CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Microeconomics ECON001	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- To expose students to the basic principles of microeconomic theory
- To emphasis on the fundamental economic trade-offs and allocation problems due to scarcity of resources
- To use graphical methods to illustrate how microeconomic concepts can be applied to analyze real-life situations

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying the course, the students will understand economic trade-offs and opportunities.
- By studying the course, the students will understand the fundamentals of market mechanisms and government interventions.

SYLLABUS OF DSC-1

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying the course, the students will understand economic trade-offs and opportunities.
- By studying the course, the students will understand the fundamentals of market mechanisms and government interventions.

SYLLABUS OF DSC-1

UNIT – I: Introduction to economic trade-offs   (12 Hours)
Resources and opportunities, Gains from trade, Individual and society

UNIT – II: How market works   (16 Hours)
Supply and demand, Price and resource allocation, Elasticity, Market, trade and welfare

UNIT – III: Role of government   (16 Hours)
Taxation, Public good, Inequality and poverty

UNIT – IV: Individual decision and interactions   (16 Hours)
Decision versus strategic interaction, How to think about strategic interactions, Real life

UNIVERSITY OF DELHI DELHI SCHOOL OF ECONOMICS DEPARTMENT OF ECONOMICS

Minutes of

Meeting Subject: B.A. Program Second Semester

Course: ECON004 Introductory Macroeconomics

Credits: 4

Duration (per week): 4 hours (3 L + 1 T)

Date: Thursday 9th March 2023

Venue: Department of Economics, Delhi School of Economics, University of Delhi

Convenor: **Prof. Dibyendu Maiti**

Learning Objectives

- To introduce students to the basic concepts of macroeconomics
- To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like GDP, savings, investment, money, inflation, unemployment and the balance of payments.
- To introduce the simple analytical framework (e.g., the IS-LM Model) for analysing the relationships among key macroeconomic variables.

Learning Outcomes

- The students would be able to familiarise the broad macroeconomic concepts like GDP, inflation, money supply, interest rate and their inter-linkages and their interrelationships.
- By studying the course, the students will be able to critically evaluate various macroeconomic policies and their effects on output and interest rate in the economy.

Suggested number of lectures: Unit 1 and 2 combined - approximately 11; Units 3 - approximately 23; Unit 4 - approximately 11.

Readings:
1. Andrew B. Abel, Ben S. Bernanke and Dean Croushore (2011). *Macroeconomics*, 7th edition, Pearson.
2. Oliver Blanchard and David R. Johanson (2013). *Macroeconomics*, 6th edition, Pearson
3. Rudiger Dornbusch, Stanley Fischer and Richard Startz (2011). *Macroeconomics*, 11th edition, McGraw-Hill.

Topic-wise Readings:

Unit 1. Introduction: What is macroeconomics? Macroeconomic issues in an economy
Basic issues studied in macroeconomics.

(i) Abel, Bernanke and Croushore: Chapter 1 (Sections 1.1 and 1.3)

Unit 2. National Income Accounting
Measurements of gross domestic product - income, expenditure and the circular flow; related aggregates; real versus nominal GDP; price indices and real interest rate.

(i) Abel, Bernanke and Croushore: Chapter 2

Unit 3. Simple Theory of Income Determination
Simple Keynesian model of income determination; Actual and potential GDP; aggregate expenditure; consumption function; investment function; equilibrium GDP; Concept of multiplier; government sector and impact of changes in government expenditure and taxes.

(i) Dornbusch, Fischer and Startz: Chapter 9
(ii) Abel, Bernanke and Croushore: Chapter 4 (Section 4.1 and 4.2 – till page 121)

Unit 4. Money in a Modern Economy

Concept of money in a modern economy; monetary aggregates; functions of money; demand for money; money supply and credit creation; tools of monetary policy.

(i) Abel, Bernanke and Croushore: Chapter 7 (Section 7.1)
(ii) Blanchard: Chapter 4

Assessment:
1. Internal Assessment (IA): **30 marks** - one class test and another test or presentation (12 marks each) and 6 marks for attendance.
2. Continuous Assessment (CA): **40 marks** - projects, presentations etc. (35 marks) and 5 marks for attendance.
3. The end semester exam: **90 marks** will comprise numerical and other questions.

