



**List of Courses Focus on Employability/ Entrepreneurship/
Skill Development**

Department : Economics

Programme Name : B.A. Ist & IInd and IIIrd & IVth

Academic Year : 2020-21

List of Courses Focus on Employability/ Entrepreneurship/Skill Development

Sr. No.	Course Code	Name of the Course
01.	SS/EC/C-102	Mathematical Method for Economics -I
02.	SS/EC/C-204	Mathematical Method for Economics -II
03.	SS/EC/C-306	Statistical Methods for Economics
04.	SS/EC/C-(SEC-1)	Data Analysis
05.	SS/EC/C-410	Introductory Econometrics



Scheme and Syllabus

School of Arts: BA (Hon's): Subject: -Economics					
Semester	Course Opted	Course Code	Name of the course	Credit	Hour / weak
I	Core-1	SS/EC/C-101	Introductory Microeconomics Economics	5	5
	Core-1 Tutorial	SS/EC/C-T-101	Tutorial-1 based on Core-1	1	1
	Core-2	SS/EC/C-102	Mathematical Methods for Economics-I	5	5
	Core-2 Tutorial	SS/EC/C-T-102	Tutorial-2 based on Core-2	1	1
	Generic Elective (GEI)-1	SS/EC/GE-101/C	From pool of Generic elective courses (Introductory MicroEcon)	5	5
	Generic Elective - Tutorial	SS/EC/GE-T-101/PS	Tutorial-1 based on Generic Elective-1	1	1
	Ability Enhancement Compulsory Course (AECC)	SS/EC/AE-101/EC	Environmental Science	4	4
	ECA	SS/EC/ECA-101	ECA-Extracurricular activity/Educational Tour/ Field visit/ Industrial training/NSS/Yoga/ Swachhta/ sports/ community service/ others	2	(2)
TOTAL				24	24
II	Core-3	SS/EC/C-203	Introductory Macroeconomics	5	5
	Core-3 Tutorial	SS/EC/C-T-203	Tutorial-3 based on Core-3	1	1
	Core-4	SS/EC/C-204	Mathematical Methods for Economics-II	5	5
	Core-4 Tutorial	SS/EC/C - T-204	Tutorial-4 based on Core-4	1	1
	Generic Elective (GEI-B)-2	SS/EC/GE-202/PS	From pool of Generic elective courses (Introductory MacroEcon)	5	5
	Generic Elective - Tutorial	SS/EC/GE-T-202/PS	Tutorial-2 based on Generic Elective-2	1	1
	Ability Enhancement Compulsory Course (AECC)	SS/EC/AE-201/ES	English Communication/ MIL (Hindi Communication)	4	4
	ECA		ECA-Extracurricular activity/Educational Tour/ Field visit/ Industrial training/NSS/yoga/ Swachhta/ sports/ community service/ others	2	(2)
Total				24	24
SUMMER Internship: 15 days (Optional)		Swayam Swachhta / NSS / Industrial/ others		2	100

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SEMESTER I

B.A. (Hons.) Economics, Semester-I, Core-2

Course: Mathematical Methods in Economics-I

Course Code: SS/EC/C-102

Course Credit: (5+1)

MATHEMATICAL METHODS IN ECONOMICS-I

Course Description

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

Unit: 1

Variables, constants and parameters; Equations and Identities; the real number system; sets and set operations;

Unit: 2

Relations and functions; types of functions: constant & polynomial functions; sequences and series: arithmetic & geometric progression and their use in economics.

Unit: 3

The derivative and the slope of a curve; process of differentiation; condition of maxima and minima of a function; Application of differentiation in economics-elasticity of demand, cost and revenues, conditions for profit maximization in simple market problems.

Unit: 4

Integration of a function- Simple concepts, Consumer and Producer's surplus.

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, Latest edition.

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SEMESTER II

B.A. (Hons.) Economics, Semester-II, Core-4
Course: Mathematical Methods in Economics-II
Course Code: SS/EC/C-204
Course Credit: (5+1)

MATHEMATICAL METHODS IN ECONOMICS - II

Course Description

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this Syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

Unit: 1

Linear Programming: Graphical solution and its application in economics, Duality

Unit: 2

Matrix: various types, addition and subtraction, multiplication of matrix.

Unit: 3

Determinants, singular matrix, inverse of a matrix, solution of simultaneous equations through crammer's rule

Unit: 4

Game theory-simple and mixed strategy, saddle point solution, prisoner's dilemma

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, Latest edition.

