

Texts

Campbell, P.J., MacKinnon, A. and Stevens, C.R. (2010). An introduction to Global Studies, John Wiley & Sons.
Oatley, T. (2006). International Political Economy: Interests and Institutions in the Global Economy, New York: Pearson-Longman.
Shukla, A. (2013). Regional Planning and Sustainable Development.

References:

Frieden, J. (2006). Global Capitalism. Its Rise and fall in the Twentieth Century, New York: WW Norton.
Klijs, J., Heijman, W.J., Peerlings, J.H., Rouwendal, J. and Schipper, R.A. (2017). Space and Economics: An Introduction to Regional Economics, Wageningen Academic Publishers.
Lechner, F.J. and Boli, J. (Eds.). (2020). The Globalization Reader, John Wiley & Sons.
Moyo, D. (2009). Dead Aid: Why Aid is Not Working and How There is a Better Way for Africa, Macmillan.
UNDP (2022). National Human Development Report 2021: Bangladesh, Available at: https://hdr.undp.org/content/national-human-development-report-2021-bangladesh.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (1-3)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*1*	*2*	*1*	*1*	*1*	*1*
CLO2	*2*	*1*	*1*	*3*	*1*	*1*
CLO3	*2*	*1*	*2*	*1*	*1*	*2*
CLO4	*1*	*3*	*1*	*2*	*2*	*1*

1: Low 2: Medium 3: High

Mapping teaching learning and assessment strategy with CLOs.

CLOs	**Teaching Learning Strategy**	**Assessment Strategy/ In-Class Assessment**
CLO 1	Verbal and graphical exposition	Quizzes Homework
CLO 2	Verbal, graphical and group discussion	Quizzes Homework Assignments
CLO 3	Verbal, presentation and Problems solving	Quizzes/ Assignments Presentations Class Tests
CLO 4	Verbal, group discussion; Problems solving	Quizzes Assignments

BNFQ Code: 0311-427, ***Dept. Course Code: ECON 427***
Course Title: Research Report **Credits: 3**

Rationale of the Course

The ‘Research Report’ course attempts to help the students accomplishing a research successfully. This course inspires students to plan and concentrate on a specific issue for undertaking independent research under the guidance of a supervisor. It provides an opportunity for the students to develop their skills in executing research effectively, efficiently and smartly. It covers the application and synthesis of knowledge, acquired in the undergraduate program. It facilitates the students towards writing and presentation skills. It enables the students to handle research on economic, social, environmental and related other dimensions.

Course Objectives

The aim of this course is to:

- Motivate the students toward undertaking independent research under the guidance of a supervisor.
- Guide the students to follow the sequential steps for successfully completing a research.
- Accustom the students for collecting required data.
- Train the students with various analytical tools and techniques.
- Inspire the students for drafting a good thesis paper.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO: 1. Undertake an independent research.
CLO: 2. Sequentially follow the steps for accomplishing a research successfully.
CLO: 3. Design and execute the data collection procedure.
CLO: 4. Analyze data through using appropriate tools and techniques.
CLO: 5. Prepare a formal research report.
CLO: 6. Disseminate the research findings for society’s welfare.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	Research Design	*CLO 1*
Unit 2	Methodology	*CLO 2*
Unit 3	Primary Data Collection by Filed Visit/Survey	*CLO 3*
Unit 4	Data Analysis	*CLO 4*
Unit 5	Result and Discussion	*CLO 5*
Unit 6	Citation and References	*CLO 5*
Unit 7	Report Writing	*CLO 5*
Unit 8	Dissemination	*CLO 6*

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***	***PLO 5***	***PLO 6***
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*
CLO 6	*3*	*3*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Students shall have to prepare a research report on themes of Economics. It has to start with an abstract. Chapter 1- Introduction, Chapter 2- Review of Literature, Chapter 3- Methodology, Chapter 4- Interpretation and Analysis, Chapter 5- Conclusion and Recommendations. Proper bibliography and references, appendices are to be added after the Chapter 5. Bibliography and references should follow APA style sheet. The supervision of a faculty member is compulsory. Evaluation is based on a research report at least 30 to 40 pages. Times New Roman font with 12 point size text is recommended with Main Titles in 32 points bold and subtitles in 18 point bold font. Further guidelines in addition to it may be suggested by supervisors if necessary.

