Department of Economics
Comilla University

Outcome-Based Curriculum
Session: 2023/2024, 2024/2025, 2025/2026

PART-A

1. Title of the Academic Program: Master of Social Science 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 a sustainable planet.
4. Mission:

i. To educate a wide variety of students through effective teaching-learning to achieve academic excellence.
ii. To create an ambience for creative and innovative academic exercise and high-quality research.
iii. To undertake actions regarding collaboration which entails opportunities for long-term interaction with academia and industry for producing competent graduate at workplace.
iv. To develop human potential to its fullest extent so that intellectually capable and socially responsible leaders can emerge in a range of profession.

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 through an 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. Therefore, mission of the department are to:

Mission 1. Strengthen students' ability to analyze all forms of quantitative and qualitative economics;
Mission 2. Transmit critical theoretical knowledge in economics to applied economics in practice;
Mission 3. Strengthen students' analyzing ability 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 this curriculum 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: Master of Social Science in Economics

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 thinking ability with deep subject knowledge

Graduates have comprehensive knowledge and understanding in applying economic literatures in multi-professional arena. They are able to think critically in application of economic theories.

Sense of inquiry towards economic models

Graduated would be capable for dealing with problems issues and results of socio-economic analyzed to developing economic theirs.

Teamwork and communication skills

Graduates disseminate ideas and information effectively both in oral and written ways and contribute to their workplace in a positive and collaborative manner.

Real life problem solving skills with digital Competencies

Graduate are be able to using computers in analysis of data, and to explaining economic literature to dives real life problems.

Professionalism with ethical practices

Graduates are effective to engage in professional behavior along with ethical practices values and practices as global citizen.

12. Program Educational Objectives (PEOs)

After completion of this MSS Program,

PEO-1. Students will have an excellent academic and professional career.

PEO-2. Students will have advanced knowledge on the theory of Economics and be able to resort these in practical life to adopt economic, social, environmental, and policy issues in a prudent way.

PEO-3. Students will have an ability to formulate different model, analyze as well as interpret data of diverse characteristics.

13. Program Learning Outcomes (PLOs)

After completion of this MSS program, Students will be able to:

- PLO-1 Enrich themselves with specialized issues in economics.
- PLO-2 Link theoretical lessons with real world economic problems.
- PLO-3 Scrutinize economic theories and add new methods in solving problems in business, trade, national and international affairs.
- PLO-4 Know the applications of progressive knowledge in managing economic data and estimate to a greater extent.

14. Mapping mission of the university with PEOs

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

1: Low 2: Medium 3: High

15. Mapping PLOs with the PEOs

PEOs	PLO 1	PLO 2	PLO 3	PLO 4
PEO 1	2	2	1	3
PEO 2	1	1	3	3
PEO 3	3	3	2	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**
0311ECON 511	Advanced Microeconomics	3	2	2	3
0542Econ 512	Applied Statistics for Economics				
0542Econ 513	Lab: Applied Statistics for Economics				
0311ECON 521	Advanced Macroeconomics				
0311ECON 522	Seminar				
0311ECON 531	Economic Development and Planning	2	3	2	2
0311ECON 532	Advanced International Trade	2	2	3	1
0311ECON 533	Contemporary Economic Issues	1	1	2	1
0311ECON 534	Urban Economics	1	2	3	1
0311ECON 535	International Macroeconomics and Finance				
0311ECON 536	Population Economics	1	2	2	1
0311ECON 537	Rural Economics and Microfinance	1	2	2	1
0311ECON 538	Public Economics and Policy	3	2	2	2
0311ECON 539	Monetary Economics	2	2	3	2

0311ECON 540	Advanced Environmental Economics	2	2	2	3
0311ECON 541	Behavioral Economics	1	1	2	2
0311ECON 542	Global Economic Environment				
0311ECON 543	Advanced Health Economics				
0311ECON 544	Advanced Econometrics				
0311 ECON 550	Viva Voce				
0311 ECON 561	Thesis/ Dissertation	3	2	2	3
0311 ECON 562	Thesis Defense				

Low Significance High

PART-B

17. Structure of the Curriculum

a) Duration of the program:

Program	**Year**	**Semester**
Taught	1	2
Mixed-mode	1.5	3
Research	N/A	N/A

b) Admission requirements: As per university rule (Mentioned at part-D)

c) Total minimum credit requirement to complete the program: **42 (Taught)/ 46 (Mixed)**

d) Total class weeks in a semester: 14 weeks

e) Minimum CGPA requirement for graduation: 2.25

f) Maximum academic years of completion: 02 (Taught)/03 (Mixed-mode) years

g) Category of Courses:

i. General Education Courses: (Compulsory 2 courses – 4 credits)

ISCED Code	Course code	Title	Credits
0542	Econ 512	Applied Statistics for Economics	2.00
0542	Econ 513	Lab: Applied Statistics for Economics	2.00

ii. Core courses: (Compulsory 3 courses – 12 credits)

ISCED Code	Course code	Title	Credits
0311	ECON 511	Advanced Microeconomics	4.00
0311	ECON 521	Advanced Macroeconomics	4.00

iii. Elective Courses: (Requirement: 05 courses - 20 credits)

	Course code	Title	Credits
0311	ECON 531	Economic Development and Planning	4.00
0311	ECON 532	Advanced International Trade	4.00
0311	ECON 533	Contemporary Economic Issues	4.00
0311	ECON 534	Urban Economics and Policy	4.00
0311	ECON 535	International Macroeconomics and Finance	4.00
0311	ECON 536	Population Economics	4.00
0311	ECON 537	Rural Economics and Microfinance	4.00
0311	ECON 538	Public Economics and Policy	4.00
0311	ECON 539	Monetary Economics	4.00
0311	ECON 540	Advanced Environmental Economics	4.00
0311	ECON 541	Behavioral Economics	4.00
0311	ECON 542	Global Economic Environment	4.00
0311	ECON 543	Advanced Health Economics	4.00
0311	ECON 544	Advanced Econometrics	4.00

iv. Capstone courses: (Requirement: One course – 4 credits)

ISCED Code	Course code	Title	Credits
0311	ECON 522	Seminar	4.00

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

a. First Year Courses:

1st Year 1st Semester (Taught)

Course code	Title	Category	Credits	Marks
0311ECON511	Advanced Microeconomics	Core	4	100
0542Econ 512	Applied Statistics for Economics	GED	2	50
0542Econ 513	Lab: Applied Statistics for Economics	GED	2	50
	Elective – I	Core	4	100
	Elective - II	Core	4	100
	Elective - III	Core	4	100
	Total		20	500

1st Year 2nd Semester

Course code	Title	Category	Credits	Marks
0311ECON 521	Advanced Macroeconomics	Core	4	100
	Elective - IV	Core	4	100
	Elective – V	Core	4	100
	Elective – VI	Core	4	100
	Seminar	Capstone	4	100
0311 ECON 550	Viva Voce	Core	2	50
	Total		22	550

Year/Level/Semester/Term wise distribution of Courses: Mixed Program

a. First Year Courses:

1st Year 1st Semester

Course code	Title	Category	Credits	Marks
	Advanced Microeconomics	Core	4	100
	Applied Statistics for Economics	GED	2	50
	Lab: Applied Statistics for Economics	GED	2	50
	Elective – I	Core	4	100
	Elective - II	Core	4	100
	Elective - III	Core	4	100
	Total		20	500

1st Year 2nd Semester

Course code	Title	Category	Credits	Marks
	Advanced Macroeconomics	Core	4	100
	Elective - IV	Core	4	100
0311 ECON 523	Proposal writing and defense	Core	4	100
0311ECON 522	Seminar	Capstone	4	100
0311 ECON 550	Viva Voce	Core	2	50
	Total		18	450

b. Second Year Courses:

2nd Year 1st Semester

Course code	Title	Category	Credits	Marks
0311 ECON 561	Thesis	Core	6	150
0311 ECON 562	Thesis Defense	Core	2	50
	Total		8	200

Note: Students will take (i) 03 (three) elective from 08 (eight) courses of 0311 ECON 422 to 0311 ECON 429 and (ii) a capstone course either 0311 ECON 430 or 0311 ECON 431

PART C

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

MSS 1st & 2nd Semester

BNFQ Code: 0311-511, Dept. Couse Code: ECON 511

Course Title: Advanced Microeconomics Credits: 04 (Four)

Rationale of the Course/Course Description

The course provides in-depth theoretical background of microeconomics with topics of consumer theory, producer theory, social choice theory, general equilibrium, welfare and information economics. The content of the course is strong enough to build students for graduate work in the field of economics.

Course Objectives

The purpose of this course is to equip students with deeper understanding of microeconomic theory and their application. We seek to clarify the concepts and, to a lesser extent, how the students are use those in economic research and efficient organization of production in relation to market.

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

CLO: 1. equip students with deeper understanding of microeconomic theory and their application;
CLO: 2. to clarify the concepts and, to a lesser extent;
CLO: 3. how the students are use those in economic research and
CLO: 4. efficient organization of production in relation to market.

Course content:

Unit	Topic/Content Summary	Corresponding CLOs
Unit-1	**Consumers' Theory:** Preferences and utility functions -Utility maximization and characterization of optimal choice; Comparative static of consumer behavior; Indirect utility and expenditure functions; Duality in consumer theory; Revealed preference- Generalized revealed preference; Integrability problem in consumer theory; Consumer choice under uncertainty.	*CLO 1*
Unit-2	**Producers' Theory:** Production technology- Producer's choice, Conditional input demand functions, Duality in production theory, Properties of profit function and Profit maximization, Characterization of cost functions and Cost minimization; Integrability of cost functions.	*CLO 1*
Unit 3-A	**Introduction to General equilibrium:** Two-good two-person economy – Aggregate excess demand functions – Walras Law – Pareto efficiency – The first and the second theorems of welfare economics.	*CLO 2*

Unit 3-B	**General Equilibrium:** General equilibrium in a *n*–person, *k*-good economy. Properties of Aggregate excess demand functions – homogeneity, desirability and Walras law – Price simplex – Brouwer's Fixed point theorem – The existence of Walrasian general equilibrium.	*CLO 2*
Unit 4	**Conditions of General Equilibrium:** Uniqueness of Walrasian general equilibrium – Asymmetric income effects and multiple equilibria – Uniquenees theorems: Gross substitutes and Index analysis. Stability of general equilibrium – Tatonnement process – price adjustment rules – Stability Theorems. Non tatonnement process – price and endowment adjustment rules – Edgeworth and Hann processes.	*CLO 3*
Unit 5	**Welfare Economics:** Normative vs. positive economics- Fundamental theorems of welfare economics- Theory of externalities and public goods. The failures of market economy – non-convexities – uncertainty – public good, externalities, asymmetric information inter – temporal choice theory.	*CLO 3&4*
Unit 6	**Economics of Information:** Asymmetric information and related problems, Optimal contracts under asymmetric information, Revelation principle, Quality choice and price discrimination under information asymmetry. Behaviour of firms under asymmetric information, Marginal cost pricing with asymmetric information.	*CLO 4*

Text and References:

1. H. R. Varian: Microeconomic Analysis, Norton,1992.
2. Varian, Hal R., Intermediate Microeconomic, Latest Edition.
3. Salvatore, Dominick, Microeconomics – Theory and Applications, 4th Edition, Oxford University Press, 2003.
4. Koutsoyiannis, A., Modern microeconomics-Latest Edition
5. Chauhan, S. P. S., Microeconomics – An Advanced Treatise, PHI Learning, 2009.
6. Henderson, James M. and Richard E. Quandt: Microeconomic Theory: A Mathematical Approach, 3rd Edition, McGraw Hill, 2003.
7. Pindyck, Rubinfeld and Metha: Microeconomics; Seventh Edition
8. E. Silberberg: The Structure of Economics, A mathematical Approach, Third edition, 1979.
9. J.H. A. Green: Consumer Theory Penguin Books, 1973.
10. Layard and Walters: Microeconomic Theory

Mapping of CLOs with Program Learning Outcomes (PLOs)

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

1: Low 2: Significance 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: 0542 ECON 512 **Dept. Course Code: ECON 512**
***Course Title*: Applied Statistics for Economics** **Credits: 04 (Four)**

Course Description:
The **Applied Statistics for Economics** course equips students with essential statistical tools and techniques to analyze economic data, validate theories, and inform evidence-based decision-making. By integrating foundational concepts such as probability, sampling, estimation, and regression with practical applications, this course enables students to critically assess real-world economic issues. Through hands-on use of statistical software (e.g., Python), students gain practical skills to handle complex datasets, interpret results, and communicate findings effectively. Emphasizing ethical practices, collaboration, and problem-solving, the course prepares students for data-driven roles in research, policy-making, and economic development.

Course Objectives:
This course has been designed to:
- i. To connect basic statistical concepts with their applications in economics.
- ii. To explore the role of applied statistics in economic modeling, policy evaluation, and decision-making.
- iii. To understand the interpretation and use of statistical methods in real-world datasets.

Course Contents:

Unit	Contents
01	**Introduction to Applied Statistics**: **Topics:** 1. Importance of statistics in real-world decision-making.

	2. Applications of statistics in economics and social sciences. 3. Types of data: Cross-sectional, time series, and panel data.
02	**Review of Basic Statistical Concepts** **Topics:** 1. Measures of central tendency (mean, median, mode). 2. Measures of dispersion (variance, standard deviation, coefficient of variation). 3. Graphical representations (histograms, boxplots, scatterplots). **Applications:** • *Economic Data Analysis:* Calculating average income, variability in inflation rates, and visualizing income distribution. • *Policy Impact Studies:* Analyzing the dispersion of social indicators like literacy rates or employment levels across regions. • *Market Analysis:* Understanding sales trends and product performance using descriptive statistics.
03	**Inferential Statistics Fundamentals** **Topics:** 1. Sampling techniques and the Central Limit Theorem. 2. Point and interval estimation. 3. Hypothesis testing (z-tests, t-tests, chi-square tests). **Applications:** • *Policy Evaluation:* Testing the effectiveness of an economic policy on reducing unemployment. • *Market Research:* Comparing average customer satisfaction scores between different regions. • *Healthcare Studies:* Estimating confidence intervals for population health indicators.
04	**Correlation and Simple Linear Regression** **Topics:** 1. Correlation coefficients (Pearson and Spearman). 2. Simple linear regression: Model building, estimation, and interpretation 3. Multiple regression analysis: Assumptions, multicollinearity, and heteroscedasticity 4. Model selection and evaluation (R-squared, Adjusted R-squared) **Applications:** • *Economic Modeling:* Identifying relationships between inflation rates and unemployment. • *Financial Analysis:* Analyzing the correlation between stock prices and market indices. • *Policy Recommendations*: Estimating the impact of education spending on literacy rates.
05	**Analysis of Variance (ANOVA)** **Topics:** 1. One-way ANOVA. 2. Testing for mean differences across groups. **Applications:** • *Comparing group* means in economic and business scenarios. • *Agricultural Economics:* Analyzing crop yields across different regions. • *Consumer Behavior:* Testing whether brand preference differs significantly among income groups. • *Public Policy:* Assessing differences in healthcare outcomes across various policy interventions.
06	**Introduction to Non-Parametric Tests** **Topics:** 1. Why non-parametric tests? 2. Chi-square test, Mann-Whitney U test. **Applications:** • *Market Segmentation:* Testing independence between product categories and consumer demographics. • *Social Research:* Comparing median income levels of two regions with non-normal

	distributions. • *Survey Analysis:* Evaluating associations between categorical variables like gender and voting preference.
07	**Time Series Analysis** **Topics:** 1. Time series components: Trend, seasonality, noise 2. Autocorrelation and partial autocorrelation 3. Stationarity and differencing 4. ARIMA (Auto-Regressive Integrated Moving Average) models 5. Forecasting future values **Applications:** • *Economic Forecasting:* Identifying trends in GDP, inflation, and unemployment rates. • *Seasonal Analysis:* Understanding seasonal effects on sales of agricultural or consumer goods. • *Stock Market Analysis:* Smoothing fluctuations in stock prices to understand overall trends. Predicting stock market prices using ARIMA models

Text:

1. **Anderson, D. R., Sweeney, D. J., & Williams, T. A. (2018).** *Statistics for Business and Economics (14th Edition)*. Cengage Learning.
2. **Agresti, A., & Finlay, B. (2017).** *Statistical Methods for the Social Sciences (5th Edition)*. Pearson.
3. **Koop, G. (2006).** *Analysis of Economic Data (3rd Edition)*. Wiley.

Recommended Reading:

1. **Gujarati, D. N., & Porter, D. C. (2009).** *Basic Econometrics (5th Edition)*. McGraw-Hill.
2. **Newbold, P., Carlson, W. L., & Thorne, B. M. (2019).** *Statistics for Business and Economics (9th Edition)*. Pearson
3. **Manski, C. F. (2007).** *Identification for Prediction and Decision*. Harvard University Press.
4. **Healy, K. (2018).** *Data Visualization: A Practical Introduction*. Princeton University Press.