Suggested Weightage for each unit in the final examination
Unit 1 and 2 - 25 marks
Unit 3 - 40 marks
Unit 4 - 25 marks

Minutes of the Meeting
Basic Statistics for Economics
Date: March 13, 2023

Course Title	BA(P) Major for Economics - Basic Statistics for Economics – DSC-4
Course Code	ECON022
Course Abbreviation	
Credits	4
Duration (per week)	4 Hours (3 Lectures + 1 Tutorial)
Date of the Meeting	March 13, 2023
Venue	Delhi School of Economics
Chair	Dr. Devesh Birwal

Attended By:

Dr Kanika Pathania	Sri Venkateswara College
S Rubina Naqvi	Hindu College
Ankur Bhatnagar	Satyawati College
Gautam Kumar Jha	PGDAV College (Eve.)
Shikhar Kumar	Sri Aurobindo College
Sonia Goel	Ramjas college
Ravi	Miranda House
Vishakha Jain	Vivekananda college
Divya Singh	St. Stephen's College
Shruti Sabharwal	Jesus and Mary College

A meeting of teachers of this course was held to discuss the following:

- How to cover the concepts in the syllabus by giving students a knowledge of each without involving too much mathematical computations.
- Suggested readings and the detailed reading list for the UGCF course to be implemented in the academic session 2023-24.
- The pattern of the semester-end exam.

- What can be the different ways in which teachers can assess students for continuous assessment.

Since this paper is being taught in its present form for the first time, under UGCF, a sub-committee was constituted to review the suggested readings. The committee consisted of the following teachers:

Ankur Bhatnagar	Satyawati College
S.Rubina Naqvi	Hindu College
Deepika Goel	Aryabhatta College
Sonia Goel	Ramjas College
Gautam Kumar Jha	PGDAV College (Eve.)
Kanika Pathania	Sri Venkateswara College
Shruti Sabharwal	Jesus and Mary College
Vishakha Jain	Vivekananda college

The details of the Course Content, Topic-wise Reading list, recommended textbooks are given below:

Topic	Readings	Section specific instructions
Unit – I: Introduction and Overview (09 Hours) - Populations and Samples; Sample Statistics - Descriptive Statistics	- *McClave et. al: Ch 1 (except Sec 1.4)* - *McClave et. al: Ch 2.1-2.5.* - *Anderson, Sweeny, et.al.): Ch 3.2(only coefficient of variation to be done) (pp121-122)*	- Emphasis should be placed on the concepts of mean, median, mode, standard deviation, variance and coefficient of variation - In graphical methods emphasis should be placed on histograms and pie charts.
Unit – II: Basic Concepts of Probability (12 Hours) - Spaces and Events; Probability Concepts, Conditional Probabilities	- *McClave et.al: Ch 3*	- Questions should be simple in conceptual and numerical calculations.
Unit – III: Probability Distributions and Sampling (12 Hours)		

• Random Variables – Discrete and Continuous, • Various Probability Distributions – Functions and Characteristics; • Commonly used Distributions – Uniform, Binomial, Exponential, Poisson, Hypergeometric and Normal Random Variables • Joint Distributions – Conditional Distributions and Expectations, Covariance and Correlation:	• *McClave et.al: Ch 4 (except Sec 4.4)* • *McClave et.al: Ch 4.5, 4.6, 4.8 (only uniform distribution)* • *Anderson, Sweeny, et.al: Ch 5.4*	• Emphasis should be placed on binomial, normal and uniform distributions.
Unit – IV: Estimation and Hypothesis Testing (12 Hours) • Properties of estimators • confidence intervals; • defining statistical hypothesis • distributions of test statistics • Testing hypothesis related to population parameters; Type I and Type II parameters; • Power of test	• *McClave et. al: Ch 6.1-6.3* • *McClave et. al: Ch 7.1-7.5, 7.8*	• Methods of Moments and Maximum Likelihood estimation are to be excluded as these topics involve rigorous mathematics and students are not formally trained in these concepts. • Only applications and interpretations of the important formulas and concepts to be done.

Notes

1. Teachers suggested that from the suggested readings in the syllabus, McClave, Benson and Sincich (2017) and Anderson, Sweeny, et.al. (2019) could be used as core textbooks. Sheldon Ross (2017) and Larsen and Marx (2011) could be uses as a suggested reading for the teachers.
2. Specific instructions are mentioned against each question which should be taken care of while setting the question paper.
3. Applet exercises are to be avoided in each text.
4. Numerical Questions involving integration should not be done.