BNFQ Code: 0311-428, ***Dept. Course Code: ECON 428***
Course Title: Field Work **Credits: 3**

Rationale of the Course
The 'Field Work' course attempts to help the students accomplishing a qualitative research successfully. This course inspires students to plan and concentrate on a specific issue for undertaking independent study under the guidance of a supervisor. It covers the application and synthesis of knowledge, acquired in the undergraduate program. It facilitates the students towards writing and presentation skills. It enables the students to handle stakeholders on economic, social, environmental and related other dimensions.

Course Objectives
The aim of this course is to:

- Motivate the students toward undertaking independent research under the guidance of a supervisor.
- Guide the students to follow the sequential steps for successfully completing a research.
- Accustom the students for collecting required data.
- Train the students with various analytical tools and techniques.
- Inspire the students for drafting a good thesis paper.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:

CLO: 1. Identify a research inquiry which is specific and workable.
CLO: 2. Formulate research design.
CLO: 3. Prepare and adopt suitable methods for research.
CLO: 4. Analyze data through using appropriate tools and techniques.
CLO: 5. Prepare a formal research report.
CLO: 6. Disseminate the research findings for society's welfare.

Course Content

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	Design of the Study	*CLO 1*
Unit 2	Area Selection	*CLO 2*
Unit 3	Field Work PRA/Case Study/Equivalent Technique	*CLO 3*
Unit 4	Data Analysis	*CLO 4*
Unit 5	Result and Discussion	*CLO 5*
Unit 6	Citation and References	*CLO 5*
Unit 7	Report Writing	*CLO 5*
Unit 8	Dissemination	*CLO 6*

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*	*PLO 5*	*PLO 6*
CLO1	*3*	*2*	*1*	*2*	*3*	*3*
CLO2	*3*	*3*	*1*	*3*	*2*	*3*
CLO3	*3*	*3*	*3*	*3*	*2*	*3*
CLO4	*3*	*3*	*3*	*3*	*3*	*3*
CLO 5	*3*	*2*	*1*	*2*	*3*	*3*
CLO 6	*3*	*3*	*1*	*2*	*3*	*3*

1: Low 2: Medium 3: High

Students shall have to prepare a report on themes of Economics. It has to start with an abstract. Chapter 1- Introduction, Chapter 2- Review of Literature, Chapter 3- Methodology, Chapter 4- Interpretation and Analysis, Chapter 5- Conclusion and Recommendations. Proper bibliography and references, appendices are to be added after the Chapter 5. Bibliography should follow APA style sheet. The supervision of a faculty member is compulsory. Evaluation is based on a report at least 30 to 40 pages. Times New Roman font with 12 point size text is recommended with Main Titles in 32 points bold and subtitles in 18 point bold font. Further guidelines in addition to it may be suggested by supervisors if necessary.

BNFQ Code: 0311-420, Dept. Course Code: ECON 420
Course Title: Viva-Voce-IV Credits: 1.5

Content:
An examination board will conduct the oral examination. The syllabus is not only the courses taken in a year but also the contemporary issues in economics. This course will test basic knowledge in economics and the ability to apply such knowledge to the address practical problems.

Rules and Regulations

1. Examination Entry Requirements:

A student will be allowed to take part in Semester Final Examination if s/he fulfills the following conditions:

a) If the student has registered for the concerned semester in due time.

b) Ifs/he has the required percentage of attendance in each course lecture.

c) If the student has paid all dues (registration fees/tuition fees/other charges) applicable to university administration/residential hall administration/ discipline administration.

d) If the student has not been instructed by the Disciplinary Board/Examination Disciplinary Committee to refrain from taking part in the examination.