Data Sources

Government Data Sources:

1. Open Data Bangladesh
   Website: http://data.gov.bd
2. Bangladesh Bureau of Statistics (BBS)
   Website: http://www.bbs.gov.bd
3. Bangladesh Bank
   Website: https://www.bb.org.bd
4. Bangladesh Planning Commission
   Website: http://www.plancomm.gov.bd
5. Bangladesh Export Promotion Bureau (EPB)
   Website: http://www.epb.gov.bd
6. National Board of Revenue (NBR)
   Website: http://www.nbr.gov.bd
7. Ministry of Finance (MoF)
   Website: https://mof.gov.bd
8. Ministry of Education
   Website: http://www.moedu.gov.bd
9. Ministry of Health and Family Welfare
   Website: http://www.mohfw.gov.bd
10. Department of Environment (DoE)
    Website: http://www.doe.gov.bd

International Organizations:

1. World Bank – World Development Indicators (WDI)
   Website: https://databank.worldbank.org/source/world-development-indicators
2. International Monetary Fund (IMF)
   Website: https://www.imf.org/en/Data
3. United Nations Statistics Division (UNSD)
   Website: https://unstats.un.org/home/
4. Organisation for Economic Co-operation and Development (OECD)
   Website: https://stats.oecd.org/
5. World Trade Organization (WTO)
   Website: https://www.wto.org/english/res_e/statis_e/statis_e.htm
6. UN Comtrade Database
   Website: https://comtrade.un.org

Mapping of CLOs with PLOs:

CLOs		PLO-1	PLO-2	PLO-3	PLO-4
CLO-1	Explain and apply key statistical concepts, including sampling techniques, probability distributions, and the Central Limit Theorem, in economic analysis.	**H**	M	L	L
CLO-2	Analyze economic issues using statistical techniques, such as estimation, hypothesis testing, and regression analysis, to develop evidence-based solutions.	M	**H**	M	L
CLO-3	Use statistical software (e.g., SPSS, Eviews) for data analysis and visualization, and effectively communicate findings through written and oral presentations.	L	M	**H**	M
CLO-4	Demonstrate critical thinking, ethical data practices, and collaboration in solving applied economic challenges using statistical techniques.	L	M	M	**H**

H = High M = Medium L = Low

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

Course Learning Outcomes (CLOs): After completing this course, students will be able:		**Teaching-Learning Strategy**	**Assessment Strategy**
CLO-1	Explain and apply key statistical concepts, including sampling techniques, probability distributions, and the Central Limit Theorem, in economic analysis.	- ***Lectures****:* Explain foundational statistical concepts with real-world economic examples. - ***Case Studies***: Illustrate sampling techniques and probability distributions in economic surveys.	- ***Quizzes***: Testing understanding of statistical concepts. - ***Mid-Term Exam***: Assessing theoretical and applied knowledge.
CLO-2	Analyze economic issues using statistical techniques, such as estimation, hypothesis testing, and regression analysis, to develop evidence-based solutions.	- ***Problem-Based Learning (PBL)****:* Analyze economic datasets to apply statistical techniques. - ***Hands-on Lab Work***: Use real-world data to conduct hypothesis testing and regression analysis.	- ***Assignments***: Problem-solving tasks involving estimation and hypothesis testing. - ***Lab Reports***: Analysis and interpretation of statistical outputs.
CLO-3	Use statistical software	- ***Hands-On Lab Sessions***: Training	- ***Practical Exams***: Test

	(e.g., SPSS, Eviews) for data analysis and visualization, and effectively communicate findings through written and oral presentations.	in R, Python, and Stata for data analysis and visualization. - ***Guided Projects***: Students analyze datasets and prepare reports using software.	proficiency in using statistical software. - ***Project Reports***: Submission of analyzed datasets and visualizations.
CLO-4	Demonstrate critical thinking, ethical data practices, and collaboration in solving applied economic challenges using statistical techniques.	- ***Group Discussions***: Analyze ethical dilemmas in data handling and interpretation. - ***Collaborative Group Projects***: Team-based projects addressing economic issues with statistical tools.	- ***Reflective Essays***: Ethical considerations in statistical practice. - ***Peer-Reviewed Group Project***: Evaluation of teamwork, critical thinking, and application of tools.

BNFQ Course Code: 0311 ECON 521 **Dept. Course Code: ECON 521**
Course Title: Advanced Macroeconomics **Credits: 04 (Four)**

Rationale of the Course

This course is an outline to the study of macroeconomics at an advanced level. It has been designed to provide comprehensive understanding of the major macroeconomic issues like output, unemployment, inflation, and growth and how government policies affect these. This course will focus on cross-country income differences, growth and development facts, business cycles facts and general equilibrium. It will incorporate different models, competing theories and techniques for gaining deep insight into important issues in real world macroeconomic scenario.

Course Objectives

Macroeconomics is both a theoretical and an empirical subject. Thus, its goal is to provide students with a deep understanding of different theories with examples of relevant empirical work. It will help students to go on more advanced courses and research in macroeconomics and monetary economics.

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

CLO 1. Link and apply standard tool of empirical economic analysis for analyzing contemporary policy issues in market economies.

CLO 2. Relate new growth theories to make comparison on cross country growth and real income differences.

CLO 3. Analyze the impact of fluctuations and take necessary actions at different shocks.

CLO 4. Understand how macroeconomics theory is built on a firm microeconomic foundation.

CLO 5. Apply monetary policy and fiscal policy tools to design macroeconomic policy.

Course Contents

Unit	**Topic/Content Summary**	**Corresponding CLOs**
Unit 1	Computable General Equilibrium (CGE) Model (Text: Lofgren, Hans): Essential features of Computable General Equilibrium (CGE) model. Mathematical statement of the CGE model consists of the open-economy model equations-Price Block, Production and Trade Block, Institutions Block and System Constraints Block.	CLO 1

Unit 2	New Growth Theory (Text: D. Romer): Research and Development Models-Assumption. The Model without Capital-Dynamics of Knowledge Accumulation, Importance of Returns to Scale to Produced Factors. The General Case. Growth and Development Facts- Cross Country Income Differences.	CLO 2
Unit 3	Real Business Cycle Theory (Text: D. Romer): A Baseline Real Business Cycle Model. Household Behavior- Intertemporal Substitution in Labor Supply, Household Optimization under Uncertainty, The Tradeoff between Consumption and Labor Supply. A Special Case of the Model- Assumptions, Solving the Model, Discussion. Solving the Model in the General Case.	CLO 3
Unit 4	New Keynesian Economics (Text: Ben Heijdra): Reconstructing the "Keynesian" Multiplier-A Static Model with Monopolistic Competition, The Short-Run Balanced- Budget Multiplier, The Short Run Multiplier in Isolation, The 'Long-Run' Multiplier, Welfare Effects. Monopolistic Competition and Money. Sticky Prices and the Non-neutrality of Money-Menu Costs, Real Rigidity, and Monetary Neutrality.	CLO 4
Unit 5	Monetary Policy and Fiscal Policy (Text: D. Romer): A) Inflation, Money Growth, and Interest Rates. Monetary Policy and the Term Structure of Interest Rates. The Dynamic Inconsistency of Low- Inflation Monetary Policy. Addressing the Dynamic Inconsistency Problem. Applications to monetary policy. B) Budget Deficit and Fiscal Policy, The Government Budget Constraint, The Ricardian Equivalence Result and Practice, Tax-Smoothing, Political-Economy Theories of Budget Deficits, The Costs of Deficits, A Model of Debt Crises.	CLO 5

Texts

1. D. Romer: Advanced Macroeconomics, The McGraw Hill Companies, Inc. International Edition, 1996.
2. Ben Heijdra and Van der Ploeg, Foundations of Modern Macroeconomics, 2nd Ed. Oxford University Press, 2003.
3. LOFGREN, H., HARRIS R. L., and ROBINSONA, S., A Standard Computable General Equilibrium (CGE) Model In Gams, IFPRI, 2002.

References:

1. Lofgren, Hans. 2000a. Exercises in general equilibrium modelling using GAMS. Microcomputers in Policy Research, vol. 4a. Washington, D.C.: International Food Policy Research Institute. Romer D. (2012) Advanced Macroeconomics, 5th Ed. The McGraw Hill Companies, Inc.
2. Blanchard, O. (2010) Macroeconomics, 4th edition, Pearson.
3. R.G. Lipsey and K. A. Chrystal (2004): *Economics,* 10th Edition (First Indian Edition), Oxford University Press.
4. M. Parkin, (2003) Macroeconomics, 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 Course Code: 0311 ECON322 Dept. Course Code: ECON322
Course Title: Seminar Credit Hours : 04 (Four)

Rational of the course:
The term “seminar” refers to a course of intense study relating to the student’s major interests. Seminar class deals with seminar papers, presentations and critical analysis. Students can select seminar topic; prepare a seminar paper and present paper to audiences. This course familiarize them more extensively with research methodology and ways of synthesising literatures into a review paper.

Course Objective
Seminar course aims to allow students to interact with contemporary issues and problems with existing research works. They can be familiarized with tools and techniques of how to prepare a review paper to present in an academic environment.

Course Learning Objectives (CLOs)

Upon successful completion of seminar course, the student will able to

CLO 1: Analyse ideas and data from multiple sources to generate new insights in his/her seminar manuscript.

CLO 2: Synthesize and communicate complex ideas effectively for the audience.

CLO 3: Present seminar paper in standard written English, to general audiences using well-designed presentation tools.

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

Course Learning Outcomes (CLOs)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*
CLO1	*3*	*3*	*1*	*1*
CLO2	*2*	*1*	*2*	*2*
CLO 3	*2*	*1*	*1*	*2*

1: Low 2: Medium 3: High

Mapping CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy
CLO 1	Verbal, graphical and Review	Q&As Homework
CLO 2	Graphical and mathematical exposition	Homework Discussion session
CLO 3	Verbal, Presentation	Q & As, Presentation sessional

BNFQ Course Code: 0311ECON 531 Dept. Course Code: ECON 531
Course Title: Economic Development and Planning Credits: 04 (Four)

Rationale of the course:

The course covers different theories, approaches and strategies for national and international development. It discusses practical evidences of development on different topics like poverty, financing, industry and trade for different countries. This course make interactions of theoretical models for planning in the planning procedures in Bangladesh.

Course Objective:
This course aims to develop students' know-how' about economic development of different countries along approaches of development to design of its macro, sectoral and micro planning of a country.

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

CLO 1: Explain different theories and approaches of development;
CLO 2: Link progress of industries, trade and finance to the development an economy;
CLO 3: Analyse economic environment of a country with its level of development;
CLO 4: Participate in planning process in a country

Course Contents

Unit	Contents	CLOs
Unit-1	**Concept and Approach in Development:** Evolution of development concept, Conventional approach to development, Limitations with conventional approaches, Alternative approaches to development.	CLO 1
Unit-2	**Theories of Economic Growth and Strategies:** Appraisal of development models (e.g. Rostow, Herrod-Domor, Lewis, Fei- Ranis, Solow), limits to traditional economics, Labor absorption related problems, strategy of industrialization for import substitution and private sector-led growth	CLO 1
Unit-3	**Theories of International Development:** International development theories (modernization, dependency, world-system and globalization), demand behind the demand for development, development as underdevelopment, development as freedom.	CLO 1, 2
Unit-4	**Measuring development and underdevelopment:** Classification of economies, criteria for LDCs, dimensions of poverty and inequality, different measures of poverty and inequality, experience of foreign aid for recipient countries, global development indices for Bangladesh.	CLO 2, 3
Unit-5	**Strategies of industrialization and development:** Middle income trap, Catching-up of industrialization, industrialization policies for East-Asian countries (Thailand, Malaysia, South Korea, Singapore, China and Taiwan), Contemporary policies for a few high growth countries in East Asia, Changes in policy framework in Bangladesh industrialization in Bangladesh	CLO 2, 3
Unit-6	**Economic Planning:** Procedures and Models: Rationale of Planning, Types of planning: Stages of planning, Planning procedures. Aggregate, sectoral and project	CLO 4

	planning, Planning for redistribution	
Unit-7	**Planning in Bangladesh:** Experiences of Planning in Bangladesh. Planning process in Bangladesh, Planning Commission of Bangladesh, Evaluation of Five Year Plans, Annual development plans.	CLO 4

Text and References:

i. H.G. Jones: An Introduction to Modern Theories of Economic Growth, International Student Edition, McGraw Hill- Kogakusha
ii. Debraj Roy, Development Economics, Princeton University Press, Princeton New Jersey.
iii. Sen, A.K. Poverty and Development, Claredon Press, Oxford
iv. Frank, A.G. Capitalism and underdevelopment in Latin America
v. Toufique, K. A and C. Turton, Hands not Land, DFID and BIDS, Dhaka
vi. Akanda, M. A. I., Economic Issues of Bangladesh at 41, AH Development Publishing House, Dhaka.
vii. Venek, J. Estimating Foreign Resource Needs of Economic Development.

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

Course Learning Outcomes (CLOs)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*
CLO1	*1*	*3*	*1*	*1*
CLO2	*2*	*3*	*1*	*3*
CLO 3	*2*	*1*	*2*	*2*
CLO 4	*1*	*1*	*2*	*3*

1: Low 2: Medium 3: High

Mapping CLOs with teaching learning and assessment strategy

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

BNFQ Course Code: 0311 ECON532 Dept. Course Code: ECON532
Course Title: Advanced International Trade Credits: 04 (Four)
Course Description

This advanced course on International Trade is designed for graduate-level economics students who aspire to deepen their understanding of the complexities and nuances of global trade. Students will study classical and contemporary trade theories, including comparative advantage and new trade theories that account for economies of scale. The course analyzes government interventions like tariffs, quotas, and subsidies and their effects on domestic markets and international relations. Empirical research methods will be emphasized, equipping students with the tools to analyze trade patterns using econometric techniques. Students will engage with current debates surrounding protectionism vs liberalization within a global context. Ultimately, this course aims to cultivate both theoretical understanding and practical skills necessary for navigating the complexities of global economic exchanges effectively.

Course Objectives:

Upon completing the Advanced International Trade course, students should be able to:

- Understand the different theories that explain the causes of trade, gains from trade, and patterns of trade flows.
- Assess the impact of various trade policies (e.g., tariffs, subsidies, trade agreements) and design policies that enhance Bangladesh's global trade position and economic growth.
- Explain the gap between the theory and observed facts about international trade.
- Examine the role of Global Value Chains (GVCs), multinational corporations (MNCs), and trade in intermediate goods in shaping global trade, focusing on Bangladesh's strategic positioning in these networks.
- Understand the role of digital trade, e-commerce, emerging technologies (e.g., AI, blockchain) and sustainable trade practices in modernizing international trade.
- Formulate practical trade strategies for Bangladesh, focusing on export growth, market diversification, and leveraging international agreements to drive economic development.

Course Learning Outcomes (CLOs):

CLO1: Understand advanced trade theories and their global applications.
CLO2: Analyze trade policies and their effects on economies.
CLO3: Evaluate the role of trade in economic development.
CLO4: Examine contemporary trade issues like protectionism and global value chains.
CLO5: Develop strategies to address global trade challenges and opportunities.
CLO6: Explore the relationship between trade, technology, and economic growth.
CLO7: Use econometric methods such as panel data analysis, fixed-effects models, and instrumental variable techniques.

Course Contents:

Unit	Topic/Content Summary	Corresponding CLOs
Unit-1	**Foundations of International Trade** • Classical trade theories: Ricardian and Heckscher-Ohlin models • Gains from trade and comparative advantage • Specific factors model and trade dynamics	CLO1 & CLO2
Unit-2	**New Trade Theories** • Increasing returns to scale and monopolistic competition • Product differentiation and trade patterns • Home market effects	CLO1 & CLO4
Unit-3	**Trade Policy and Instruments** • Tariffs, quotas, and subsidies • Non-tariff barriers • Welfare effects of trade policies • Strategic trade policy and economic sanctions **Regional and Multilateral Trade Agreements**	CLO1 & CLO3

	• Economic integration: Free trade areas, customs unions, common markets • World Trade Organization (WTO) rules and negotiations • Regional trade agreements (e.g., NAFTA, EU, RCEP) **International Trade and Factor Movements** • Trade and income distribution • Migration and labor mobility • Foreign direct investment (FDI) and multinational corporations	
Unit-4	**Empirical Evidence in International Trade** • Gravity models of trade • Estimating trade costs • Trade and economic growth: Cross-country evidence. **Globalization and Trade** • Role of global value chains • Outsourcing and offshoring • Trade in services	CLO3 & CLO4
Unit-5	**Political Economy of Trade** • Formation of trade agreements • Role of institutions in trade • Trade wars and disputes **Trade and Development** • Trade liberalization and developing economies • Trade and poverty • Case studies of trade reforms	CLO 4& CLO 5
Unit-6	**Advanced Topics in Trade** • Environmental effects of trade (e.g., carbon leakage, pollution havens) • Digital trade and e-commerce • Trade and innovation • The role of trade in crisis situations (e.g., COVID-19).	CLO 5 &CLO6
VII	**Tools and Methods** • Computable General Equilibrium (CGE) models • Simulation techniques in trade policy analysis • Data sources for trade research (e.g., UN Comtrade, World Bank) • Research papers or essays on trade-related topics	CLO 7

Text:

i. Advanced International Trade: Theory and Evidence
Author: Robert C. Feenstra, 2nd Edition (2015) Publisher: Princeton University Press

ii. International Economics: Theory and Policy
Authors: Paul R. Krugman, Maurice Obstfeld, and Marc Melitz ,12th Edition (2022) Publisher: Pearson.