Recommended Readings:

1. James McClave, P. George Benson, Terry Sincich (2017), *Statistics for Business and Economics*, Pearson Publication.
2. Anderson, D. R, Sweeny, D. J, et. al (2019), *Statistics for Business and Economics*, 13th edition, Cengage Learning.

Recommended Readings for teachers:

1. Sheldon Ross (2017), Introductory Statistics, 4th edition, Academic Press.
2. Larsen, R., Marx, M. (2011), *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall.

End semester examination and Internal Assessment:

- The end semester exam would be of 90 marks. The following distribution of topics, indicative weightage, and the amount of choice within each section, was agreed upon:

    Section 1: Unit 1(weightage 30 marks) – Three questions of 10 marks each. Internal choice in these units should be given as three out of four questions

    Section 2: Unit 2 (weightage 20 marks) – Two questions out of three of 10 marks each.

    Section 3: Unit 3 (weightage 20 marks) – Two questions out of three of 10 marks each.

    Section 4: Unit 4 (weightage 20 marks) – Two questions out of three of 10 marks each.

- There would be no compulsory question in any of the sections and each question should have limited number of sub-parts.

- The internal assessment would comprise of 12 marks Class test, 12 marks Class test/assignment. Attendance will carry 06 marks. Problem solving during tutorials/ interpretation of results pertaining to a set of data should be the preferred medium for continuous assessment of 35 marks out of 40 (Five marks for attendance in tutorials).

Minutes of the Meeting

Basic Mathematics for Economic Analysis

- **Course Code : ECON021**
- **Course Abbreviation : BMEA**
- **Credits: 4**
- **Duration (per week): 4 hours (3 lectures+1 tutorial)**

Meeting held on 27th October at 3.30 p.m. and 01 November, 2022, 5 pm (online)

By: Professor Sudhir Shah and Dr Soumendu Sarkar, Department of Economics

Attended By:

Niti Khandelwal - Kirori Mal College

Gautam Jha - PGDAV (Evening)

Nitish Kashyap - Daulat Ram College

N. Shraddha Varma - Maitreyi College

Unit 1: Economic Models

Ingredients of mathematical models - variables, constants, parameters, equations, and identities; Real number system; Sets and functions; relations and their properties; types of functions; functions of more than one variable;
Reference: Chapter 2; Chiang, A and Wainwright, K. (2005).

Limit, sequences, and series: convergence, algebraic properties, and applications;
Reference: Chapter 6 (4.4,6.1,6.4,6.5,6.6); Sydsaeter, K., Hammond, P. (2002).

Continuous functions: characterization, properties with respect to various operations and applications; Differentiable functions: characterization, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.
Reference:
Chapter 6 (6.1,6.2); Sydsaeter, K., Hammond, P. (2002).
Chapter 6, Chapter 7(7.1,7.2,7.3,7.5(only market model)); Chiang, A and Wainwright, K. (2005).

Unit 2: Equilibrium Analysis in Economics

Meaning of equilibrium; partial market equilibrium - linear and non-linear models; General market equilibrium

Reference: Chapter 3(3.1,3.2,3.3,3.4-deemphasize n-variable case & its solution); Chiang, A and Wainwright, K. (2005).

Unit 3: Linear Models and Matrix Algebras and their Applications in Economics

Matrix operations, Determinants, and Cramer's Rule and their applications

Reference: Chapter 4(except 4.7), Chapter5(5.1-5.6(only market models)); Chiang, A and Wainwright, K. (2005).

UNIVERSITY OF DELHI

Bachelor of Arts (Programme)
Economics Courses

(Effective from Academic Year 2019-20)

Revised Syllabus as approved by

Academic Council

Date: No:

Executive Council

Date: No:

Principles of Macroeconomics I (PD31)
Discipline Specific Elective (DSE)   Credit: 6

Course Objective
This course introduces students to the basic concepts in Macroeconomics. Macroeconomics deals with the aggregate economy. In this course the students are introduced to the definition, measurement of the macroeconomic variables like GDP, consumption, savings, investment and balance of payments. The course also discusses various theories of determining GDP in the short run.

Course Learning Outcomes
This course is useful for understanding various real economic issues and evaluating policy outcomes.

Unit 1
Introduction: What is macroeconomics? Macroeconomic issues in an economy

Unit 2
National Income Accounting: Concepts of GDP and National Income; measurement of national income and related aggregates; nominal and real income; limitations of the GDP concept

Unit 3
Determination of GDP: Actual and potential GDP; aggregate expenditure; consumption function; investment function; equilibrium GDP; concepts of MPS, APS, MPC, APC; autonomous expenditure; Concept of multiplier.