2. Assessment and Evaluation:

The following is the assessment system for Bachelor of Social Science (Honours) program:

a) A student for the degree of Bachelor of Social Science (Honours) in Economicsprogramisrequiredtosatisfactorilyearn137creditcompleting 41fullunitcourses, 04practicum, 01 research/field workand04vivavoceexamination.

b) Distribution of marks for each of the courses is as follows:

Theoretical Course: Each theoretical course offered should be composed of either 50 or 100 marks (each 50 marks course consisting of 2 credit point). The proportion of the total marks of a particular courses hall be distributed as follows:

Continuous Assessment /Before-Final Assessment	40%
Semester-Final Examination	60%
Total =	100%

Continuous Assessment: Marks allocated for before-final assessment shall be distributed as follows:

Internal Evaluation:		
i)	Mid-Semester examination (At least Two mid-semester exams.)	20%
ii)	Class Test and/or Quiz and/or In-course and/or Sudden test and/or tutorial and/or Assignment and/or Term paper preparation &presentation/Case study and/or practical and/or Field work	10%-15%
iii)	Attendance	5%-10%
	Total =	40%

* Teacher may adjust to the evaluating strategies of(ii)

Lab Course: Each Lab course offered should be composed of 50 markswithhaving1.5creditpoint.Theproportionofthetotalmarksofa particular courses hall be distributed as follows:

Continuous Assessment /Before-Final Assessment	40%
Semester-Final Examination	60%
Total =	100%

Continuous Assessment: Marks allocated for before-final assessment shall be distributed as follows:

Internal Evaluation:		
i	Mid-Semester examination (At least Two mid-semester exams.)	20%
ii	Lab Test/ Class Test/ Practical work	10%-15%
iii	Class Attendance	5%-10%
	Total =	40%

Research Report: Marks allocated for Research Report assessment shall be distributed as follows:

Research Report	80%
Continuous Assessment /Before-Final Assessment	20%
Total =	100%

c) **Class Attendance:** The marks allocated for class attendance shall be given as following proportions:

Attendance	**Marks**
90% and above	100%
85% to less than 90%	90%
80% to less than 85%	80%
75% to less than 80%	70%
70% to less than 75%	60%
65% to less than 70%	50%
60% to less than 65%	40%
Less than 60%	00%

3. **Duration of Examinations:**
   a) The duration of each mid-term examination is one class hour. The course teacher will determine the nature of test-items.
   b) Duration of the Final Examination for every one or two credit point theoretical course shall be of 2-hour and the courses having more than two credit point theoretical course shall be of 3-hour.Duration of the practical examination shall be four to six hours as decided by the concerned Department.
4. **Class-Attendance Requirements to Appear in the Semester Final Examination:**
   a) If class attendance of any student at any course is below 60%, but in the range of 40% to 59%, s/he will be allowed to attend the examination only with the recommendation of the course teacher and approval of the chairman of the department. In such case the student will have to pay a fine as fixed by the authority/department.
   b) A student with class attendance of less than 40% in any course will be debarred from appearing in the Final Examination.
5. **Letter Grade and Grade point:**
   Total marks obtained in each course, oral (viva- voce) examination and practical courses shall be converted into LG (Letter Grade) and GP (Grade point) as follows:

Numerical Grade	Letter Grade		Grade Point	Interpretation
80% and above	A+	(A Plus)	4.00	Outstanding
75% to less than 80%	A	(A regular)	3.75	Excellent
70% to less than 75%	A-	(A minus)	3.50	Very Good
65% to less than 70%	B+	(B Plus)	3.25	Good
60% to less than 65%	B	(B regular)	3.00	Satisfactory
55% to less than 60%	B-	(B minus)	2.75	Below Satisfactory
50% to less than 55%	C+	(C Plus)	2.50	Average
45% to less than 50%	C	(C regular)	2.25	Pass
40% to less than 45%	D	....	2.00	Poor
Less than 40%	F	....	0.00	Fail

* In the Transcript/Grade sheet, only the Letter Grade and the Corresponding Grade points, and final CGPA (in the 8th Semester), not the numerical marks, will be shown.