References:

i. International Trade Law: A Comprehensive Textbook (Four-Volume Set) Author: Raj Bhala, 5th Edition (2019) Publisher: Carolina Academic Press
ii. Gravity Equations in International Trade: Advances and Applications Editors: Peter A. G. van Bergeijk and Steven Brakman, 1st Edition (2010) Publisher: Cambridge University Press
iii. Global Value Chains and Development"
iv. Author: Gary Gereffi, 1st Edition (2018) Publisher: Cambridge University Press
v. Green Trade and Fair Trade in and with Emerging Markets" Editors:Marcel Heide and Martin Bam, 1st Edition(2013)Publisher: Springer

1. Mapping of CLOs with Program Learning Outcomes (PLOs):

Course Learning Outcomes (CLOs)	***PLO 1***	***PLO 2***	***PLO 3***	***PLO 4***
CLO1	**3**	**3**	**1**	*2*
CLO2	**3**	**2**	**2**	*3*
CLO3	**3**	**2**	**1**	*3*
CLO4	**3**	**2**	**3**	*3*
CLO 5	**3**	**3**	**2**	*2*
CLO6	**3**	**3**	**2**	*2*
CLO 7	**2**	**1**	**1**	*1*

1: Low 2: Medium 3: High

2. Mapping of CLOs with teaching learning and assessment strategy:

CLOs(Course Learning outcme)	**TLSs(Teaching Learning Strategy)**	**AS(Assessment Strategy)/IN-Classroom Assessment**
CLO1 CLO2 CLO3 CLO4 CLO5 CLO6 CLO7	**Interactive Lectures**: Use visual aids, real-world examples, and case studies to explain trade theories and policies. Allocate time for discussions and Q&A to clarify concepts. **Case-Based Learning**: Analyze real-world trade policies, agreements, and disputes through group discussions, presentations, or written reports.	**Class Participation** Engage students in discussions, debates, and case analyses. Assess contributions to group activities or problem-solving sessions. **Quizzes** Conduct short quizzes on trade theories, models, and policies to ensure foundational understanding. **Homework Assignments** Include problem sets on theoretical

	Research Assignments: Assign projects and term papers requiring students to investigate trade issues, apply empirical methods, and present policy recommendations. **Technology Integration**: Use online tools for data visualization, simulations, and interactive quizzes to enhance engagement.	models (e.g., Ricardian or Heckscher-Ohlin) and empirical exercises like calculating trade flows using dataset. **Midterm Exam** Test understanding of core concepts like trade theories, policy impacts, and economic welfare analysis. Include a mix of theoretical questions, problem-solving, and policy interpretation. **Presentations**: Individual or group presentations on topics like global trade trends or the impact of digital trade. **Empirical Research Projects** Assign a research project requiring data analysis and interpretation

BNFQ Course Code: 0311 ECON 533 **Dept. Course Code: ECON 533**
Course Title: Contemporary Economic Issues **Credits: 04 (Four)**

Course Objectives and Course Summary: This course is primarily concerned with contemporary economic issues at the domestic, regional and global perspectives. Specific topics are chosen from current and recent policy debates. Specifically, it will emphasize current economic subjects such as FDI, institutional quality, remittances, capital flight, poverty and welfare, sustainable development, energy prices, capitalism vs. climate and international debt trap. Class participants will be encouraged to use economic theory to evaluate present events. Students will learn to read and construct basic theories and diagrams that explain and illustrate economic phenomena. Presentations and illustrations will be given for understanding the economic situations which directly affect our lives. Specific topics to explore will be developed in conjunction with the students according to their interests and needs.

Accordingly, the main objectives of this course are:

i. Introduce the main current issues in the world of economics such as infrastructure, FDI, remittances and good governance.
ii. Students will understand the linkages and interactions in many macroeconomic and microeconomics variables.
iii. Understanding issues in social policy such as the poverty and welfare topics and their effects on economy and society.
iv. Explore several international issues and their internally and externally interactions such as the energy prices, the environment and the climate change, government deficit and foreign debt and economic growth and development.

Course Learning Outcomes (CLOs)

At the end of the course the student should be able to:

i. Understand the new and important contemporary economic issues.
ii. Apply microeconomic and macroeconomic analysis to evaluate a current public policy.
iii. Compare and contrast the various issues of South Asian economies.
iv. Solve selected traditional international and national problems.
v. Analyze states and international economic organizations' behavior in a global world.
vi. Collect and analyze relevant data associated with contemporary economic issues.
vii. Develop analytical skills through class presentations, discussions and writing research papers.

Program Learning Outcomes (PLOs)

After completion of this MSS program, Students will be able to:

PLO-1 Enrich themselves with specialized issues in economics.
PLO-2 Link theoretical lessons with real world economic problems.
PLO-3 Scrutinize economic theories and add new methods in solving problems in business, trade, national and international affairs.
PLO-4 Know the applications of progressive knowledge in managing economic data and estimate to a greater extent.

Course Content

Unit	Contents
Unit-1	Foreign Direct Investment & Economic Development: i). FDI in Developing Countries and Economies in Transition: Opportunities, Dangers, and New Challenges ii). The Impact of FDI on Host-Country Development iii). The Determinants of FDI Inflows in the Recipient Countries iv). The Role of FDI in East Asian Economic Development v). Theories on FDI: OLI, Market Imperfections/Imperfect Market Theory, Eclectic Paradigm, Product Life Cycle Theory, Internalization Theory

Unit-2	Remittances and Economic Growth: i). Export of Manpower and Migrant Remittances: An Alternative Development Strategy ii). Overseas Manpower Industry in Bangladesh iii). Human Resources Supply Dynamics in Bangladesh
Unit-3	Good Governance/Institutional Quality and Its Effects: i). Governance Issues in South Asia ii). Corruption in South Asia: Causes & Consequences
Unit-4	Infrastructure & Development in South Asian Context: i). Infrastructure to Support Inclusive Growth and Poverty Reduction ii). Infrastructure and Inclusive Growth iii). Soft Infrastructure: Role of Policy and Regulation
Unit-5	Belt and Road Initiative (BRI) of China: i). BCIM Economic Corridor Perspective ii). The Construction Capability, Challenges and the Corresponding Countermeasures of the 21st-Century Maritime Silk Road iii). India's Policy Towards China Under the Mindset of "Assertive Government" iv). Maritime Silk Road and China's Indian Ocean Strategy v). The Analysis of Trade and Investment Between China and the Regions/Countries along the "Maritime Silk Road".
Unit-6	Economic Inequality/Discrimination and Poverty: Domestic, Reginal and Global Perspectives
Unit-7	International Debt for LDCs and Developing Countries
Unit-8	Present Global Inflation and Its Effects
Unit-9	Capital Flight from Developing Countries
Unit-10	Capitalism VS. Climate: Climatic changes—Economic aspects, Political aspects, social aspects Global environmental change Climate Change, Environment and Energy Issues: Global Warming, Climate Change and Health

Text Books

i. Anis Chowdhury, & Wahiduddin Mahmud. (2008). *Handbook on the South Asian Economies.* Edward Elgar Publishing Limited, UK.

ii. Anjum Siddiqui. (2007). *India and South Asia: economic developments in the age of globalization*. M.E. Sharpe, Inc., 80 Business Park Drive, Armonk, New York 10504.

iii. Asian Development Bank. (2012). *Infrastructure for Supporting Inclusive Growth and Poverty Reduction in Asia*. Mandaluyong City, Philippines.

iv. David Lewis. (2011). *Bangladesh: politics, economy and civil society*. Cambridge University Press.

v. Klein, Naomi. (2014). This changes everything: capitalism vs. the climate. PUBLISHED BY ALFRED A. KNOPF CANADA.

vi. Takatoshi Ito. & Anne O. Krueger. (2000). *The Role of Foreign Direct Investment in East Asian Economic Development.* The University of Chicago Press.

Reference Books

i. Rong Wang, & Cuiping Zhu. (Editors) (2016). *Annual Report on the Development of the Indian Ocean Region (2015): 21st Century Maritime Silk Road*. Social Sciences Academic Press and Springer Science + Business Media Singapore.

ii. Sadiq Ahmed. (2006). *Explaining South Asia's Development Success: The Role of Good Policies*. The International Bank for Reconstruction and Development, The World Bank, Washington D C.

iii. Shahadat Hossain. (2011). *Urban Poverty in Bangladesh: Slum Communities, Migration and Social Integration.* I. B. Tauris & Co Ltd.

iv. Sougata Ray, Anup Kumar Sinha, & Shekhar Chaudhuri. (2007). *Making Bangladesh A Leading Manpower Exporter: Chasing Dream of US 30$ Billion Annual Migrant Remittances by 2015.* Indian Institute of Management Calcutta, India.

v. Theodore H. Moran. (1999). *Foreign Direct Investment and Development: The New Policy Agenda for Developing Countries and Economies in Transition*. The Institute of International Economics, Washington D C.

1. Mapping/Alignment of CLOs with Program Learning Outcomes (PLO) (Optional)

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

1: Low 2: Medium 3: High

2. Alignment of topics of the courses with CLOs

Week	Topic/Content Summary	Corresponding CLOs
1 & 2	**Unit 1-** Foreign Direct Investment & Economic Development: i). FDI in Developing Countries and Economies in Transition: Opportunities, Dangers, and New Challenges ii). The Impact of FDI on Host-Country Development iii). The Determinants of FDI Inflows in the Recipient Countries iv). The Role of FDI in East Asian Economic Development v). Theories on FDI: OLI, Market Imperfections/Imperfect Market Theory, Eclectic Paradigm, Product Life Cycle Theory, Internalization Theory	*CLO 1 & CLO 2*
3	**Unit 2-** Remittances and Economic Growth: i). Export of Manpower and Migrant Remittances: An Alternative Development Strategy ii). Overseas Manpower Industry in Bangladesh iii). Human Resources Supply Dynamics in Bangladesh	*CLO 1 & CLO 2*
4	**Unit 3-** Good Governance/Institutional Quality and Its Effects: i). Governance Issues in South Asia ii). Corruption in South Asia: Causes & Consequences	*CLO 3*
5	**Unit 4-** Infrastructure & Development in South Asian Context: i). Infrastructure to Support Inclusive Growth and Poverty Reduction ii). Infrastructure and Inclusive Growth iii). Soft Infrastructure: Role of Policy and Regulation	*CLO 3*
6	**Unit 5-** Belt and Road Initiative (BRI) of China: i). BCIM Economic Corridor Perspective ii). The Construction Capability, Challenges and the Corresponding Countermeasures of the 21st-Century Maritime Silk Road iii). India's Policy Towards China Under the Mindset of "Assertive Government" iv). Maritime Silk Road and China's Indian Ocean Strategy v). The Analysis of Trade and Investment Between China and the Regions/Countries along the "Maritime Silk Road".	*CLO 4*
7 & 8	**Unit 6-** Economic Inequality/Discrimination and Poverty: Domestic, Reginal and Global Perspectives	*CLO 4*
9	**Unit 7-** International Debt for LDCs and Developing Countries	*CLO 5*
10 & 11	**Unit 8-** Present Global Inflation and Its Effects	*CLO 6*
12,	**Unit 9-** Capital Flight from Developing Countries	*CLO 6 & CLO 7*
13 & 14	**Unit 10 -** Capitalism VS. Climate: Climatic changes—Economic aspects, Political aspects, social aspects, Global environmental change, Environment and Energy Issues: Global Warming, Nexus between Climate Change and Health	*CLO 6 & CLO 7*

Teaching-Learning Strategies

Week	Topic/Content Summary	Teaching-Learning Strategy/Tools	Assessment Strategy/ In-Class Assessment
1 & 2	**Unit 1-** Foreign Direct Investment & Economic Development: i). FDI in Developing Countries and Economies in Transition: Opportunities, Dangers, and New Challenges ii). The Impact of FDI on Host-Country Development iii). The Determinants of FDI Inflows in the Recipient Countries iv). The Role of FDI in East Asian Economic Development v). Theories on FDI: OLI, Market Imperfections/Imperfect Market Theory, Eclectic Paradigm, Product Life Cycle Theory, Internalization Theory	**Strategies**: Verbal and graphical exposition; Problems solving **Tools**: Books; Handouts; Multimedia; Online resources	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
3	**Unit 2-** Remittances and Economic Growth: i). Export of Manpower and Migrant Remittances: An Alternative Development Strategy ii). Overseas Manpower Industry in Bangladesh iii). Human Resources Supply Dynamics in Bangladesh	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
4	**Unit 3-** Good Governance/Institutional Quality and Its Effects: i). Governance Issues in South Asia ii). Corruption in South Asia: Causes & Consequences	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
5	**Unit 4-** Infrastructure & Development in South Asian Context: i). Infrastructure to Support Inclusive Growth and Poverty Reduction ii). Infrastructure and Inclusive Growth iii). Soft Infrastructure: Role of Policy and Regulation	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
6	**Unit 5-** Belt and Road Initiative (BRI) of China: i). BCIM Economic Corridor Perspective ii). The Construction Capability, Challenges and the Corresponding Countermeasures of the 21st-Century Maritime Silk Road iii). India’s Policy Towards China Under the Mindset of “Assertive Government” iv). Maritime Silk Road and China’s Indian Ocean Strategy v). The Analysis of Trade and Investment Between China and the Regions/Countries along the “Maritime Silk Road”.	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
7 & 8	**Unit 6-** Economic Inequality/Discrimination and Poverty: Domestic, Reginal and Global Perspectives	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
9	**Unit 7-** International Debt for LDCs and Developing Countries	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
10 & 11	**Unit 8-** Present Global Inflation and Its Effects	**Strategies**: Verbal, graphical	

		and mathematical exposition; Problems solving **Tools**: As above	As above
12,	**Unit 9-** Capital Flight from Developing Countries	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
13 & 14	**Unit 10 -** Capitalism VS. Climate: Climatic changes—Economic aspects, Political aspects, social aspects, Global environmental change, Environment and Energy Issues: Global Warming, Nexus between Climate Change and Health	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above

BNFQ Course Code: 0311 ECON 534 **Dept. Course Code: ECON 534**
Course Title: Urban Economics **Credit Hours:** 04 (Four)

Rationale of the course:
This course explores the theoretical foundations, empirical methods, data collection efforts and research techniques used in empirical urban economics. Students will gain an in-depth understanding and hands-on experience to explore a variety of applications through a combination of lectures, discussions, and projects. Urban economic ideas will be applied to understand economic growth in cities in the developed world and the developing world. This framework is useful both for understanding emerging business opportunities and for designing public policies that seek to reduce the social cost of urban economic growth (i.e pollution, infectious disease and congestion).

Course Learning Outcomes (CLOs):
Upon successful completion of the course, the student will able to
CLO 1: Identify and interpret various basic concepts in urban economics.
CLO 2: Comprehend the economic factors influencing housing, labor, environment and transportation in urban settings.
CLO 3: Analyse the evolution of urban land use patterns and density.
CLO 4: Assess the likely effects of different policies to encourage local economic growth.
CLO 5: Identify different challenges facing cities such as costs of automobile use, environmental pollution, poverty etc. and explain policies to address them.

Course Contents

Unit	Contents	CLOs
Unit-1	**Urban System:** The Central Place Theory, change in urban system, the urban economic base.	CLO 1
Unit-2	**Urban Location:** Location theories, theory of land rent and land use.	CLO 1, CLO3

Unit-3	**Urban Services:** Transport housing, urban renewal	CLO 2
Unit-4	**Urban Environment:** Nature of the environment, problem and pollution of the urban environment, cost-benefit analysis of pollution control.	CLO 2, CLO5
Unit-5	**The Urban Governance:** The source of urban revenue, urban economic management.	CLO 1
Unit-6	**Urban Finance:** Sources of urban revenue, problems of financing urban infrastructure and utilities, inter government fiscal relations, urban economic management.	CLO 1,CLO5
Unit-7	**Urban Land Market:** Segmentation of the land market, price determination with land market.	CLO 3
Unit-8	**Housing Policies:** Supply side policies, public housing, demand side policy, consumer subsidy, supply vs demand side policies rent control	CLO 4
Unit-9	**Autos and highways Congestion:** Equilibrium vs optimal traffic volume, alternative to a congestion tax, taxes on auto use alternative to auto taxes highway pricing and traffic volume in the congestion autos and air pollution.	CLO 1, CLO5
Unit-10	**Mass transit:** Mass transit facts, choosing a travel mode. The commuter choosing a system: the planner's problem, light rail subsidies for mass transit, policy perform, contracting and para transit, transportation and land use pattern	CLO 4, CLO5

Text

1. O'Sullivan, Arthur, Urban Economics (Ninth Edition). Boston: Irwin/McGraw Hill, 1990, 2019.

References:

1. James Hellbum, Urban Economics and Public Policy, second edition, St. Martins Press, New York.
2. David Segal and Richard D. Irwin, Urban Economics, 1977.
3. Edwin s. Mills and Bruce w. Hamilton Scort, Urban economics, and Third edition. Foresman and company.

4. Roy W bahi and Johannes f Linn, urban public finance in developing countries.
5. Davis king, fiscal tigers, the economics of multi-level government.
6. Paul N Balchin and Jeffrey, urban land economics.
7. Patrical L mccartney{ed}, Cities and Governance, now directions in Latin American.
8. J Parry Lewis, Urban Economics, a set approach.

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

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

1: Low 2: Medium 3: High

Mapping CLOs with teaching learning and assessment strategy

CLOs	Teaching Learning Strategy	Assessment Strategy/ In-Class Assessment
CLO 1	Verbal, graphical and mathematical exposition	Q&Ans. Quizzes, Homework, Assignments, Presentations, Tutorials,Class test and Final exam
CLO 2	Graphical and Case studies	As above
CLO 3	Verbal, graphical and Problems solving	As above
CLO 4	Verbal and graphical	As above
CLO 5	Graphical, Case studies Problems solving	As above

BNFQ Code: 0311 ECON 535 **Dept. Course Code: ECON 535**
Course Title: International Macroeconomics and Finance **Credits: 4 (Four)**

Rationale of the Course
International Macroeconomics and Finance is designed to provide students with a comprehensive understanding of the global economic system and the financial markets that underpin it, preparing them for careers in a globalized world. The rationale of this course revolves around the need to understand the global economic landscape, especially in an era of increasing globalization, interconnected financial markets, and complex international trade relationships.

Course Objectives
The aim of this course is to:

- Develop Expertise in Global Economic Theories and Models
- Understand the Interdependence of Economies
- Analyse Financial Markets and Institutions
- Assess Economic and Financial Risks
- Evaluate Policy Responses to Global Economic Challenges
- Provide Practical Tools for Global Decision-Making

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Understand the basic ideas, tools and scopes of International Macroeconomics and finance.
CLO 2. Students will be able to critically analyze and apply advanced international macroeconomic models.
CLO 3. Students will demonstrate an understanding of how monetary and fiscal policies in different countries affect international trade, capital flows, and exchange rates.

CLO 4. Students will develop the ability to analyze international financial markets, including the behavior of exchange rates, capital flows, and the role of international financial institutions.
CLO 5. Students will be able to examine the causes and effects of past and potential future global financial crises, such as currency crises, sovereign debt crises, or global recessions.
CLO 6. Students will be equipped with the skills to apply quantitative and qualitative methods.
CLO 7. Students will be able to identify, measure, and manage macroeconomic and financial risks in an international context.