Unit 4
National Income Determination in an Open Economy with Government; Fiscal Policy: impact of changes in government expenditure and taxes; net exports function; net exports and equilibrium national income.

Unit 5
Money in a Modern Economy: Concept of money in a modern economy; monetary aggregates; demand for money; quantity theory of money; liquidity preference and rate of interest; money supply and credit creation; monetary policy

References

1. Abel, A., Bernanke, B. (2016). *Macroeconomics, 9th ed.* Pearson Education.
2. Blanchard, O. (2018). *Macroeconomics, 7th ed.* Pearson Education.

Principles of Macroeconomics II (PD41)
Discipline Specific Elective (DSE)   Credit: 6

Course Objective
This is a sequel to Principles of Macroeconomics I. It analyses various theories of determination of National Income in greater detail. It also introduces students to concept of inflation, its relationship with unemployment and some basic concepts in an open economy.

Course Learning Outcomes
This course provides students with an analytical framework to understand the basic functioning of the macroeconomy. It also allows them to critically examine and comment on effectiveness of various policies.

Unit 1
IS-LM Analysis

Derivations of the IS and LM functions; IS-LM and aggregate demand; shifts in the AD curve

Unit 2
GDP and Price Level in Short Run and Long Run

Aggregate demand and aggregate supply; multiplier analysis with AD curve and changes in price levels; aggregate supply in the SR and LR

Unit 3
Inflation and Unemployment: Concept of inflation; determinants of inflation; relationship between inflation and unemployment: Phillips Curve in short run and long run

Unit 4
Balance of Payments and Exchange Rate: Balance of payments: current account and capital account; market for foreign exchange; determination of exchange rate

Economic Development & Policy in India I (PDE53)
Discipline Specific Elective (DSE)   Credit: 6

Course Objective
This course reviews major trends in aggregate economic indicators in India and places these against the backdrop of major policy debates in India in the post-independence period.

9

Course Learning Outcomes
This course will help students understand the key issues related to the Indian economy. It will broaden their horizons and enable them to analyze current economic policy thus improving their chances of getting employed, and be more effective, in positions of responsibility and decision making.

The course also serves as the base for further study of sector specific policy discussion that is pursed in the course in the next semester.
Given the topical nature of the course, the readings will be updated every year.

Unit 1
Issues in growth, development, and sustainability

Unit 2
Factors in development: capital formation (physical and human); technology; institutions. .

Unit 3
Population and economic development: demographic trends; urbanisation

Unit 4
Employment: occupational structure in the organised and unorganised sectors; open-, under- and disguised- unemployment (rural and urban); employment schemes and their impact

Unit 5
Indian development experience: critical evaluation of growth, inequality, poverty and competitiveness, pre- and post- reform eras

Economic Development & Policy in India II (PDE62)
Discipline Specific Elective (DSE)   Credit: 6

Course Objective
The course seeks to equip students with sector-specific knowledge and skills to analyse key economic issues and policy documents. It will also enable them to relate theoretical frameworks of macroeconomics and microeconomics to the Indian context.

12

Course Learning Outcomes
Students will have capability to understand government policies and will enable informed participation in economic decision making, thus improving their employment prospects and career advancement.

Unit 1
Macroeconomic policies and their impact: fiscal policy; financial and monetary policies.

Unit 2
Agriculture: policies and performance; production and productivity; credit; labour markets and pricing; land reforms; regional variations.

Unit 3
Industry: policies and performance; production trends; small scale industries; public sector; foreign investment, labour regulation

Unit 4
Services and trade: trends and performance, trade and investment policy

Skill Enhancement Courses

Understanding Economic Survey and Union Budget (PS31)
Skill Enhancement Elective Courses (SEC)   Credit: 4

Course Objective
The course seeks to familiarise students with basic concepts related to the Economic Survey and Union Budget. It aims to equip students with sufficient knowledge and skills to analyse these documents.

Course Learning Outcomes
Students will have the capability to understand government policies and will be informed participants in economic decision-making.