6. Promotion:

a) Keeping consistence with the spirit of the semester system, semester-wise promotion will be declared.

b) Promotion from one semester to the next semester, a student is required to earn minimum 50% of the total credit points in the respective semester on condition that s/he has passed the viva-voce.

c) If any candidate is absent from the viva-voce on any valid ground a viva-voce may be arranged for him/her on condition that s/he will bear all expenses of the viva. In such case s/he has to apply to chairman of the departmentwithin15daysaftertheviva-voceexamination.

7. Improvement of Grades:

Only the removal of ‘F’ (Fail) in any course shall be allowed. Removal of ‘F’ in any course is permitted sitting in the final examination only for two (2) times in subsequent two semesters excluding the regular examination. In such cases results shall be one grade down (unless the result is a “D” grade) in tabulation and calculation of CGPA.

উপরোক্ত পরীক্ষা বিধির স্থলে ২০১১-২০১২ শিক্ষাবর্ষ থেকে নিম্নোক্ত বিধি কমিটি কর্তৃক সুপারিশ করা হলো ৩২তম একাডেমিক কাউন্সিল সভার সম্পূরক-৮ এর সুপারিশ

a) A student having earned ‘F’ grade in any course in any semester shall be required to remove the ‘F’ grade. Removal of ‘F’ grade in any course is permitted only for two (2) times excluding the regular examination. This has to be done with in his academic tenure.

b) A student having earned letter grade ‘B-’ (GP2.75) or below in any course may be allowed to improve the grade by appearing in the semester final examination with the next available batch. S/he can avail this opportunity only once for a course. In such case, the best GPA from the improvement or regular examination/concerned subject shall be calculated for tabulation. In such cases results shall be one grade down (unless the result is a ‘D’ grade) in tabulation calculation of CGPA.

c) A student willing to improve grade should apply to the controller of examination through the chairman of the department with in one (1) week after the publication of the results of the semester.

d) For appearing in the improvement examination, a student shall have to pay fees for the course prescribed for the purpose.

e) No improvement shall be allowed in continuous assessment (mid-term/class-test/assignment/field-work/monograph/project-work/practical/case-study/term-paper/quiz-test etc.).

f) The concerned (current) examination committee to that semester will take necessary actions to arrange the improvement examinations, tabulation and posting of marks.

g) Student who did not get the opportunity of removing 'F' grade in any course as per rule 12(i) shall be allowed to sit for a special semester examination. This will be allowed only for the course in 7th and 8th semester. In special cases this opportunity would be allowed for courses in semester 5th and 6th. In such cases student have to apply to the chairman of the department within one week after publication of the 8th semester result. The chairman of the department shall take necessary administrative measures for arranging the special semester examinations by the respective 4th year examinations' committee. All the expenses relating to this examination have to be carried by the candidate(s).

h) Noimprovementwillbeallowedin8thsemester.

* If a student gets one month after his/her result publication to sit for the examination with a batch that batch will be considered as available batch for him/her.

8. Re-Admission:

a) A student failing to earn the requisite credit points for promotion (clause10) from one semester to the next may seek re-admission with the following batch.

b) For re-admission a student shall have to apply within one month after the announcement of the result of the concerned semester.

9. Drop Out:

a) If a student re-admitted twice in any semester fails to earn minimum required credits for promotion shall be dropped out from the program.

b) If a student fails to earn required total credit points within six academic years since admissions, s/he will be dropped-out from the program and will no more be allowed to continue his/her studentship with other programs.

10. Credit Transfer:

No Credit Transfer from any Program/University/Institutions to the Comilla University is allowed.