Course Contents mapped with CLOs

Unit		**Corresponding CLOs**
Unit 1	Intertemporal Trade and Current Account Balance: A small two-period endowment economy; Stability and Marshall-Lerner condition. Applications: (1) War and the Current Account; (2) Investment productivity and world real interest rate; (3) Energy prices, global savings and real interest rate	CLO 1
Unit 2	Dynamics and Small Open Economies: Small Open Economy; Dynamics of Current Account; A Test of the Stochastic Small Country Current Account Model. Applications: (1) When is a country bankrupt? (2) Relative's impact of productivity shocks on investment and the Current Account; (3) Do government budget deficit cause Current Account deficits?	CLO 1, 2
Unit 3	Real Exchange Rates and Terms of Trade: International price levels and real exchange rates; Productivity difference real exchange rate: Harrod-Balassa-Samuelson Effect. Applications: (1) Sectoral productivity differential and relative prices of non-tradable in industrial countries; (2) Productivity growth and real exchange rates; (3) Temporary productivity shocks and current account.	CLO 3,6,7
Unit 4	Money and Exchange Rates under Flexible Prices: Simple monetary model of exchange rates; Nominal Exchange Rates Regimes Monetary and fiscal policies to fix exchange rates; Speculative attacks on fixed exchange rates regimes; Multilateral arrangements to fix exchange rates. Applications: (1) International Convergence: Empirical Evidence; (2) Productivity Convergence: Baumol-De Long-Romer Debates; (3) Public capital accumulation and convergence.	CLO 3, 4,6,7
Unit 5	Basic Open-Economy Models and Empirical Facts: Sticky domestic goods prioces and exchange rates; Mundell-Fleming-Dornbusch Model; Empirical Evidence on sticky price exchange rates models; Choice of exchange rates regime. Applications:(1) Openness and Inflation.	CLO 2, 3,5

Texts

1. Maurice Obsfeld and Kenneth Rogoff, Foundation of International Macroeconomics, the MIT Press, 1996.

References:

1. Nelson C. Mark, International Macroeconomics and Finance: Theory and Empirical Methods, Blackwell Publishers, 2001.
2. GENE M. GROSSMAN and KENNETH ROGOFF. Hand Book of International Economics, Vol.1-3. 1985.
3. Martin Evans, Exchange Rate Dynamics, Princeton, Princeton University Press, 2011.
4. Maurice D. Levi, International Finance, Fourth edition, Routledge, 2005

Program Learning Outcomes (PLOs)
After completion of this MSS program, Students will be able to:
PLO-1 Enrich themselves with specialized issues in economics.
PLO-2 Link theoretical lessons with real world economic problems.
PLO-3 Scrutinize economic theories and add new methods in solving problems in business, trade, national and international affairs.
PLO-4 Know the applications of progressive knowledge in managing

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	3	1		
CLO2	1	2	3	2		
CLO3	1	2	2	2		
CLO4	3	2	3	2		
CLO 5	3	2	2	2		
CLO 6	3	2	2	3		
CLO 7	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	Lecture and Presentation	Q & Ans. Quizzes, Homework, Assignments, Presentations, Tutorials, Class Tests & Final Exam
CLO 2	Lecture and Presentation	As above
CLO 3	Lecture and Presentation	As above
CLO 4	Lecture and Presentation	As above
CLO 5	Lecture and Presentation	As above
CLO 6	Lecture and Presentation	As above
CLO 7	Lecture and Presentation	As above

BNFQ Course Code: 0311 ECON 536 Dept. Course Code: ECON 536
Course Title: Population Economics Credits: 04 (Four)

Rationale of the Course/Course Description

This course includes the trends and consequences of demographic transformation in Bangladesh and the world. It will include the important demographic measurement and theories for population growth. The manpower is the output of population and its value addition is possible with rising the quality of efforts may be provided by the workforce. It will identify the trends and consequences of population growth and migration. The course will be ended with the population and human development policy of Bangladesh.

Course Objectives

The objective of the course is to provide students with theoretical and empirical evidences of population dynamics, population mobility and labor force participation. The course with enrich the students with demographic theories and strategies for human resource development. At the end of the course, the student will get a clear idea of population surveys, planning and policy and to be able to handle demographic and manpower issues.

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

CLO: 1. Apply theoretical and empirical evidences of population dynamics;

CLO: 2.enrich the students with demographic theories and strategies for human resource development;

CLO: 3. to be able to handle demographic and manpower issues.

Course Content

Unit	Topic/ Content Summary	Corresponding CLOs
Unit-1	**Introduction:** What is Demography? Nature of the study. Categories of Demography. Broad Heads or Phases of Demography What is its relationship with other social sciences? Population growth of world and Bangladesh	*CLO 1*
Unit-2	**Source of demographic data:** Census, vital registration system, sample surveys, and source of demographic data in Bangladesh.	*CLO 1*
Unit-3A	**Basic Demographic Measures:** Age-Sex composition, Sex distribution of population, Various measurement of sex: Sex-ratio, Sex-ratio at birth, Sex-ratio at death, Definition of age, Age structure, Dependency ratio, Child women ratio, Population pyramid.	*CLO 2*
Unit-3B	**Population Estimate:** Definition of population estimate, Types of population estimate, Definition of population growth, Common measures of population growth rate, Balancing equation, Differential equation of population growth	*CLO 2*
Unit-3C	**Mortality and Fertility:** Crude Death Rate, Age specific death rate, Infant mortality, Standardize death rate, Direct method, indirect standardize death rate, Comparative mortality figure, Age sex adjusted death rate, Crude birth rate, General fertility rate, Age specific fertility rate.	*CLO 2*
	Population Theory: The demographic transition, The Malthusian Population Trap, The Microeconomic Household Theory of Fertility, Population-Poverty Cycles, Empirical Arguments: Seven Negative	

Unit-4	Consequences of Population Growth, Lexis diagram, Cohort analysis and Period analysis, Demographic dividend, Life Table: Meaning, Types and Importance, Types of Life Tables, Methods of Constructing Life Table Importance of Life Table.	*CLO 3*
Unit-5	**Urbanization and Migration:** Internal and international migration; levels and trends in international migration; theories of Migration; Causes and effects of migration; Migration and fertility, Urbanization in Bangladesh.	*CLO 2*
Unit-6	**Manpower utilization:** Economically active population, Difference between economic activity and noneconomic activity, What is the Labor Force Participation Rate? Labor Force Participation Rate Formula, What Affects the Labor Force Participation Rate? Present labor force participation rate in Bangladesh, What is the Unemployment and unemployment Rate, Types of Unemployment, What is HR demand forecasting, and why is it important? HR demand forecasting techniques.	*CLO 3*
Unit-7	**Interrelationships between demographic and economic variables:** The role of demographic factors in economic development: population vis-a-vis food supply, population growth and employment; demographic considerations in economic planning, meaning, Types and Methods of Population Projection, Importance of Population Projections	*CLO 3*
Unit-8	**Population policy**: Population policy, Characteristics of Population Policies, Objectives of Population Policies, Types of Population Policies, Population Policy Examples, Effects of Population Policies, Business demography, Health demography, The scope of health demography, Demographic Processes and Health Demography, Morbidity rate	*CLO 3*

Text and References:

1. Henrv S. Shryock,Jacco S. Siegel and Associates: The Methods and Materials of Demography.
2. R. Ramakumar: Technical Demography.
3. M.Nurul Islam: An Introduction to Demographic Techniques.
4. Hans Raj: Fundamentals of Demography.
5. Richard K. Thomas: Concepts, Methods and Practical Applications in Applied Demography .
6. Barclay. W.G. 1962. Techniques of Population Analysis.
7. Barkat-e-Khuda, J.C. Caldwell, B.K. Caldwell, I. Pieris, P. Caldwell and S. Ahmed. 2001, Determinants of the Fertility Transition in Bangladesh. in Z. Satthar and J. Philips (eds.) Fertility Transition in South Asia, Oxford University Press Inc.. New York.

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

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

CLO1	*2*	*3*	*3*	*1*
CLO2	*2*	*3*	*2*	*1*
CLO3	*2*	*2*	*1*	*3*

1: Low 2: Significance 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 mathematical exposition; Presentation, Problems solving **Tools**: Books; Handouts; Multimedia;	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	Q&As Quizzes Homework Assignments Tutorials Class Tests
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above

BNFQ Course Code: 0311 ECON 537 Dept. Course Code: ECON 537
Course Title: Rural Economics and Microfinance Credits: 4 (Four)

Course Objectives

This course is designed to build a deeper understanding of the fundamental issues of rural economy and Microfinance. The course will discuss the retrospect of rural dynamism and organization of production. Women participation in non-farm activities and its mechanism will be discussed along with its impact on rural economy. Moreover, relation of activities of public and private sectors and NGOs will be analyzed. The contemporary issues with rural economy and Microfinance will be evaluated in relation of rural development in Bangladesh.

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

CLO 1: understand about the market special challenges in rural areas that are traditionally associated with rural dynamism, agricultural revolution and rural credited to the poor.
CLO 2: familiar with innovative models and alternate the ways of offering rural financial services with mechanism of rural areas.
CLO 3: understand about the land reform and productivity and labor supply in rural areas
CLO 4: able to address the relationship of public and private sectors and NGOs to poverty alleviation and credit cooperation.
CLO 5: understand women participation and contribution in non-farm activities and its mechanism will be discussed along with its impact on rural economy.

Course Contents

Unit	Topic Content Summary	Corresponding CLOs
Unit 01	**Dynamics of Rural Economy** Features of rural economy prior to green Revolution Technological changes in rural economy Non farm activities in rural areas Rural Institution	*CLO 1*
Unit 02	**Dynamics of Rural Financial Market** Money lord and informal financial market Emergence of formal credit Weakness of formal credit Emergence of semiformal credit by Grameen Bank Spread of semi-formal credit Global microcredit scenario	*CLO 1* *&* *CLO 2*
Unit 03	**Dynamics of Organization in production** Labor supply and changes in labor market Land reform Land productivity and land market Changing mode of decision making by rural households Which factor is valuable	*CLO 3*
Unit 04	**Government and NGOs for access to credit and Empower women** Why women in Microfinance Challenges and Contribution of women in Rural Economy Government effort to make equal access to all Commercial bank versus NGOs in credit operation	*CLO 4* *&* CLO 5
	Contemporary Issues with Rural Economics	

Unit 05	Issues with women empowerment Challenges for private bank in rural credit Challenges for private sector insurance providers	*CLO 4*

Text and References:

i. K. A. and C. Turton edited, Hands Not Lands: How livelihood are changing in rural Bangladesh, Bangladesh Institute of Development Studies, Dhaka, 2003

ii. Md. Harun-Ar Rashid, Role of Micro-Finance in Rural Development: There is a Little Change to change the fate of Rural Women in Bangladesh, VDM Verlag, 2010,

iii. Akanda, M. A I., Process of Agricultural Development in Bangladesh, Academic Press and Publishers Library, Dhaka, 2008

iv. Dr. Müller and Aurora Ferrari, Increasing Access to Rural Finance in Bangladesh: The Forgotten "Missing Middle, World Bank Publications, 2008

v. Richard L. Meyer, Geetha Nagarajan. Rural Financial Markets in Asia: Policies, Paradigms, and Performance Oxford Oxford University Press 2000

vi. Yukio IkemotoThe Microfinance Revolution: Sustainable Finance for the Poor, T & F Books UK 2008

vii. Ryu Fukui, Gilberto M. Llanto, Rural finance and microfinance development in transition countries in Southeast and East Asia, Philippine Institute for Developmental Studies, 2006,

viii. Beatriz Armendáriz and Jonathan Morduch, The Economics of Microfinance, Second Edition, The MIT Press, 2010.

Mapping of Course outcomes with Program Outcomes

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

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 mathematical exposition; Presentation, Problems solving **Tools**: Books; Handouts; Multimedia;	Q&As Quizzes Homework Assignments Presentations

		Tutorials Class Tests
CLO 2	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	Q&As Quizzes Homework Assignments Tutorials Class Tests
CLO 3	**Strategies**: Verbal, graphical and mathematical exposition; Problems solving **Tools**: As above	As above
CLO 4	**Strategies**: Verbal, graphical and Problems solving **Tools**: As above	As above
CLO 5	**Strategies**: Verbal, graphical Problems solving **Tools**: As above	As above

BNFQ Course Code: 0311 ECON 538 **Dept. Course Code: ECON 538**
Course Title: Public Economics & Policy **Credits: 4 (Four)**

Rationale of the Course/Course Description
This course deals with the mechanisms of public enterprise as an instrument of public policy. It also examines the legitimacy of public action due to market failure. This course will help students to understand various criteria's of public enterprise for distribution of income for welfare economics.

Course Objectives
The objective of this course is to equip students with a comprehensive understanding of the key principles in Public Sector Economics, including market failures, public enterprise pricing, and cost-benefit analysis. Students will explore the economic foundations of public policies, fiscal federalism, and resource allocation mechanisms for public goods. The course aims to enhance students' analytical skills in evaluating the efficiency and equity of public sector interventions. Additionally, students will gain insights into the role of public enterprises in achieving social and economic objectives.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO: 1. Grasp the theoretical foundations and practical implications of public sector economics.
CLO:2. Develop the ability to critically assess market failures and the effectiveness of public intervention in addressing them.
CLO: 3. Understand how pricing and investment decisions in public enterprises impact social welfare and economic efficiency.

CLO: 4. Be capable of applying cost-benefit analysis to real-world public policy decisions, taking into account risk, uncertainty, and equity concern.
CLO:5. Gain insights into the dynamics of resource allocation for public goods, including mechanisms to enhance efficiency in public service provision.
CLO:6. Understand the implications of fiscal federalism and intergovernmental relations for regional and national public policy.
CLO:7. Evaluate the role and effectiveness of public enterprises in achieving public policy objectives.

Course Content

Unit	Topic/ Content Summary	Corresponding CLOs
Unit 1	**Introduction:** Brief review of Normative and Positive aspects of the Public Sector Economics.	*CLO 1*
Unit 2	**Market Failure and Legitimacy of Public Action**: Efficiency & Equity Aspects. Review of consumption externalities: Jointly consumed good; aggregate externality-club good of Buchanan. Production externalities-non-convexities-problem of global optimality.	*CLO 2*
Unit 3	**Public Enterprise Pricing and investment Rules:** The Marginal Cost Pricing Problems-The Theory of The Second Best Capacity Constraints and the Peak load Problems..	*CLO 3*
Unit 4	**Public Enterprise Criteria:** The Rationale for Social Cost-Benefit Analysis. Cost-Benefit Analysis as applied to Welfare Economics. An Appropriate Decision Rule. Evaluation inputs and Outputs. The Discount Rate. The Problem of Risk and Uncertainty- The Arrow-Lind Theorem. Cost-Benefit Analysis and the Distribution on Income.	*CLO 4*
Unit 5	**Resource Allocation Mechanism for Public Good:** Voting Models. Bureaucrats Vs. Votes. Incentive Mechanisms for Preference Revelation..	*CLO 5*
Unit 6	**The Theory for Fiscal Federalism**: The Tiebout Model. Free Mobility among Regions and Efficiency- Theory of intergovernmental Grants.	*CLO 6*
Unit 7	**Public policy:** Concepts, Types, Characteristics, Instruments, Public enterprise.	*CLO 7*

Text:

i. P.W Reed, The Economics of Public Enterprise
ii) Peter Abelson, Public Economics: Principles and practice
iii) Jonathan Gruber, Public Finance and Public Policy, 3rd Edition.

References:

i. F. M. Bator, The Question of Government Spending, New York, Harper Bros, Publishers 1960
ii. R. W. Boadway and D.E Wildasin, Public Sector Economics (2nd ed.), Little Brown & Company,
iii. W. J. Baumol and W. Oates, The Theory of Environment Policy. Englewood Cliffts, N. J. Prentice Hall Inc. 1975
iv. Muzaffer Ahmed, State and Economics Development
v. W. J Baumol and Bradford, " Optimal Departures from Marginal Cost Pricing " American Economics Review, June 1970.
vi. J. Buchanan, " An Economics Theory of Clubs ", Economics, Feb, 1956.
vii. S. B Chase (ed), Problems of Public Expenditure Analysis
viii. A Harberger, " Three Basic Postulates for Applied Welfare Economics" Journal of Economics Literature, Sep. 1971
ix. R.W. Boadway and N. Bruce, Welfare Economics, Oxford, Basil Blackwell, 1984
x. R. Haaveman& J. Margolis (ed.), Public Expenditure and Policy Analysis
xi. D. Mueller, Public Choice, Cambridge, U.K The Cambridge University Press, 1979
xii. R. Mckean, Efficiency of Governments Through Systems Analysis, New York: John Wiley & Sons Inc., 1958
xiii. RicharTresch, Public Finance, A Normative Theory. Business Publications Inc., Texas, 1981

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*
CLO 6	*2*	*3*	*3*	*2*	*1*	*2*
CLO 7	*3*	*2*	*2*	*2*	*2*	*1*

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**: Lecture and Discussion; **Tools**: Books; Handouts; Multimedia; Online resources	Q&As Quizzes Homework Assignments Presentations Tutorials Class Tests
CLO 2	**Strategies**:Lecture and Discussion; **Tools**: As above	As above
CLO 3	**Strategies**: Lecture and Discussion; **Tools**: As above	As above
CLO 4	**Strategies**: Lecture and Discussion; **Tools**: As above	As above
CLO 5	**Strategies**: Lecture and Discussion; **Tools**: As above	As above
CLO 6	**Strategies**: Lecture and Discussion; **Tools**: As above	As above
CLO 7	**Strategies**: Lecture and Discussion; **Tools**: As above	As above

BNFQ Course Code: 0311 ECON 539 **Dept. Course Code: ECON 539**
Curse Title: Monetary Economics **Credits: 4 (Four)**

Course Description

This course is designed to provide students with the theoretical building blocks that are needed for an understanding of the monetary theory and surveys with empirical evidence. It will focus on the issues of monetary policy implementation in the closed and open economy contexts. . The course will provide students with the theoretical background on the classical and Keynesian approaches to the monetary policy and monetary transmission mechanisms. It will also analyze the problems related to determination of interest rate, money creation, inflation, exchange rate and the implementation of monetary policy.