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Department of Economics (B.A. IIIrd & IVth Semester) CBCS

III	Core-5	Intermediate Microeconomics-I	5	5
	Core -5 Tutorial	Tutorial-5 based on Core-5	1	1
	Core -6	Intermediate Macroeconomics-I	5	5
	Core -6 Tutorial	Tutorial-6 based on Core-6	1	1
	Core - 7	Statistical Methods for Economics	5	5
	Core - 7 Tutorial	Tutorial-7 based on Core-7	1	1
	Generic Elective (GEII-A)-1	From pool of Generic elective courses (Money & Banking)	5	5
	Generic Elective - Tutorial	Tutorial-3 based on Generic Elective-3	1	1
	Skill Enhancement Course (SEC -1)	From pool of Skill Enhancement Course (SEC -1) (Data Analysis)	4	4
		Total	28	28
IV	Core-8	Intermediate Microeconomics-II	5	5
	Core -8 Tutorial	Tutorial-8 based on Core-8	1	1
	Core -9	Intermediate Macroeconomics-II	5	5
	Core -9 Tutorial	Tutorial-9 based on Core-9	1	1
	Core - 10	Introductory Econometrics	5	5
	Core - 10 Tutorial	Tutorial-10 based on Core-10	1	1
	Generic Elective (GEII-B)-2	From pool of Generic elective courses	5	5
	Generic Elective - Tutorial	Tutorial-4 based on Generic Elective-4	1	1
	Skill Enhancement Course (SEC -2)	From pool of Skill Enhancement Course (SEC -2)	4	4
		28	28	

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SEMESTER III
B.A. (Hon's) Economics, Semester III, Core-7
Course: Statistical Methods for Economics
Course Code: SS/EC/C-307
Course Credit: (5+1)

STATISTICAL METHODS FOR ECONOMICS

Course Description

This is a course on statistical methods for economics. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

Course Outline

Unit I:

Introduction to Statistics Basic concepts: Population, Sample, Parameter, Statistic, primary and secondary data, Techniques of data collection; Questionnaire, schedule.

Unit II:

Central Tendency: Measures of central tendency; Mean, Median, Mode.

Unit III:

Measures of dispersion; Range, Quartile deviation, Mean Deviation, Standard deviation, Coefficient of variation

Unit IV:

Correlation: Simple, Coefficient of correlation — Karl Pearson, Calculation of Correlation coefficient in a bivariate frequency distribution, Spearman's Rank Correlation,

Readings:

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. William G. Cochran, *Sampling Techniques*, John Wiley, 2007.

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Skill Enhancement Course (SEC-I)

SEMESTER III
B.A. (Hon's) Economics, Semester III, Skill Enhancement Course (SEC-I)
Course: Data Analysis
Course Code: SS/EC/C-(SEC-1)
Course Credit: 4

Data Analysis

Unit 1

Importance of Statistics in Economics, Collection of data
Primary and Secondary Sources of Data, Collection of Primary Data- Interview and Observation Method

Unit 2

Types of Sampling-Random Sampling, Purposive or Deliberate Sampling, Stratified or Mixed Sampling, Systematic Sampling, Quota Sampling, Convenience Sampling

Unit 3

Classification and Tabulation of Data

Unit 4

Diagrammatic Presentation of Data
Bar Diagrammes-Simple Bar Diagramme, Multiple Bar Diagramme, Differential Bar Diagramme
Pie or Circular Diagramme

Suggest Readings:

1. Goon, A. M, Gupta, M. K, and Dasgupta, B. *Fundamentals of Statistics (Volume One)*, The World Press Private Ltd
2. GOI, *Note on Sample Design and Estimation Procedure of NSS 68th Round*, National Sample Survey Office, Ministry of Statistics and Programme Implementation.
3. GOI, *SRS Statistical Report 2016*, Office of the Registrar General & Census Commissioner, India

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SEMESTER IV

B.A. (Hon's) Economics, Semester IV, Core-10

Course: Introductory Econometrics

Course Code: SS/EC/C-410

Course Credit: (5+1)

INTRODUCTORY ECONOMETRICS

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models.

Course Outline

Unit: 1

Nature and Scope of Econometrics

Unit: 2

Simple Linear Regression Model: Two Variable Case; Estimation of model by method of ordinary least squares;

Unit: 3

Gauss-Markov theorem; properties of estimators; goodness of fit- R^2 ; tests of hypotheses; confidence intervals; forecasting

Unit: 4

Multiple Linear Regression Model: Estimation of parameters; goodness of fit - R^2 and adjusted R^2 ; partial regression coefficients;

Readings

1. D. N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill, Latest edition, International/Indian Edition.
2. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, Latest edition, Indian edition.
3. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, Latest edition.

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