Unit 1
Concepts:

- Fiscal policy, areas of government spending in India;
- Capital and revenue expenditure; plan and non-plan expenditures;
- Deficits (fiscal, primary, revenue), impact of fiscal deficits on the economy;
- Capital receipts, revenue receipts; tax and non-tax revenue; direct and and indirect taxes; need for rationalization of tax structure; Goods and Services Tax (GST);
- Actual, revised and budget estimates;
- Zero-base budgeting;
- Gender budgeting;
- Fiscal devolution and centre-state financial relations

Unit 2
The economic survey

- Analysis of current and past policy emphasis

Unit 3
The union budget

- Need for the budget; understanding the process of budget making in India;
- Analysis of fiscal and revenue deficits;
- Analysis of sources of revenue and expected growth in revenue; tax simplification, improvement in administration, expansion of tax net and other measures to improve revenue receipts;
- Analysis of expenditure pattern and expected growth in expenditure; thrust areas of budget; sectors that have received higher/lower shares of expenditure, the reasons and consequences thereof; steps proposed to ensure effective spending

Research Methodology (PS41)
Skill Enhancement Elective Courses (SEC)   Credit: 4

Course Objective
This course is designed to provide students skills for collecting and analysing data to answer real world problems. It will cover modes of data collection, data cleaning and data representation.

Course Learning Outcomes
The student will develop an understanding of how commonly available data is collected and analyzed. This would help in the interpretation of secondary data and in the management of small primary surveys.

Unit 1
Data Types and sources: Qualitative and quantitative data, measurement and scales; overview of some secondary data sources

Unit 2
Questionnaire design: Measurement and scales, ordering of questions, coding responses

Unit 3
Sampling techniques: Simple random sampling, stratification, sequential sampling; Size and cost trade-offs

23

Unit 4
Processing of survey data: Data cleaning, checking for consistency

Unit 5
Analysing data: Generating sample statistics and representing them in an easily comprehensible manner

Unit 6
Ethics and Scientific Integrity: Respecting respondent privacy, ethical standards of conduct

References

1. Cochran, W. (2008). *Sampling techniques, 3rd ed.* Wiley.
2. Groves, R., Fowler, F., Couper, M., Lepkowski, J., Singer, E., Tourangeau, R. (2009). *Survey Methodology.* Wiley.
3. Kumar, R. (2014). *Research methodology: A step by step guide for beginners, 4th ed.* Sage Publications.

Unit 4
Processing of survey data: Data cleaning, checking for consistency

Unit 5
Analysing data: Generating sample statistics and representing them in an easily comprehensible manner

Unit 6
Ethics and Scientific Integrity: Respecting respondent privacy, ethical standards of conduct

References

1. Cochran, W. (2008). *Sampling techniques, 3rd ed.* Wiley.
2. Groves, R., Fowler, F., Couper, M., Lepkowski, J., Singer, E., Tourangeau, R. (2009). *Survey Methodology.* Wiley.
3. Kumar, R. (2014). *Research methodology: A step by step guide for beginners, 4th ed.* Sage Publications.

Data Analysis (PS51)
Skill Enhancement Elective Courses (SEC)   Credit: 4

Course Objective
The students will be instructed on the use of spreadsheet and statistical software to analyse data. Software used for the course will vary based on what is available. Open access software such as R will be encouraged.

Course Learning Outcomes
Students will learn to input, visually represent and analyse data.

Unit 1
Introduction to available software and how it deals with data

Unit 2
Data cleaning: checking for outliers, cleaning variable names, consistency checks

Unit 3
Data visualisation: scatter plots, line graphs, box plots and other graphical formats

24

Unit 4
Calculating and representing summary statistics and lines of best fit

Unit 5
Elements of statistical inference: calculating and plotting confidence intervals; tests of population differences in population statistics

Unit 6
Miscellaneous other topics: elements of writing simple programs for repetitive tasks, etc.

References

1. Levine, D., Stephan, D., Szabat, K. (2017). *Statistics for managers using Microsoft Excel, 8th ed.* Pearson.
2. Tattar, P., Ramaiah, S., Manjunath, B. (2018). *A course in statistics with R.* Wiley.

Data Analysis (PS51)
Skill Enhancement Elective Courses (SEC)   Credit: 4

Course Objective
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Data visualisation: scatter plots, line graphs, box plots and other graphical formats

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Unit 4
Calculating and representing summary statistics and lines of best fit

Unit 5
Elements of statistical inference: calculating and plotting confidence intervals; tests of population differences in population statistics

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Miscellaneous other topics: elements of writing simple programs for repetitive tasks, etc.

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1. Levine, D., Stephan, D., Szabat, K. (2017). *Statistics for managers using Microsoft Excel, 8th ed.* Pearson.
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