Course Objectives

Upon successful completion of the course the student will

- understand how the monetary policy and the economy are practically interconnected;
- create ability to make decision on what should be the business strategies in micro perspective.
- create an analytical based on current theoretical and policy problem associated with empirical evidence.
- critically evaluate the factors of money that affect output of an economy.

Course Learning Outcomes (CLOs)

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

CLO 1. Understand the approaches to the demand for money.
CLO 2. Analyze the conventional theoretical approaches to the demand for money
CLO 3. Demonstrate an understanding of the functions of money and the financial system
CLO 4. Understand the main determinants of interest rates in the bond and money market
CLO 5. Examine the costs and benefits of money vs. interest yielding assets.
CLO 6. Understand how central banks conduct monetary policy.

Course Contents:

Unit	Topic/Content Summary	Corresponding CLOs
Unit-1	**Theoretical Approach to the Demand For Money:** The classics, Keynes, and Freidman-Transaction theories of money demand-Portfolio theories of money demand	CLO 1 & CLO 2
Unit-2	**Money Demand and Money Supply:** Functions and Definitions of Money. Demand for Money. The Money Supply Process. Allais-Baumol-Tobin Model. Central Banks and monetary policy. The Supply of Money and the Control of Nominal Income.	CLO 3
Unit-3	**Pricing Non-Money Assets:** Capital Market Theory and the Pricing of Financial Securities; Specification and Estimation of Intertemporal Asset Pricing Models; The Term Structure of Interest Rates	CLO 4
Unit-4	**Money, Other Assets, and Economic Activity:** Consumption and Investment; Why Does Money Affect Output? A Survey; Credit Rationing	CLO 5
Unit-5	**Money, Inflation, and Welfare:** Inflation: Theory and Evidence; Costs of Inflation; The Optimum Quantity of Money	CLO 5
Unit-6	**Monetary Policy:** Rules versus Discretion in Monetary Policy; Targets and Instruments of Monetary Policy; Monetary Policy in the Open Economy, Use of Targets: Intermediate and Operating Targets, Supply and Demand for Reserves, Reserve Requirements.	CLO 6
Unit-7	**New Classical Model:** Basic New Classical Monetary Model. Monetary and Fiscal Policy in a New Classical Model	CLO 6

Text:

i. Apostolos Serletis, The Demand for money “Theoretical and Empirical Approaches” 2nd Edition, Springer publication.

References:

ii. Handbook of Monetary Economics
iii. McCallum, B.T. (1989), Monetary Economics: Theory and Policy, Prentice Hall, United States of America.
iv. Blanchard O J and Fischer S (1989) Lectures in Macroeconomics, Cambridge, Mass: MIT Press
v. Brunner K and Meltzer A H (1989) Monetary Economics, Oxford: Basil Blackwell
vi. Clayton G, J C Gilbert and R Sedgewick (eds) Monetary Theory and Policy in the 1970s, Oxford: Oxford UP
vii. Davies G (1994) A History of Money. From Ancient Times to the Present Day, Cardiff: University of Wales Press
viii. Rousseas S (1986) Post Keynesian Monetary Economics, London: Macmillan
ix. Blinder, A.S. (1998), Central Banking in Theory and Practice, The MIT Press, United States of America.

Mapping of CLOs with Program Learning Outcomes (PLOs)

Course Learning Outcomes (CLO) (3-5)	PLO 1	PLO 2	PLO 3	PLO 4
CLO1	3	2	1	2
CLO2	3	2	1	2
CLO3	3	3	2	2
CLO4	3	2	2	3
CLO 5	3	2	1	2
CLO6	3	3	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	**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
CLO 6	**Strategies**: Verbal and graphical exposition; Problems solving	As above
CLO 7	**Strategies**: Verbal and graphical exposition; Problems solving	As above

BNFQ Code: **0311 ECON540** **Department Course Code: ECON 540**
Course Title: Advanced Environmental Economics **Credits: 4 (Four)**

Rationale of the Course/Course Description

This course is designed to provide students with an advanced understanding of environmental concepts, theories, and models from an economic perspective. It aims to prepare students for the effective and efficient management of the environment. It attempts to address ethical foundations for environmental economics. It explores the origins of the environmental sustainability problem, and evaluates the Population and environmental complex inter-relationship. The course provides in-depth knowledge about the underlying reasons behind the emergence of climate change, how climate change impact on environment can be addressed through various policy instruments, as well as how these instruments influence society. In addition, the course aims to provide input in formulation and modification of a Comprehensive Materials Policy.

Course Objectives

The course provides in-depth understanding of the field of environmental economics, including theories and advanced analytical tools.

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

CLO: 1. Understand the relationship between the natural environment and the economic system from an ethical perspective.

CLO: 2. Understand the origins of the sustainability problem in relation to the environment

CLO: 3. Understand the drivers of environmental impact

CLO: 4. Analyze the presence of cross-border environmental problems, and how these can – and have been – dealt with through various international agreements.

CLO: 5.Learn different Economy-wide modeling approach to analyze the potential environmental impacts of proposed policies and reforms

Course plan specifying content, CLOs, co-curricular activities (if any), teaching learning and assessment strategy mapped with CLOs.

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	**Introduction:** Natural resource; Ecology; Environment; Environmental economics; Biodiversity; Sustainable development; Pollution; Ethical Foundations for Environmental Economics, Principles of Discounting.	CLO1
Unit 2	**The Origins of the Sustainability Problem:** Scoping and Defining Sustainability and Intergenerational Equity; Economy-Environment Interdependence; Economic Growth with Depletable Resources and/or Pollution; Measurement of Sustainability and Income: Theory and Empirics, Environmental and Sustainability Policies, National Sustainability Policies in Practice.	CLO 2
Unit 3	**Environmental pollution:** Solid Waste management: Sources and types of waste; Environmental controls for solid waste management; Municipal solid waste (MSW); Modeling the market for MSW management service; Market approach to MSW policy. Air Quality: Global worming; Strategic response to global warming - pollution charge, gasoline tax, Btu tax, carbon tax, tradable permit system for CO2 emissions; Welfare loss from urban air pollution; Health impact of air pollution; Vehicular air pollution; Indoor air pollution problem. Water Quality: Sources of water; Types of pollutants; Benefit-cost analysis of water quality control policy; Effluent limit; Effluent fee; Tradable effluent permit market; Flat fee, Declining block and increasing block pricing. Forest ecosystem: Inland forestry; Valuation of forest recreational amenities; Mangrove	CLO3 & CLO 4
Unit 4	**Economic Solution to Environmental Problems** Criteria for choice of pollution control instruments; Cost efficiency and cost -effective pollution abatement instruments; Instrument for achieving pollution abatement targets; Economic incentive instruments; A comparison of the relative advantage of command and control, emission tax, emission abatement subsidy and marketable permit instruments.	CLO 5
Unit 5	**Global Climate Change and Environmental Issues of**	

	Bangladesh Causes and Consequences of Climate change; Responses to global climate change; Economic analysis of climate change; Climate change mitigation: economic policy options; Climate Change: the technical challenge; Climate change policy in practice. The Kyoto Protocol; International treaty on climate change Natural hazards in Bangladesh - flood, cyclone and riverbank erosion; Environmental impact of human interference; Environmental policy of Bangladesh government.	CLO 3 &CLO4
Unit 6	**Population and the Environment** The dynamics of population growth; Predicting future population growth; The theory of Demographic transaction; Population growth and economic growth; Ecological perspectives on population growth.	CLO1

Texts & References:

Anderson Perman, R., Ma,Y., McGilvray, J., & Common, M. (1996). Natural Resource and Environmental Economics, 3rd Edition, Addison Wesley.

M. Harris, J., & Roach, B. (2002). Environmental and Natural Resource Economics: A Contemporary Approach, Fourth Edition, Routledge

Peirce, J. J., Vesilind, P. A., & Weiner, R. (1998). Environmental pollution and control, 4th edition, Elsevier Science & Technology Books, D.A. (2019). Environmental Economics and Natural Resource Management, 5th Edition, Routledge.

Callan, S.J. and Thomas, J.M. (2013). Environmental Economic and Management: Theory, Policy and Applications, 6th edition, South-Western, Cengage Learning, Boston.

Tietenberg, T. and Lewis, L. (2018). Environmental and Natural Resource Economics, 11th edition, Routledge.

Field, B. C. and Field, M. K. (2006). *Environmental Economics*. McGraw-Hill/Irwin.

Kolstad, C. D. (2010). *Environmental Economics*. Oxford University Press.

Pearce, D. & Turner, R.K. (1990). *Economics of Natural Resources and the Environment.* Harvester Wheatsheaf.

Perman, R., et. al. (2011). *Natural Resource and Environmental Economics*, 4th Edition, Addison Wesley.

Tietenberg, T. and L. Lewis (2012). *Environmental & Natural Resource Economics*, 9th 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	1	2	2
CLO2	1	3	1	3	3	1
CLO3	3	2	3	2	3	1
CLO4	3	2	3	2	3	3
CLO 5	3	1	3	2	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	**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 Course Code: 0311 ECON 541 **Dept. Course Code: ECON 528**
Course Title: Behavioral Economics **Credits: 4 (Four)**

Rationale of the Course
Behavioral economics is the combination of psychology and economics that integrates concepts from psychology and other social sciences into the study of economics. It applies models of systematic imperfections in human rationality to the study and engineering of organizations, markets and policy. It leads to better predictions about economic behavior and better policy prescriptions by incorporating cognitive, emotional, cultural and social factors on the economic decisions of individuals and institutions.

Course Objectives
As a sub – field of economics, its goal is to increase the explanatory and predictive power of economic theory into realistic in nature. It will provide students with a deep understanding of behavioral economics with cognitive science. It will help students to go on more advanced behavioral decision research as an integration of ideas from cognitive science and economics.

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

CLO 1. Explain how psychological limitations such as limited cognition, bounded rationality, limited attention, and mental states affect economic decisions.
CLO 2. Give a comprehensive explanation of how behavioral economics fits into the larger framework of the field of economics.
CLO 3. Apply behavioral economic insights to make accurate inferences about the relative effects of different public policies.
CLO 4. Collaborate in small groups to develop well-considered behavioral economics-based policies that target important social and economic problems.
CLO 5. Discover how to use non-experimental data and field experiments to test behavioral economic theory.

Course Contents mapped with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit 1	Allais Paradox and Limits in Decision-Making: The Concept of Rationality, Axiomatic Preferences and Evidence of Contradiction in Experimental Settings, Procedural Rationality.	CLO 1,2
Unit 2	Prospect Theory and departure from expected utility: Endowment effects, framing issues, time and risk preferences, reference dependence.	CLO 1,2
Unit 3	Judgment Under Uncertainty, Heuristics and Biases, Decision heuristics, Bracketing and menu effects, Projection bias.	CLO 3,4
Unit 4	Present Biased Preferences: Hyperbolic Discounting, Procrastination, Self-control and Temptation. Social Preferences: Self Image, Ego, Reciprocity, and fairness in Distribution.	CLO 3, 4
Unit 5	Behavioral development economics; Behavioral Industrial Organization; Behavioral Economics and Technology and Behavioral household finance.	CLO 3,4,5

Texts

1. Camerer, C. F., et. al., eds. (2004). Adavnces in Behavioral Economics, Princeton University Press.
2. Kahneman, D. and A. Tversky. 1974. "Judgment Under Uncertainty: Heuristics and Biases." Science
3. Thaler, Richard. 2015. "Misbehaving: The Making of Behavioral Economics." Norton

References:

5. Kremer, Michael, Gautam Rao, and Frank Schilbach. 2019. "Behavioral Development Economics." In Handbook of Behavioral Economics.
6. Allcott, Hunt, Matthew Gentzkow, and Lena Song. 2022. "Digital Addiction." American EconomicReview.
7. Allcott, Hunt, Sarah Eichmeyer, Luca Braghieri, and Matthew Gentzkow. 2020. "The Welfare Effects of Social Media." American Economic Review.
8. Beshears, John, James J. Choi, David Laibson, and Brigitte C. Madrian. 2018. "Behavioral Household Finance.
9. Heidhues P. and B. Koszegi. "Behavioral Industrial Organization." Handbook of Behavioral Economics.

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 Course code: 0311 ECON 542 **Dept. Course Code: ECON 542**
Course Title: Global Economic Environment **Credits: 4 (Four)**

Rationale of the course:
This course deals with the process of market-led globalization and its impact upon national economies. . It is necessary to understand the impact of global events and challenges they pose for national economies and civil societies. This course makes connections of dynamics and politics related to global resources and events in handling macroeconomic issues of stabilization and adjustment.

Course Objective:
The aims are to demonstrate economic environment factor in planning and carrying out global business, understanding major world regional economic blocs and globalization, to develop an analytical framework to resolve national problems relating to the global economy.

Course Learning Outcomes (CLOs)
Upon successful completion of this course, the student will able to
CLO 1: Understand theoretical framework and regional economic blocks in the global economy
CLO 2: Examine changing role of the state and international organizations to be dealing with international business and global economic integration
CLO 3: Interact with both short and long run macroeconomic problems originating from dynamic global events and politics

Course Contents:

Unit	Contents	CLOs
Unit-1	**Global economy and Managing since World War II** What is the global economy? How is the economy linked to the rest of the world? Protectionism and globalization, Global economy before World War II, International agencies, OPEC, NIES, BRICS and their role in globalization, NGOs and civil society in economic relations over the world economy.	**CLO 1, 2**
Unit-2	**Structure and dynamism in global market** Economic systems in the world, turning from production to marketoriented economics, emerging economies and Bangladesh, global indices like human development, economic freedom, competitiveness, hunger, climatic, happiness, etc and their scores.	**CLO 2**
Unit-3	**Stages and levels of globalization** Overview of the world’s largest corporation, organizational strategies of competition of overseas firms, trend and diversity of TNCs, entry strategies of overseas firms, Bangladesh as a host of overseas firms.	**CLO 2**
Unit-4	**Global population and labor markets** Global population growth, age structure and demographic dividends among countries, product market with demographic dynamics, human resource development, international labor mobility, cultural diversity among countries, Brain drainage, potential markets for Bangladeshi expatriate.	**CLO 1, 2**

Unit-5	**Global trade and capital flows** Evolution of international trade theories, changing towards to firm-oriented competition, linking trade to investment, determinants of investment, trends of inflow and outflow of capital among economies, donor agencies and financing developing nations, investment climate of Bangladesh, India and China.	**CLO 2, 3**
Unit-6	**International development and negotiation** International development theories (modernization, dependency, world-system and globalization), network society, importance of negotiation in globalization, stages of international negotiation, strategies for successful negotiation, negotiation styles of south vs north and east vs western countries.	**CLO 3**
Unit-7	**Emerging Issues in global macroeconomics** Selected topics on energy, ecology and climate change. Covid 19 and world economy (remittance, education, energy and business sector).	**CLO 3**

Text and References:

Richard M. Steers and Luciara Nardon. Managing in the global economy, M.E. Sharpe, Inc., New York.

Janet Morrison, 2011, Global Business Environment, 3rd edition, Palgrave Macmillan.

Daniels, J., Radebaugh, L. and D. Sullivan, 2007,. International Business: environment and operations, 11th edition. Prentice Hall, New Jersey.

David Miles and Andrew Scott, Macroeconomics and the Global Business Environment, Wiley

Wydick, B., 2008, Games in Economic Development, Cambridge University Press, pp 147-169.

Buttel, et. al., 2000, Hungry for Profit: The Agribusiness Threat to Farmers, Food, and the Environment, Monthly Review Press, USA.

Jain, R. and J. B. Singh, 2009, Trade Pattern in SAARC Countries: Emerging Trends and Issues, Occasional Papers, Vol. 30, No.3, Reserve Bank of India, pp 73-117.

Akanda, M. A. I., Economic Issues of Bangladesh at 41, AH Development Publishing House, Dhaka.

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

Course Learning Outcomes (CLOs)	*PLO 1*	*PLO 2*	*PLO 3*	*PLO 4*
CLO1	*2*	*2*	*1*	*1*
CLO2	*1*	*1*	*2*	*2*
CLO 3	*2*	*1*	*3*	*2*

1: Low 2: Medium 3: High

Mapping CLOs with teaching learning and assessment strategy

CLOs	**Teaching Learning Strategy**	**Assessment Strategy**
CLO 1	Verbal, graphical and mathematical exposition	Q&As, Quiz Assignments
	Graphical and mathematical exposition;	Quiz

CLO 2	Case studies	Homework Discussion session
CLO 3	Verbal, graphical and Problems solving	Q & As Homework Assignments
CLO 4	Mathematical exposition; Problems solving	Assignment Presentation Discussion session

BNFQ Course Code: 0311ECON 543 Dept. Course Code: ECON 543
Course Title: Advanced Health Economics Credits: 4 (Four)

Rationale of the Course
This course is essential to identify the basic of health economics. In advance level, student should accelerate their knowledge on health care financing, market, cost of health, health policy and economic evaluation of health.

Course Objectives
The aim of this course is to:
- Understand the basic terms, tools, theories of health economics
- Analyze the demand for health care, supply of health service, its production and market system
- Encourage the students about the research on health financing and implement the health policy
- Recognize the efficiency, framing of economic evaluation of health and decision-making process and modeling

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to:
CLO 1. Understand the basic ideas, tools and scopes of health economics.
CLO 2. Explore the production, supply of healthcare and demand for health care and its elasticity.
CLO 3. Analyze the market issues of health and cost of health.
CLO 4. Delineate the financing and policy process for improving the health status of populations.
CLO 5. Depict how economic evolution can contribute to different types of policy questions.
CLO 6. Discuss the potential implications of different frames of reference on the cost-effectiveness ratios and the policy decisions, and effects of the decisions on health providers, funders and patients/families.
CLO 7. Explain the role of decision analysis and modeling of economic evaluation of health economics.