11. Penalty for Adoption of Unfair Means:

A student who has a dopted unfair means in any examination, assignments, term papers, reports, research monograph etc. might be expelled from that semester or any other punishment might be imposed on him/her by the Examination Disciplinary Committee. Each such case has to be reported to the Examination Disciplinary Committee by the chief invigilator through the chairman of the Examination Committee. The Instruction to the examinee on cover leaf of the answer script must be followed by the examinee. Violation of these instructions and/ or any clause under Section-4 of the "Rules and Regulation Regarding Examination Offences and Disciplinary Actions"

(Annex-2) of the Examination *Rules and Regulations for Bachelor's Program* of the Comilla University will be treated as serious offence and punish able.

Annex-2: Rules regarding Examination Offences and Disciplinary Action

Formation of Examination Disciplinary Committee

i. Disciplinary action against candidates involved in Examination Offences shall be taken by the Syndicate on recommendation of the Examination Disciplinary Committee constituted below:

a)	The Vice Chancellor	Chairman
b)	The Deans of the Faculties	Members
c)	Two Provosts to be nominated by the Vice-Chancellor	Members
d)	Three teachers of the university to be nominated by the Vice-Chancellor Members	
e)	Two Chairman be nominated by Vice-Chancellor	Members
f)	Proctor	Member
g)	The Controller of Examinations	Members-Secretary

ii. Members other than Vice-Chancellor members shall hold office for a period of one year after formation of the committee.

iii. Five members shall form the quorum

iv. The following shall be considered Examination Offences:

a) Communication or attempt to communicate with any other candidate in the Examination Hall.

b) Writing in the Examination Hall anything incriminating on the question paper or admit card, table, desk, bench, etc.

c) Possession of incriminating notes, books, map, chart, slip, chit or any other documents in the examination hall.

d) Creating or inciting to create any nuisance or disturbances in the examination hall.

e) Copying or attempt to copy from incriminating documents or from another's script, or from any writing on the person or wearing apparel while appearing in the examination.

f) Asking the script out of the Examination Hall.

g) Changing the script or inserting unauthorized sheets in the script.

h) Approaching or influencing the Invigilator, Examiners, or members of the Examination Committee, Tabulators to gain undue favor or advantage in connection with examination.

i) Using abusive language or holding out threat to the Invigilator or any other personengagedonExaminationdutyinsideoroutsidetheExaminationHall.

j) Assault or attempt to assault or use criminal for cesagainst Chief Invigilator or the Invigilator or any other person engaged on Examination duty inside or outside the Examination Hall.

v. In making its recommendation, the Examination Discipline Committee shall follow the following rules.

a) Candidates found guilty of offence or offences falling under Section 4(a), (b) and (c) shall be penalized with the cancellation of the Examination at which they commit offence or offences.

b) Candidates found guilty of offence falling under Section 4 (d) shall in addition to cancellation of the Examination at which the offence is committed, be debarred from appearing at the subsequent Examination.

c) Candidates found guilty of offences falling under Section 4 (e), (f), (g), and (h) shall, in addition to the cancellation of the examination at which the offence is committed, be debarred from appearing at two or three subsequent Examinations or from that semester depending on the gravity of the offence.

d) Candidates found guilty of offence falling under Section 4(i) and (j) shall, in addition to the cancellation of the Examination at which the offence is committed, be debarred from appearing at the subsequent Examinations of the one or two semesters depending on the gravity of the offence.

vi. Any other offence not covered by the above rules shall be dealt with the Syndicate on the recommendation of the Examination Disciplinary Committee as it deems fit.

vii. Candidates committing offences except those falling under Section 4 (a), (b), (c), (d), (e) and (i) shall not be allowed to continue to appear in that paper, and their scripts shall not be sent for evaluation but shall be sent separately to the Controller of Examinations in sealed cover.

viii. The Invigilator shall submit separate report for each case, regarding the nature of the offence and the circumstances in which it is alleged to have been committed, with all supporting documents underlining the copied portion in the script as well as in the incriminating documents in the case of actual copying.