Course Contents mapped with CLOs

Unit	Topic/Content Summary	Corresponding CLOs
Unit-1	Introduction: Why Health Economics is a Separate Discipline?	CLO 1

Unit-2	**Supply and Demand** 2.a The Production of Health 2.b The Demand for Health Capital 2.c Consumer Choice and Demand	CLO 1, 2
Unit-3	**Information** 3. a Asymmetric Information and Agency 3.b Imperfect Agency and Supplier-Induced Demand STD 3.c Physician Uncertainty and Small Area Variations	CLO 3
Unit-4	**Insurance and Organization of Health Providers** 4.a Health Insurance 4.b Managed Care and Health Maintenance Organizations [HMOs]	CLO 3, 4
Unit-5	T**echnology** 5.a The Production and Cost of Health Care 5.b Technological Change and its Impact on Health and Health Care	CLO 2, 3
Unit-6	**Labour** 6.a Labour Market and Professional Training 6.b The Training and Practice of Physicians	CLO 3, 6
Unit-7	**Hospitals and Nursing Home** 7.a Hospital and Long-Term Care 7.b The Role of Non-Profit Firms/Organizations	CLO 6
Unit-8	**Social Insurance and Health System Reforms** 8.a Government Intervention in Health Care Markets and an Introduction to Regulation 8.b Equity, Efficiency and Need 8.c Social Health Insurance 8.d Comparative Health Care Systems 8.e Health System Reform Measures	CLO 3, 6, 7
Unit-9	**Macroeconomics and Health: Investing in Health for Economic Development**	CLO 4, 6
Unit-10	**Economic Evaluation of Health and Health Care**	CLO 1, 5, 7

Texts

1. Folland, Goodman, and Stano. (2013). *The Economics of Health and Health Care,* 7th Edition, Prentice Hall.
2. Culyer, Anthony J., and Joseph P. (2000). *Handbook of Health Economics,* New York: Elsevier, 1(A, B).
3. Bhattacharya, Hyde, and Tu (2013). *Health Economics*, Palgrave Macmillan.
4. Behrman, J.R. [edited], Macroeconomic Environment and Health.
5. Drummond, M.F., et al [1997]

References:

1. Cutler, D.M. (2005). *Your Money or Your Life*, Oxford University Press.
2. Deb, Norton, and Manning (2017). Health Econometrics Using Stata.
3. Pauly, Mark V., Thomas G. Mcguire, and Pedro P. Barros. (2011). *Handbook of Health Economics*, New York: Elsevier.
4. Sloan and Hsieh (2016). *Health Economics*. 2nd Edition.

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	3	1		
CLO2	1	2	3	2		
CLO3	1	2	2	2		
CLO4	3	2	3	2		
CLO 5	3	2	2	2		
CLO 6	3	2	2	3		
CLO 7	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	Lecture and Presentation	Q & Ans. Quizzes, Homework, Assignments, Presentations, Tutorials, Class Tests & Final Exam
CLO 2	Lecture and Presentation	As above
CLO 3	Lecture and Presentation	As above
CLO 4	Lecture and Presentation	As above
CLO 5	Lecture and Presentation	As above
CLO 6	Lecture and Presentation	As above
CLO 7	Lecture and Presentation	As above

Program Learning Outcomes (PLOs)

After completion of this MSS program, Students will be able to:

PLO-1 Enrich themselves with specialized issues in economics.

PLO-2 Link theoretical lessons with real world economic problems.

PLO-3 Scrutinize economic theories and add new methods in solving problems in business, trade, national and international affairs.

PLO-4 Know the applications of progressive knowledge in managing

Course Code	Course Code	Course Title	Theory Credit(T)	Lab Credit (P)	Total Credit
0311	ECON 544	Advanced Econometrics	3	1	4

Rationale of the Course:

Applied Econometrics bridges the gap between economic theory and data analysis, equipping students with essential tools to analyze real-world economic phenomena. The course focuses on advanced econometric techniques, including Logit, Probit, time series, and panel data models, which are critical for addressing complex, dynamic, and multi-dimensional datasets. By emphasizing both theoretical foundations and practical applications, the course prepares students to conduct empirical research, analyze economic trends, and support evidence-based decision-making in academia, policy-making, and industry.

Objectives of the Course:

Upon completion of the course, the student should be able to

i. Understand the main techniques of econometrics, including their strengths and limitations.

ii. Be able to apply these techniques to test economic theories and measure relevant economic parameters.

iii. Know the main empirical regularities, the theories explaining them, and the empirical literature in selected applied areas.
iv. Have practical experience of the application of econometric methods, and be able to use EViews and SPSS to work with data to estimate models.

Course Contents:

Unit	Contents
1.	**The linear regression model:** The linear regression model, The nature and sources of data; Estimation of the linear regression model, The classical linear regression model (CLRM), Variances and standard errors of OLS estimators; Testing hypotheses about the true or population regression coefficients, $R2$: a measure of goodness of fit of the estimated regression; Forecasting.
2.	**Functional forms of regression models:** Log-linear, double-log, or constant elasticity models Testing validity of linear restrictions; Log-lin or growth models, Lin-log models, Reciprocal models, Polynomial regression models; Choice of the functional form, Comparing linear and log-linear models; Regression on standardized variables.
3.	**Qualitative explanatory variables regression models:** Dummy Variables, Use of dummy variables in structural change; Use of dummy variables in seasonal data
4.	**Critical evaluation of the Classical Linear Regression Model:** Consequences, Detection and Remedial Measures of - Multicollinearity - Heteroscedasticity - Autocorrelation & - Model Specification Errors
5.	**The Logit and Probit models:** An illustrative example: to smoke or not to smoke, The linear probability model (LPM); The Logit model; The Probit model
6.	**Stationary and Nonstationary Time Series:** The importance of stationary time series, Tests of stationarity, The unit root test of stationarity, Trend stationary vs. difference stationary time series; The random walk model (RWM)
7.	**Cointegration and Error Correction Models:** The phenomenon of spurious regression, Simulation of spurious regression, Is the regression of consumption expenditure on disposable income spurious? When a spurious regression may not be spurious; Tests of cointegration - Cointegration; and Error Correction Mechanism (ECM).
8.	**Panel Data Regression Models:** The importance of panel data, Pooled OLS regression of charity function; The fixed effects least squares dummy variable (LSDV) model, Limitations of the fixed effects LSDV model; The fixed effect within group (WG) estimator; The random effects model (REM) or error components model (ECM); Fixed effects model vs. random effects model; Properties of various estimators

Recommended Readings:

1. **D**amodar **G**ujarati, *Econometrics by Example*, Palgrave Macmillan, 2011.
2. Dimitrios **A**steriou and Stephen G. **H**all, *Applied Econometrics*, Palgrave Macmillan, 2011.
3. **W**alter **E**nders, *Applied Econometric Time Series*, 3rd ed. John Wiley & Sons, 2010.
4. Damodar **Guj**arati, *Basic Econometrics*, 4th Edition, McGraw Hill.
5. **B**en **V**ogelvang, *Econometrics Theory and Applications with EViews*, 2005.
6. **P**indyck and **R**ubinfeld, *A Computer Handbook Using EViews To Accompany Econometric Models and Economic Forecasts*, 4th Ed., Hiroyuki Kawakatsu, 1998.
7. **J**effrey M. **W**ooldridge, *Introductory Econometrics: A Modern Approach*, Third Edition, 2006, Thomson / South-Western Press.

Mapping of Course Learning Outcomes (CLOs) with PLOs:

CLOs	PLO 1	PLO 2	PLO 3	PLO 4
CLO 1: Understand the functionality, assumptions, and limitations of regression models and their advanced forms, including Logit and Probit.	*x*	*x*		
CLO 2: Apply time series econometric methods, including stationarity, cointegration, and error correction models, to analyze economic trends.		*x*		*x*
CLO 3: Utilize panel data regression techniques to address heterogeneity and analyze cross-sectional and time-series data simultaneously.			*x*	*x*
CLO 4: Conduct empirical econometric research, critically evaluate results, and effectively communicate findings for informed decision-making.	x		*x*	

Mapping of CLOs with Teaching-Learning & Assessment:

CLOs	Teaching & Learning Strategies	Assessment Methods
CLO 1: Understand the functionality, assumptions, and limitations of regression models and their advanced forms, including Logit and Probit.	- Lectures with theoretical explanations and real-world examples. - Class discussions on regression models and assumptions.	- Midterm Exam - Assignments on regression analysis
CLO 2: Apply time series econometric methods, including stationarity, cointegration, and error correction models, to analyze economic trends.	- Lectures and tutorials with hands-on exercises on time series data. - Case studies focusing on time series applications.	- Final Exam - Practical assignments on time series models
CLO 3: Utilize panel data regression techniques to address heterogeneity and analyze cross-sectional and time-series data simultaneously.	- Interactive lectures and examples of panel data applications. - Group activities analyzing panel data.	- Group Project - Assignments on panel data models
CLO 4: Conduct empirical econometric research, critically evaluate results, and effectively communicate findings for informed decision-making.	- Research-based learning through projects and presentations. - Tutorials on interpreting econometric results.	- Term-paper & Presentation) - QA

Grading/Evaluation Strategy

- Midterm Exam: 20%
- Term Paper: 5%
- Attendance/ Assignments / Quizzes / Class Test: 15%
- Final Exam: 60%

REGULATIONS FOR MASTER'S PROGRAM OF COMILLA UNIVERSITY

(Effective from the Academic Session: 2022-2023) (Effective from the Academic Session: 2019-2020 only for Chemistry)
(Approved 76th Academic council & 89th Syndicate)

Comilla University
2023

TABLE OF CONTENTS

1.1 Preamble

PART-I PRELIMINARY

These regulations may be cited as “Regulations’ for Master’s Program of Comilla University (RMPCoU)”. These regulations are prepared following the structure of Bangladesh National Qualifications Framework (BNQF). These regulations shall apply who register for Masters by Taught/Masters by Mixed-mode/Masters by Research that confers a master’s degree on or after the effective date of the regulations. A Master's degree involves significantly specialized knowledge in a specific area or discipline and at the forefront of knowledge. Critical, systematic and creative thinking skills, research practice or advance professional practice, interpersonal skills with leadership and managerial skills are critical competencies particularly within multicultural or transnational work and learning environments. Departments under different faculties shall offer Master’s program with specific mode subject to the fulfillment of the regulations as described hereunder and also of other regulations to be promulgated by the appropriate authority of the University i.e., Executive Committee (EC) of Faculty, Board of Advanced Studies (BOAS), Academic Council (AC) and Syndicate of the Comilla University. A Department/Institute/Program Offering Entity (POE) of Comilla University may add additional requirements (if any) each of their Master’s programs in the light of this RMPCoU.

1.2 Modes of Study and Duration of the Program

There are **three** modes which are the following:

(a) Master by Coursework,

(b) Master by Mixed-mode

(c) Master by Research.

A Master’s by research is a thesis/dissertation-based qualification and it may or may not have a taught component. However, the taught component will not be credit bearing and students will be assessed solely on their thesis/dissertation. A Mixed-mode Master's has a minimum of 18 credits in taught component and a research component involving a thesis/dissertation. A student's assessment is based on his/her performance in both components. Finally, a Master's by Coursework entails taught courses to a minimum of 40 credits. The duration at this level will range between one to two years of full-time study. All Master degree programs will be considered as modular under a semester system. It will be guided and assessed according to the credit point system and attainment of course learning outcomes (CLO) and program learning outcomes (PLO). As per BNQF guidance, unless otherwise mentioned, in these regulations a semester means academic curriculum and learning activities conducted for a period of six (06) months.

Table 1.1: Program Type and Duration

Program Type	Program Duration		
	Number of Semester	Duration in Year	
	Semester (Min.)	Year (Min.)	Year (Max.)
Master's by Coursework	02	1.0	2.0
Master's by Mixed-mode	03	1.5	3.0
Master's by Research	04	2.0	4.0

An academic semester is comprised of six (06) months distributed as follows: Table 1.2: Semester Activities with Duration

No.	Items	Duration

1	Teaching-Learning activities including continuous assessment/contact with supervisor	14 weeks
2	Preparatory leave for final examination.	02 weeks
3	Semester Final Examination (Including practical/field work/oral/ /Seminar/Defense and Result preparation)	07 Weeks (Maximum)
4	Semester Break	01 Weeks
Total		24 Weeks

1.3 Name of the Master's program and Degree with Branch and or Specialization in Master's Program (If any)

The name of the program and degree (offered by concerned faculty/institute/department POE as per recommendations of committee of courses of the concerned faculty/institute department/POE followed by Executive Committee (EC) of concerned faculty or any appropriate body and Academic Council (AC) of Comilla University) shall be:

Faculty	Department	Degree Awarded	Abbreviated in
Faculty of Science	Mathematics	Master of Science	MS (Taught) in (Subject name) MS (Mixed-mode) in (Subject name) MS (Research) in (Subject name).
	Physics	Master of Science	
	Statistics	Master of Science	
	Chemistry	Master of Science	
	Pharmacy	Master of Pharmacy	MP (Taught) in (Subject name) MP (Mixed-mode) in (Subject name). MP (Research) in (Subject name)
Faculty of Arts and Humanities	English	Master of Arts	MA(Taught) in (Subject name) MA (Mixed-mode) in (Subject name) MA (Research) in (Subject name)
	Bangla	Master of Arts	
Faculty of Social Science	Economics,	Master of Social Science	MSS(Taught) in (Subject name) MSS (Mixed-mode) in (Subject name) MSS (Research) in (Subject name) For Public Administration MPA (Taught) in (Subject name) MPA (Mixed-mode) in(Subject name) MPA (Research) in(Subject name)
	Public Administration	Master of Social Science	
	Anthropology	Master of Social Science	
	Archaeology	Master of Social Science	
	Mass Communication and Journalism	Master of Social Science	
Faculty of Business Studies	Management Studies	Master of Business Administration	MBA(Taught) in(Subject name) MBA (Mixed-mode) in (Subject name) MBA (Research) in (Subject name)
	Accounting and Information Systems	Master of Business Administration	
	Marketing	Master of Business Administration	
	Finance and Banking	Master of Business Administration	

Faculty of Engineering	Computer Science and Engineering	Master of Science in Engineering	M.Sc. Engg. (Taught) in(Subject name) M.Sc. Engg. (Mixed-Mode) in (Subject name) M.Sc. Engg. (Research) in (Subject name)
	Information and Communication Technology	Master of Science in Engineering	
Faculty of Law	Law	Master of Law	LL.M (Taught) in (Subject name) LL.M (Mixed-Mode) in (Subject name) LL.M (Research) in (Subject name)

New subjects may be approved by the university authorities from time to time and assigned to the faculty by the academic council.

The Master's Degree Program for a department/institute may be arranged subject to the approval of competent authority under different branches and or specializations (if any) according to the recommendation of the committee of courses. A student can achieve a Master's degree with a branch/major in a specified field which will be mentioned in the certificates and transcript, e.g., MS (Taught) in Inorganic and Analytical Chemistry or MBA (Mixed-mode) in Management Studies (Human Resource Management). The curriculum of the concerned program shall provide details of such cases.

1.4 Curriculum and Learning Outcomes Domains

The curriculum for each program must be outcome-based and consistent with the Bangladesh National Qualifications Framework (BNQF) for higher education. It should be comprehensive enough to guide the faculty and students towards systematic attainment of learning outcomes and fulfillment of Program Educational Objectives (PEO) of the program. The concerned Department/Institute/POE will set the vision, mission, and objectives of the program by declaring post-graduate profile/attributes. Program learning outcomes and courses are aligned to make the content of the curriculum appropriate and adequate. The Learning Outcome Domains are comprised of Fundamental Domain, Social Domain, Thinking Domain, and Personal Domain. Learner activities must be consistent with level (09) descriptors declared by BNQF. Such program-level objectives and learning outcomes need to be reported in the concerned Master's program curriculum.

1.5 Requirements for Master's Degree Program

(a) A Student is required to successfully attain all course learning outcomes (CLO) of the specific program and a minimum CGPA of 2.25 with total required credit points prescribed by the concerned department/institute/POE.

(b) Course Learning Outcomes (CLOs) attainment report should be submitted with result publication in each semester and Program Learning Outcomes (PLOs) attainment report should be submitted with result publication after completion (Annex-II).

(c) If a student fails to complete the defined Master's program of the required duration, he/she will be treated as an irregular student.

PART-II

ADMISSION REQUIREMENTS AND PROCESS

2.1 Qualifications for Admission in the Master's Program

For admission to the Master's Program in any subject, a student should have the following qualifications:

(a) Candidates having the four (04)/five (05) years bachelor's degree in the same or relevant subject (recognized by the Department) from Comilla University are eligible for admission to the Master's Program offered by concerned Department/POE.

(b) Candidates seeking admission into a specific Master's program must possess a three/four/five year Bachelor's degree from a university (home and abroad) recognized by the Bangladesh University Grants Commission (UGC) and concerned department of the University with 16 years schooling and a minimum CGPA/Class as per Table-2.1. Candidate/s has to face an admission test as per requirements (if any) of the concerned department/institute/POE.

(c) Candidates seeking admission into a specific Master by Research program must have (i) either 'thesis' or similar type of course(s) in bachelor degree or (ii) publish at least one article in reputed journal (Recognized by the Department) as the first author and/or corresponding author minimum CGPA/Class as per Table-2.1

Table-2.1: Admission Requirements for Master's Program in Comilla University

Name of Faculty	Master's by Coursework (Minimum CGPA)	Master's by Mixed-mode (Minimum CGPA)	Master's by Research (Minimum CGPA)
Faculty of Science	2.25	3.50	3.50
Faculty of Arts and Humanities	2.25	3.25	3.25
Faculty of Social Science	2.25	3.50	3.50
Faculty of Business Studies	2.25	3.50	3.50
Faculty of Engineering	2.25	3.50	3.50
Faculty of Law	2.25	3.25	3.25

(d) The student/s who appeared at the bachelor's degree final examination of Comilla University may be admitted provisionally to the Master's program offered by the Department/Institute/POE and their admission will be confirmed after their results are published and given that they have passed the examination. The attendance of the students will, however, be counted from the date on which their class begins. Students who have not been admitted within two (02) academic years after obtaining their four (04) years/five (05) years bachelor's degree are not eligible for direct admission into the specific Master's programs. However, he or she will be able to take admission after passing admission and or oral test conducted by the Department/Institute/POE.

(e) No of seats for admission as post-graduate student/s other than Comilla University will be decided by the Graduate Study Committee (GST) of the Department/Institute/POE on the basis of their seat capacity.

2.2 Formation of Graduate Study Committee (GSC) and its function

(a) The formation of GSC is the first and mandatory step to start a Graduate Program in any department/Institute. The GSC will consist of all professors/associate professors of the department concerned with a minimum number of 3 professors/associate professors and the head of the Department/Institute as the chairman. When an adequate number of professors and associate professors will not be available in a Department/Institute, the Dean of the faculty/Director of Institute in consultation with the head of the department/appropriate authority will propose GSC to Board Of Advanced Study (BOAS). The chairman of the Department/Director of the Institute will select a teacher as Graduate Program Coordinator (GPC) through the departmental/institutional academic committee. Terms of References (ToRs) of the GPC shall be decided by the academic committee of the department/institute.

(b) ***There must be an open circular for the admission of specific Master's program in Comilla University***. Selection of Candidates will be made through written and/or oral tests as deemed suitable to the GSC. Lists of selected candidates should be published on the Notice Board of the Department/Institute/POE and the website of the Department/Institute, and/or University. Candidates in service must produce clearance/permission from his/her authority. The office of the Registrar will serve as the Admission Office and will deal with the students' admission. Department/POE will prepare the admission requirements in light of the regulations of the Master's Program and send them to the registrar's office through the Dean of the concerned Faculty for circular

2.3 Conversion of Study Mode

Students attending a program under one mode of studying may apply to convert to another mode subject to the following conditions:

(i) The application may only be made once during the period of study.
(ii) The application for conversion from one mode to another should within two weeks after completion of 1st semester.
(iii) Students need to fulfill the new mode entry eligibility requirements.
(iv) Regulations 3.6 are applicable for any credit transfer and course exemption.
(v) After conversion of study mode, course adjustment and or dissertation/project/Internship/practical/field work/any such type would be adjusted as recommendation/s of GSC following the curriculum instructions (if any).

2.4 Re-admission

A student failing to earn the requisite credit points (50% of the total credit) for promotion from current semester to the next, may seek re-admission with the following batch. For re- admission a student will have to apply following the announcement of the result of the previous semester.

PART-III

COURSEWORK, RESEARCH AND CREDIT DISTRIBUTION

3.1 Course Types and Structures

The taught components may comprise both Theoretical Courses and Practical Courses/Field Work/Project/Monograph/Internship/Capstone Course/s. The courses included in the Master's curriculum may be categorized as

(i) Core Course
(ii) General Education (GEd) Course
(iii) Elective Course and
(iv) Capstone Course.

In case of Master's degree program, the curriculum needs to include a minimum of 10% of total credits for General Education Courses with clearly defined course learning outcomes and mapped with PLOs and learning domains of BNQF complying generic attributes of the program.

3.2 Outcome-Based Curriculum Design and Instructions

(a) Outcome based curriculum should be comprehensive enough to guide faculty and students towards systematic attainment of learning outcomes and fulfillment of the mission and objectives of the PEO. Program learning outcomes (PLOs) are defined within the scope of the mission and objectives of the PEO and aligned with the declared post-graduate attributes of the specific Master's program. Program learning outcomes and courses are aligned to make the contents of the curriculum appropriate and adequate.

(b) The departmental academic committee will design the curriculum with the course types and credit requirements specifying instructions. The curriculum of the program is designed and reviewed following a well-defined procedure by a committee of courses with representation from the industry/employers and alumni. Before submitting to the Executive Committee (EC) of the faculty and Academic Council (AC), the curriculum of the program has to be sent to the Institutional Quality Assurance Cell (IQAC) of the university to check the structure of OBE and compliance with BNQF.

(c) Department/PoEmust maintain documented course files with course plans specifying the pre-requisite course(s) (if any), credit value, teaching learning & assessment methods and facilities/resources that are mapped out as necessary to facilitate the attainment of course learning outcomes.

(d) A course is characterized by its learning outcomes which are translated into credit measured by Student Learning Time (SLT).

(e) The course teacher will provide course plan/outlines to the students to make them well informed about CLOs, topics to be discussed, teaching-learning and assessment strategies and rubrics that will be used to assess performance/attainment of learning outcomes, a schedule of class assessment and relevant information within the first week of the commencement of the semester.

(f) Some elective courses can be offered following the decision of the Academic Committee of the concerned department. In this case, an elective course should not be offered if the number of students is less than 5 (Five).

3.3 Dissertation under Mixed-mode

(a) Master's by Mixed-mode is comprised of taught and dissertation components. There will be two components of the Dissertation. Component–I will be ***Research Proposal Preparation and Presentation*** and/or comprehensive examination (if any) which is not credit bearing but has to pass the proposal defense and or comprehensive examination and component-II will be the dissertation with defined credit values as Table 3.2. Research proposal has to be submitted as per the prescribed template (Annex-III) and will be evaluated as per rubrics (Annex-IV). Dissertation/thesis has to be submitted as per the prescribed format (Annex-V).

(b) Research proposal preparation and presentation part and or comprehensive examination have to be completed within two weeks after completion of the 1st semester of the defined Master's program. After the successful completion of component-I, component-II will start and students have to complete it within a stipulated duration. The curriculum of the concerned program shall provide specific instruction on this issue.

(c) A student registered for Dissertation shall undertake research work under the guidance of a supervisor and a co-supervisor (if necessary).

(d) A thesis supervisor can supervise not more than five (05) thesis students. A thesis supervisor must not be below the rank of associate professor for mixed mode and in case of Master's by research, the supervisor must not be below the rank of associate professor with a PhD. However, an associate professor with an M.Phil/Master's by Research/PhD degree or a lecturer with a PhD is eligible to supervise/co-supervise a student. Co-supervision may also be allowed from other Departments/Institutes of Comilla University/other public Universities/Research Institutes with the agreement of the supervisor.

(e) Department/Institute head will send a list of students, dissertation title, name of the respective supervisor and co-supervisor (if any) to BOAS through EC of the concerned faculty before the end of the semester after which the students register for Dissertation Part.

(f) Pursuant to the leave rules of Comilla University, a supervisor can remain absent from Comilla University (not more than six months) while continuing supervision. The online defense may be arranged in such cases if deemed necessary. Otherwise, the co-supervisor (if any) or any other competent person shall act as the supervisor as per the guidelines of the concerned examination committee.

(g) If any change is required in the title/supervisor/co-supervisor/examiner/etc. Department/Institute head will send it to the BOAS through EC.

(h) The research needs to be carried out in this University preferably or at the appropriate place/s approved by the supervisor in consultation with Department/Institute head.

3.4 Master's by Research

(a) Master's by Research is comprised of course work and dissertation. The course work in the taught component will not be credit bearing. There will be two components of the Dissertation. Component–I will be ***research proposal preparation and presentation*** and/or comprehensive examination (if any) which is not credit bearing but students have to pass the proposal defense and/or comprehensive examination (if any). Component-II is the dissertation with defined credit values as Table 3.2. Research proposal has to be submitted as per the prescribed template (Annex-III) and will be evaluated as per rubrics (Annex-IV). Dissertation/thesis has to be submitted according to the specified format (Annex-V).

(b) Students will be assessed solely on their thesis/dissertation.

(c) Research proposal preparation and presentation part and or comprehensive examination have to be completed within two weeks after completion of the 1st semester of the defined Master's program. After successful completion of component-I, component-II will start and it will have to be completed within the stipulated duration. The curriculum of the concerned program will provide specific instruction on this issue.

(d) The students under the Master's by Research program have to register the required number of credit values for dissertation as per recommendation of committee of courses for curriculum of this program following Table 3.2 of these regulations.

(e) A comprehensive exam (if any) with specific learning outcomes must be devised by the curriculum committee which has to pass by the student/researcher to start the research work.

(f) Each student must persuade the examiners that s/he is capable of undertaking independent work and offer evidence of satisfactory knowledge related to theories and methods used in his/her research work.

(g) Every student submitting a dissertation in partial fulfillment of the requirements of a degree will be required to appear at 1st seminar after successful completion of component-I: ***research proposal preparation and presentation*** and/or comprehensive examination (if any) in 2nd semester. After completion of 1st seminar and on satisfactory research progress report in 2nd semester, a researcher will be promoted to 3rd semester and will be required to appear at 2nd seminar. After completion of 2nd semester and on satisfactory research progress report in 3rd semester, a researcher will be promoted to 4th semester. After the successful completion of two seminars and on satisfactory research progress report, the researcher has to submit and dissertation/thesis and face a defense board on the date fixed by the chairman of the examination committee in consultation with the supervisor(s). Such seminar presentation and defense may be arranged online if deemed necessary to the concerned authority.

(h) Research proposal presentations and seminars will be conducted by the examination committee of the program and the supervisor along with the co-supervisor (if any).

(i) The examination committee and at least one external member (outside of the University) of the particular thesis student will conduct the defense board:

Defense Board

(i)	Chairman of the examination committee	Chairman
(ii)	Members(2) of the examination committee	Member
(iii)	External members (2) for the particular thesis	Member

The supervisor of a student will be requested to be present at the time of the presentation. He/she may participate in discussion but not in evaluation.

(j) Research progress report shall be submitted before the end of the semester, even if the supervisor is on leave; otherwise, student(s) shall not be allowed to register for the following semester.

(k) A student must publish (or at least be accepted for publication) an article in a recognized peer-reviewed journal or a peer-reviewed conference paper in order to complete Master's by Research degree.

3.5 Credit Values and Distribution

(a) The credit shall be the academic currency. The general measure of one credit is 40 notional hours. The calculation of notional hours is based on class contact time and self- learning time of a student.

Table 3.1: Learning-Teaching Activities and Suggested Notional Hours per Credit

No	Teaching-Learning Activities	Notional Hour for 1 Credits
1.	Theoretical Class Lecture, Tutorial, Seminar	40
2.	Laboratory, Capstone, Fieldwork, Study, Clinical work	60
3.	Internship/Project/Industrial/ Workplace Learning	80
4.	Dissertation/Thesis	*

* Notional hour means the estimated learning time taken by an 'average' student to achieve the specified learning outcomes of a program or a course. Notional hours which have to be spent by students/researchers for dissertation/thesis shall be defined by the committee of courses. The documents regarding the required time spend by student/researcher are kept by the supervisor. These would be submitted to the chairman of the examination committee before the defense.

Table 3.2: Credit Requirements and Distribution of the Program

Program Type	Credit Requirements			
	Coursework (Minimum)	Dissertation (Minimum) Credits	Dissertation (Max.) Credits	Total (Min.) Credits
Course Work	40 credit	-	-	40
Mixed-Mode	18 credit	30% of Course Credits	50% Course Credits	42
Research	-	45	60	45

3.6 Credit Transfer and Course Exemption

Credit transfers are allowed for equivalent courses in programs that have the same level (horizontal) according to the following categories:

(a) Students who change programs within the University.
(b) Students transferring from other universities.
(c) Students who have graduated from a program recognized by UGC, Bangladesh.
(d) The minimum passing grade of the course involved that may be transferred for credits is Grade B.
(e) The equivalent of course content must be not less than 80%.
(f) The equivalent course taken must not exceed five (5) years from the date of admission into the university.
(g) The Maximum percentage of credit transfer through APEL is 30% of the total credit of a program of study.
(h) There is no credit transfer limit if the student is an internal student at the university.

3.7 International Standard Classification of Education (ISCED) Code

(a) The first four digits indicate the International Standard Classification of Education (ISCED) code for each field of study. For example, 0541 for Mathematics, 0531 for Chemistry, 0311 for Economics 0421 for Law etc.

(b) The fifth digit corresponds to the year the students take the course
(c) The sixth digit corresponds to the semester in which the students take the course.
(d) The ninth and tenth digits will define a course with an odd number in tenth digit indicating a theoretical course and an even number for practical, capstone, dissertation, and viva voce.
(e) Course code such as CHEM-1101 or PA-1101 is presented in curriculum where the first digit corresponds to the year the students take the course, second digit corresponds to the semester in which the students take the course and third and fourth digits will define a course with an odd number in fourth digit indicating a theoretical course and an even number for practical, capstone, dissertation, and viva voce. Course code will be reflected in the curriculum.
(f) Both ISCED code and course code will be reflected in the curriculum whereas ISCED code will be reflected only in the transcript.

ISCED Code	0	5	4	1	-	5	1	0	1
Course Code	MATH		-	5	1	0	1		

3.8 Course Registration

A student has to register for his/her courses and pay necessary dues within the first two weeks of every semester. The departmental student advisor will advise every student about his/her courses and monitor his/her performance. A student at any level is expected to register for the courses at his level provided he/she does not have any incomplete courses from previous levels. A student will not be allowed to appear in the examination if his/her semester and examination fee is not cleared.

PART-IV

EXAMINATION AND ASSESSMENT

4.1 Medium of Instruction and Examination

The medium of instruction and answer in the examination should be English or Bangla. The Academic Committee of the concerned department shall have the right to decide the medium of instruction.

4.2 (a) Formation of the Examination Committee

There shall be an examination committee for each mode of Master's program and the Committee shall be formed by the departmental academic committee. In case of good management of the offered program/s, department can form one committee for all offered mode or for two modes prior approval of the academic committee of the department. Examination Committee shall comprise of 4 (four) members, one of whom should be an expert member from outside the department/university, not below the rank of Associate Professor with PhD and three internal members from the department. The Academic Committee of the department may select a separate expert member for oral presentation and thesis defense. One cannot be a member of the Examination Committee if any of her/his relative is a student/examinee. In case of any vacancy, absence or inability on the part of any member of the examination committee, the examination work shall not be invalidated. The chairman of the Examination Committee must not be below the rank of Associate Professor. It is advised to form the Examination Committee at least two months before the commencement of the examination.

4.2 (b) Functions of the Examination Committee

(i) The relevant Examination Committee will send the names of the question setters and examiners from the previously approved panel of Examiners to the Controller of Examinations, who shall issue appointment letters to the examiners.

(ii) The Examination Committee will arrange moderation and make necessary arrangements to conduct thesis, practical and oral examination. The Examination Committee of the concerned Department/Institute is responsible for conducting examinations.

4.2 (c) Duration of Examination

The final examination of theory courses will be of 3-hour duration. The practical examination will be of a maximum of six (6) hours for each unit course of 3.0 credits of as suggested by the relevant examination committee.

4.2 (d) Question Setters and Examiners

There will be two question setters /examiners (1^{st} and 2^{nd}) in each of the theory courses. The course teacher will normally act as the 1^{st} examiner for each course. The examination committee will select the 2^{nd} examiner from the Panel of Examiners.

4.2 (e) Third Examiner

In case the marks awarded by the two examiners differ by more than 20%, the Examination Committee will recommend a third examiner and the arithmetic mean of the two nearest marks will be counted. In case both of the extreme marks differ from the middle mark by exa same margin, the arithmetic mean of the middle and higher extreme shall be taken. The viva voce will be conducted by the relevant examination committee. The third examiner should be appointed from the approved panel of Examiners other than any member of the examination committee, or any examiner of that particular course.

4.2 (f) Preservation of the Examination Documents

The Chairman of the Examination Committee, after finalizing the results, will hand over all relevant documents (all marks sheets, Tabulation sheets and Examination statements along with the resolutions of the Examination Committee) to the Controller of Examinations. The Controller of Examinations should send one copy of the published results to the Chairman of the concerned department to be preserved in the department office. The copies of all the examination documents belonging to the Examination Committee will be handed over to the chairman of the department to preserve for a certain period.

4.2 (g)Preservation of the Examination Script

The controller of examination will preserve all answer scripts both for summative (Final) and formative (Before final) as per the OBE template provided by UGC of each student for one more year after publication of the result.

4.3 Eligibility for Appearing at the Semester Final Examination

(a) To be eligible to appear at the semester final examination, a candidate is required to attend in all courses not less than 60% of the lectures as average. If class attendance of any student in any course is below 60%, but in the range of 40 to 59%, on special ground with documentary evidence he/she may be allowed to attend the examination only with the recommendation of the Academic Committee of the department. In such marginal cases, the candidate shall have to pay a fine for the shortage of attendance as fixed by the authority/department/Institute.

(b) A student with class attendance of less than 40% in any course will be debarred from appearing in the Semester Final Examination.

(c) The Controller of Examinations shall issue admit cards only to the eligible candidates and send these to the concerned department and the chairman shall distribute the same to the candidates. If the Examination Entry Forms remain incomplete, Admit Cards shall not be issued. The examination Form must reach to the Controller's office at least one week before the examination starts.

4.4 Assessment System

(a) Assessment will measure the achievement of learning outcomes. Students are required to achieve all learning outcomes to pass the course. The use of grades or classifications, such as credit, merit and distinction are indicative of the level of achievement of the learning outcomes. Assessment methods will consist of both formative and summative assessment. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks. It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In contrast, **summative assessments** evaluate student learning, knowledge, proficiency, or success after an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be).

(b) In addition to and in sync with formative assessment, summative evaluation can also be utilized very effectively. Teachers might examine a variety of strategies to integrate these approaches.

(c) Students will get timely feedback on their performance in all formative/continuous assessments for better learning and preparation for the summative test/semester final examination.