ix. The Chief Invigilator of the Examination Center shall forward the report of the Invigilators and relevant documents with his expressed opinion along with the script. These reports and documents will be preserved by the Controller of Examinations for a period of at least six months from the date of the publication of the penalty list.

x. The following procedure shall be adopted in dealing with cases of candidates involved in Examination offences:

a) On receipt of reports from the Chief Invigilator of the Examination Center, the Controller of Examinations shall call for explanation from the candidate concerned asking him why disciplinary action shall not be taken against him for the alleged committed of examination offence. Such show-cause notice must be sent by the registered post to his permanent address as recorded in the Examination Entry Form registration form. The candidate must be given ten days' time from the date of issue of show-cause notice to submit his explanation. If no explanation is received within the prescribed time limit, the Examination Disciplinary Committee may take necessary disciplinary action.

b) The Controller of Examinations will then place all relevant documents of the case together with the explanation of the candidate to the Examination Disciplinary Committee for consideration. The proceedings of the Disciplinary Committee shall be forwarded to the registrar for reporting it before the Syndicate.

xi. Provided that in any emergency, notwithstanding the provisions of the Rules and Regulations on the subject, the Vice-Chancellor may in exercise of the powers vested in him [in terms of clause (j) of Section 11 of the Comilla University Act, 2006] take any disciplinary action considered necessary in the circumstances and report the same to the Syndicate for information.

12. Example of Computation of GPA and CGPA:

The Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) will be computed by the following formula:

$$GPA = \frac{\sum(\text{Credit} \times \text{Grade Point Secured})}{\text{Total Credits Offered in the Semester}}$$

$$CGPA = \frac{\sum(\text{Credit} \times \text{Grade Point Secured})}{\text{Total Number of Credits Offered in the whole Program}}$$

Calculation of Cumulative Grade Point Average (CGPA)

Practical Example:

First (1st) Year First (1st) Semester

Course	(1) No. of Credits	(2) Grade Secured	(3) Grade Points	(4) = (1) × (3) Total Grade Points Secured
ECON 111	3	A+	4.00	12
ECON 112	3	A	3.75	11.25
ECON 113	3	A-	3.50	10.50
ECON 114	3	B+	3.25	9.75
ECON 115	3	B	3.00	9
ECON 116	1	B-	2.75	2.75
Total	**16**			**55.25**

Secured GPA = Total Grade Points Secured ÷ Total Number of Credits = 55.25÷16 = 3.453

First (1st) Year Second (2nd) Semester

Course	(1) No. of Credits	(2) Grade Secured	(3) Grade Points	(4) = (1) × (3) Total Grade Points Secured
ECON 121	3	A+	4.00	12
ECON 122	3	A+	4.00	12
ECON 123	3	A	3.75	11.25
ECON 124	3	A	3.75	11.25
ECON 125	3	A-	3.50	10.50
ECON 120	2	A-	3.50	7
Total	**17**			**64**

Secured GPA = Total Grade Points Secured ÷ Total Number of Credits = 64÷17= 3.765

Cumulative CGPA

Total Grade Points Secured = (55.25+64) = 119.25 Total Credit = (16+17) = 33

Cumulative Grade Point Average (CGPA) = 119.25 ÷ 33 = 3.614

Provision for Renewal and Modification of the Curriculum

i. Academic Committee of the Department of Economics can make minor changes in the course content of any course and update references.

ii. Major changes in the curriculum objectives of the program, courses, degree requirements, assessment system including grading system etc. Shall have to be proposed by the Academic Committee of the Department of Economics and approved by the Committee of Courses and the Academic Council of the Comilla University.

iii. Overall renewal and modification of the curriculum when needed; shall have to be initiated by the Academic Committee of the Department of Economics and approved by the Committee of Courses and Academic Council which shall be duly accorded by the syndicate of the Comilla University.

Panel of Examiners

The Panel of Examiner will be comprised of all faculty members in the Department of Economics and the department of allied courses from all public university in Bangladesh.