(d) Marks allocated for continuous assessment and semester final examination:

Continuous Assessment (Formative Assessment): 40%

(i)	Class Test and/or Quiz and/or In-course and/or Sudden Test	5
(ii)	Mid-Semester (At least two mid-semester exams)-	20
(iii)	Assignment and/or Term paper preparation & Presentation and/or case study and/or Field work-	10
(iv)	Attendance-	5

Semester Final Examination (Summative Assessment): 60%

(e) 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%

(f) Practical Courses: For Laboratory courses students will be evaluated in two phases. The marks distribution shall be as follows:

Continuous Assessment as Before Final:	40%
Lab Attendance:	10%
Lab Performance:	20%
Lab Report Writing	10%
Final Assessment:	60%
Evaluation on Experiment:	50%
Viva- Voce:	10%

4.5 Project/Internship Evaluation:

Internship will be offered in the final semester for selected students. 03-06 credits will be allotted to the internship program in such cases. The assigned supervisor for this program will be a teacher with a post-graduate degree. The project/internship report shall also be evaluated by 1st and 2nd examiners within the department. 1st examiner will be the supervisor and 2nd examiner will be selected by the examination committee. A copy of the project/internship report must be preserved in the concerned Department.

4.6 Dissertation/Thesis Evaluation:

(a) A candidate for the Master's degree in the Mixed-mode group shall submit the required number of printed and soft copies of the dissertation/thesis in the approved format (by appropriate authority) through the supervisor to the Chairman of the examination committee by a date to be fixed by the department within the period of study. This time may, however, can be extended with the recommendation of the academic committee of the concerned Department/Institute and approved by the Academic Council through EC of concerned faculty.

(b) The thesis shall be evaluated by two external examiners from outside this university to be appointed by the examination committee. One external member from a foreign university recognized by the dept. can be considered. Two copies of the dissertation will be sent by the chairman of the examination committee to the controller of examination who will arrange to send these to the examiners.

(c) The Dissertation will not be considered for evaluation if the plagiarism detection system yields a similarity index of more than 20% (excluding bibliography/references, quotes, and small sources with a source exclusion threshold of ten-word counts). This will apply to the dissertations written in English. The curriculum of the concerned program shall provide a specific guideline on this issue.

(d) Defense of the thesis students shall be conducted by the examination committee approved by the appropriate authority. The supervisor of a student will be requested to be present at the time of the presentation. He/she may participate in discussion but not in evaluation. One more external member may be included during the oral examination.

(e) A student must satisfy the examiners that s/he is capable of undertaking independent work and affording evidence of satisfactory knowledge related to the theory and techniques used in his/her research work.

(f) The chairman of the department shall arrange to preserve a copy of the dissertation/thesis, if approved, in the University Library and another in the seminar Library of the Department for future reference.

4.7 Distribution of Marks

The Marks/credits of the Master's Degree Program shall be distributed among the theoretical courses, Practical, Thesis/Dissertation, viva voce, Internship, Project and Field works.

Course Type	1/1.5/2 Credits	3 Credits	4 Credits	Marks	Marks for Viva
Theory	50	100	100	-	-
Practical	50	100	100	-	-
Capstone	50	100	-	-	-
Internship	-	100	100	100	20
Project	-	80	80	80	20
Dissertation	-	-	-	80	20

4.8 Special Semester Examination

(a) Students who did not get the opportunity of removing 'F' in any course is allowed to sit for a special semester examination. This opportunity is allowed only for once/twice in one/Two academic sessions. In such cases, students have to apply to the Chairman of the department within 30 days after publication of Master 2nd/3rd semester result. The Chairman of the department shall take necessary administrative measures for arranging the special semester examinations by the respective Mode of Master's examinations committee. All the expenses relating to this examination shall be borne by the candidate(s).

(b) If anybody is absent from the viva voce on any valid ground, a viva voce may be arranged once for her/him on condition that she/he shall bear all related expenses of the viva. In such cases, she/he has to apply to the chairman of the department within 30 days after the viva examination.

4.9 Results Publication

(a) The course teacher will announce the results of the in-course marks before the final examination and submit the marks to the chairman of the Examination Committee and also a copy to the controller of examinations at least two weeks before the final examination.

(b) Tabulation work will start only after all the marks of the course final examinations for the semester are received by the Chairman of the Examination Committee. Marks received by the Chairman of the Examination Committee will remain in the sealed envelope as sent by the examiners until tabulation work is started and are to be opened in presence of the internal members of the Examination Committee.

(c) The Controller of Examinations will publish the semester-final result and the final result of the Master's Program, subject to the approval of the academic council. A copy of the tabulation sheets will be sent to the Chairman of the concerned Department duly signed by him with date.

(d) The Controller of Examinations shall also provide the transcript/grade sheet showing course-wise LG and the corresponding GP (the numerical marks shall not be shown), the CGPA, LG and the interpretation of the CGPA of the candidates for the Master's Degree. Final Grade must be spelled out clearly in the certificate/transcript.

(Example: C+=`C' (C Plus), `A-=` (A minus); B=`B' (B regular)

(e) Result sheets of each examination prepared by the Controller of Examinations will be compared and signed by the chairman of the Examination Committee or his/her nominee who must be a member of the Examination Committee.

(f) In the Transcript/Grade sheet, only the Letter Grade and the Corresponding Grade points, and the final CGPA (in the 2nd Semester), not the numerical marks, will be shown.

Letter Grade and Grade point: Total marks obtained in each course, oral (viva-voce) examination, practical courses and thesis will be converted into LG (Letter Grade) and GP (Grade Point) as following:

Numerical Grade	Letter Grade		Grade Point	Interpretation
80% and above	A+	(A Plus)	4.0	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)	3.0	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	……….	2.0	Poor
Less than 40%	F	....		Fail

4.10 Promotion

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

(b) For promotion from 1st semester to the 2nd semester, a student is required to earn a minimum of 50% of the total credit points in the 1st semester on condition that she/he has passed the viva voce.

4.11 Improvement of Grades

Only the removal of `F' (Fail) in any course is allowed. Removal of `F' in any course is permitted by sitting in the final examination only for one (1) time in the subsequent semester excluding the regular examination.

4.12 Drop Out

If a student re-admitted once in any semester fails to earn the minimum required credits for promotion, they will have to drop out from the program.

PART-V

General

5.1 Department/Faculty/Institute may formulate any guidelines as may be necessary for the purpose of implementing the provisions of these regulations with approval of the concerned academic committee/EC committee subject to the approval of Academic Council.

5.2 Examination Offences and Disciplinary Action**:** A student, who has adopted unfair means in any examination, assignment, semester paper, report, research monograph etc., might be expelled from that semester or any other punishment might be imposed on her/him by the recommendations of Examination Disciplinary Committee (EDC). Each such case must be reported to EDC by the chief invigilator through the chairman of the Examination Committee. The Instructions to the examinee on cover page of the answer script must be followed by the examinee. Violation of these instructions and/ or any clause under Section-4 of the "Regulation Regarding Examination Offences and Disciplinary Actions" (Appendix-III) will be treated as serious offence and punishable.

5.3 For any other matter not covered in this regulation, the existing examination rules and regulations of Comilla University will be applicable.

5.4 ***Amendment***: In order to make any addition, alteration, change or modification in this rules that may be required for the program, it must be placed by the Academic Committee of the Department through the Faculty to the Academic Council and subsequently to the syndicate for approval.

5.5 ***Repeal***: Rules for Master Degree Program (Effective from Academic Session:2010-11) is hereby repealed.

Annex-I

Regulation's Regarding Examination Offences and Disciplinary Action

Formation of Examination Disciplinary Committee:

1. Disciplinary action against candidates involved in Examination offences shall be taken by the Syndicate on recommendations of the Examination Discipline Committee as constituted below:

(i)	The Vice-Chancellor	Convener
(ii)	The Deans of the Faculties	Members
(iii)	Two provosts to be nominated by the Vice-Chancellor	Members
(iv)	Three teachers of the University to be nominated by the Vice-Chancellor	Members
(v)	Two Head of Department be nominated by Vice-Chancellor	Members
(vi)	Proctor	Members
(vii)	The Controller of Examinations	Member- Secretary

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

3. Five members shall form the quorum

4. The following shall be considered Examination offences:

(a) Communication or attempt to communication 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 disturbance 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 at the examination.

(f) Taking 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 person engaged on examination duty inside or outside the examination hall.

(J) Assault or attempt to assault or use criminal force against Chief Invigilator or the Invigilator or any other person engaged on examination duty inside or outside the examination hall.

5. In making its recommendation, the EDC 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 be debarred depending on the gravity of the offence from appearing at course(s) or from that semester examination, in addition to the cancellation of the course examination at which the offence is committed.

(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.

6. Any other offence not covered by the above rules shall be dealt with by the Syndicate on the recommendation of the EDC as it deems fit.
7. 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.
8. 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.
9. 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 shall be preserved by the Controller of Examinations for a period of at least six months from the date of the publication of the penalty order list.
10. The following procedure shall be adopted in dealing with cases of candidates involved in examination offences:
    (i) 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 her/him why disciplinary action shall not be taken against her/him for the alleged committed of examination offence. Such show-cause notice must be sent by registered post to her/his permanent address as recorded in the examination entry registration form. The candidate must be given ten days' time from the date of issuing show-cause notice to submit her/his explanation. If no explanation is received within the prescribed duration, the EDC may take necessary disciplinary action.
    (ii) The controller of examinations shall then place all relevant documents of the case together with the explanation of the candidate to the EDC for consideration. The proceedings of the Disciplinary Committee shall be forwarded to the registrar for reporting it before the Syndicate.
11. 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 confirmation.

Annex-II

(a) Computation of Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA)

The GPA and CGPA will be computed in the following formula: (Credit ×
Grade Points Secured)
GPA = Total
Credits Offered in the Semester (Credit ×
Grade Points Secured)
CGPA =Total Number of Credits offered in the whole program

Example: GPA Calculation

Course	No. of credits	Letter Grade	Grade Points	Points secured	GPA
C-501	3	A	3.75	11.25	48.00/18 = 2.67
C-502	3	B+	3.25	9.75	
C-503	3	F	0	0	
C-504	3	A-	3.5	10.5	
C-505	3	B	3.0	9.0	
C-506	3	C+	2.5	7.5	
	18			48.00	

(b) Course Learning Outcomes (CLOs) Attainment Report Format

Course Learning Outcomes (CLOs)	Assessment										
	SFE (Summative) 80%				CA (Formative) 20%						CLO Attainment (%)
	Mid-Semester (20%)		Final Examination (60%)		MCQ/MQ/ Quiz (10%)		Assignment/ Case Study (5%)		Presentation (5%)		
	AM	AC	AM	AC	AM	AC	AM	AC	AM	AC	
CLO1:											
CLO2											
CLO3											
CLO4											
CLO5											
CLO6											
CLO7											

AM: Actual Marks = (Given Marks/Total Given Marks of Component) × (% of the Course) AC: Assessment Contribution; M=Average Marks in % and W = Weightage=C/T

Attainment (A) = $\sum_{i=1}^{M}(M_i \times W_i)$

Program Learning Outcomes report would be measured by indirect measurement (survey questioner) devised by the Program Offering Entity (POE)

Annex-III

Research Proposal Template ((Guidelines)

Instructions:

- When preparing an application for entry into a research higher degree program, it is necessary to supply a clear statement describing the proposed area of research (a research proposal). Consultation with an academic staff member in the research area of interest is recommended prior to submission of an application. Liaising with an academic allows you to frame the proposal to align with established disciplines and areas of supervisor capacity.
- You must write your research proposal and reference accordingly through consultation with your supervisor.
- From one to three pages is often suitable, depending on the area of research.

(1) Research Topic/Title:

(An initial working title should be provided and should describe the content and direction of your project)

(2) Research Project Description:

(i) Background:

✔ What is already known (with references) and unknown? Set the scene

(ii) Justification/Significance/Rational:

✔ Why is it important? Establish the importance of your project by highlighting its originality or why it is worth pursuing.

(iii) Problem Statement:

✔ Make a research question on what basis you want to do research

(iv) Aims/Objectives:

✔ What do you want to know, prove, demonstrate, analyze, test, investigate or examine?

(3) Methodologies:

✔ How do you anticipate you will achieve these aims?
✔ Mention the research design/experimental design (If any)
✔ What do you need ? (Specify any special equipment, software or material). List the name of required chemicals, apparatus and accessories
✔ Can you access necessary data or expertise?
✔ Are there barriers or pitfalls?
✔ Does the project involve human ethics, animal ethics or safety implications?
✔ Is travel or fieldwork required? If so, where to, how long and what intervals?

(4) Expected Outcomes:

✔ What do you expect it will deliver?
✔ What are the expected outcomes?
✔ Highlight the benefits, positive expected outcomes or innovative applications of knowledge

(5) Work activity Schedule/Timetable

✔ Indicate the timeframe for each broad stage considering literature surveys, data application, production, modeling, review analysis, testing reporting chapter and thesis submission date

(6) Budget:

- ✔ Make a budget with a compatible manner

(7) References:

- ✔ List an appropriate number of reference materials

(Note That: Research proposal is generally prepared as per format/template of inviting organization/funding authority.)

Declaration

(a) The same project has not been submitted to any other institutes/ agencies for financial support or academic purpose.

(b) The research work proposed in this project is not a duplicate work already done or being done in the field (i.e. area of research).

Annex-IV

Research Proposal Presentation (Oral) Grading Rubric

Nonverbal Skills	4–Exceptional	3–Admirable	2–Acceptable	1–Poor
Eye Contact	Holds attention of entire audience with the use of direct eye contact, seldom looking at notes or slides.	Consistent use of direct eye contact with audience, but still returns to notes.	Displayed minimal eye contact with audience, while reading mostly from notes.	No eye contact with audience, as entire presentation is carried out through reading note.
Body Language	Movements seem fluid and help the audience visualize. .	Made movements or gestures that enhance articulation.	Very little movement or descriptive gestures	No movement or descriptive gestures.
Poise	Displays relaxed, self-confident nature about self, with no-mistakes.	Makes minor mistakes, but quickly recovers from them; displays little or no tension.	Displays mild tension; has trouble recovering from mistakes.	Tension and nervousness is obvious; has trouble recovering from mistakes.
Verbal Skills	**4 – Exceptional**	**3 – Admirable**	**2 – Acceptable**	**1 – Poor**
Enthusiasm	Demonstrates a strong, positive feeling about topic during entire presentation	Occasionally shows positive feelings about topic	Shows some negativity toward topic presented.	Shows absolutely no interest in topic presented.

Speaking Skills	Uses a clear voice and speaks at a good pace so audience members can hear presentation. Does not read off slides.	Presenter's voice is clear. The pace is a little slow or fast at times. Most audience members can hear presentation.	Presenter's voice is low. The pace is much too rapid/slow. Audience members have difficulty hearing presentation.	Presenter mumbles, talks very fast, and speaks too quietly for a majority of students to hear& understand.
Timing	**4 – Exceptional**	**3 – Admirable**	**2 – Acceptable**	**1 – Poor**
Length of Presentation	Within two minutes of allotted time +/-.	Within four minutes of allotted time +/-.	Within six minutes of allotted time +/-	Too long or too short; ten or more minutes above or below allotted time.
Content	**4 – Exceptional**	**3 – Admirable**	**2 – Acceptable**	**1 – Poor**
Subject Knowledge	An abundance of material clearly related to the research is presented. Points are clearly made and evidence is used to support claims	Sufficient information with many good points made, uneven balance and little consistency.	There is a great deal of information that is not clearly integrated or connected to the research.	Goal of research unclear, information included that does not support research claims in any way.
Organization	Information is presented in a logical and interesting sequence which audience can follow. Flows well.	Information is presented in logical sequence which audience can follow.	Audience has difficulty following presentation because the presentation jumps around and lacks clear transitions.	Audience cannot understand presentation because there is no sequence of information.
Visuals	Excellent visuals that are tied into the overall story of the research.	Appropriate visuals are used and explained by the speaker	Visuals are used but not explained or put in context.	Little or no visuals, too much text on slides.
Mechanics	Presentation has no misspellings or grammatical errors. .	Presentation has no more than two misspellings and/or grammatical errors	Presentation has three misspellings and/or grammatical errors.	Presentation has many spelling and/or grammatical errors.

Regulations for Master Degree has been Prepared by the Following Committee

- কেন্দ্রীয় কমিটির ১ম সভার সুপারিশ অনুসারে বিভিন্ন টেকনিক্যাল বিষয় বিশ্লেষণ করে খসড়া বিধি তৈরি করার জন্য নিম্নোক্তভাবে একটি টেকনিক্যাল কমিটি গঠিত হয়:-

Technical Committee

S.L No.	Name of the Committee Member	Technical Committee Designation
1	Professor Dr. Mohammad Sayadur Rahman	Convener
2	Dean, Faculty of Business Studies	Member
3	Dean, Faculty of Social Science	Member
4	Director, IQAC	Member
5	Controller of Examinations	Member Secretary

Central Committee

S.L No.	Name of the Committee Member	Designation
1	Prof. Dr. Mohammad Humayun Kabir Pro-Vice Chancellor	Convener
2	Professor Dr. Md. Ashaduzzaman Treasurer	Member
3	Prof. Dr. Khalifa Mohammad Helal Dean, Faculty of Science	Member
4	N. M. Rabiul Awal Chowdhury Dean, Faculty of Social Science	Member
5	Prof. Dr. Mohammad Golam Mowla Dean, Faculty of Arts and Humanities	Member
6	Prof. Dr. Mohammad Amzad Hossain Sarker Dean, Faculty of Business Studies	Member
7	Dr. Mahmudul Hasan Dean, Faculty of Engineering	Member
8	Prof. Dr. Md. Shamimul Islam Dean, Faculty of Law	Member
9	Prof. Dr. Md. Rashidul Islam Sheikh Director, IQAC	Member
10	Prof. Dr. Mohammad Sayadur Rahman Department of Chemistry	Member
11	Md. Abu Bakar Siddik Assistant Prof. & Head Department of Law	Member
12	Mohammad Nurul Karim Chowdhury Controller of Examinations (In-charge)	Member Secretary