Workplan
Basic Statistics for Economics
Instructor: Prof. Indu Choudhary

Course Title	BA(P) Major for Economics - Basic Statistics for Economics – DSC-4
Course Code	ECON022
Credits	4
Duration (per week)	4 Hours (3 Lectures + 1 Tutorial)

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

Topic	**Readings**	**Section specific instructions**
January **Unit – I: Introduction and Overview (09 Hours)** ● Populations and Samples; Sample Statistics ● Descriptive Statistics	● *Anderson, Sweeny, et.al.): Ch 1.2-1.5, Ch 2.1-2.2, 2.4, 3.1 (excluding geometric mean), 3.2(only coefficient of variation to be done)*	● Emphasis should be placed on the concepts of mean, median, mode, standard deviation, variance, and coefficient of variation ● In graphical methods emphasis should be
	(pp121-122), 3.3 (only pp 127-130).	placed on histograms and pie charts. ● Stem and Leaf display is excluded.
February **Unit – II: Basic Concepts of Probability (12 Hours)** ● Spaces and Events; Probability Concepts, Conditional Probabilities	● Anderson, Sweeny, et.al.): Ch 4.	● Questions should be simple in conceptual and numerical calculations.

March **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:	● Anderson, Sweeny, et.al.): Ch 5.1-5.3 ● Anderson, Sweeny, et.al.: *Ch 5.5, 6.1-6.3.* ● *Anderson, Sweeny, et.al: Ch 5.4 (only pp 232-235)*	● Emphasis should be placed on binomial, normal, and uniform distributions.
April **Unit – IV: Estimation and Hypothesis Testing (12 Hours)** ● Properties of estimators ● confidence intervals; ● defining a statistical hypothesis ● distributions of test statistics ● Testing hypothesis related to population parameters; Type I and Type II parameters; ● Power of test	● *Anderson, Sweeny, et.al.: Ch 7.3, 7.8, Ch 8.1-8.2* ● *Anderson, Sweeny, et.al.): Ch 9.1-9.4, 9.6-9.7.*	● 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 are to be done. ● Only interpretation of Type II error is to be done. No numerical is to be asked about the calculation of Type II error.

Notes

1. Teachers suggested that Anderson, Sweeny, et.al. (2017) could be used as a core textbook from the suggested readings in the syllabus. McClave et. al (2017), Sheldon Ross (2017), and Larsen and Marx (2011) could be used as a suggested reading for the teachers.

2. Specific instructions are mentioned against each question, which should be followed while setting the question paper.
3. Appendices and Case problems in each chapter to be avoided in the core text.
4. Numerical Questions involving integration should not be done.

Recommended Readings:

1. Anderson, D. R, Sweeny, D. J, et. al (2017), *Statistics for Business and Economics*, 13th edition, Cengage Learning.

Recommended Readings for teachers:

1. James McClave, P. George Benson, Terry Sincich (2017), *Statistics for Business and Economics*, Pearson Publication.
2. Sheldon Ross (2017), Introductory Statistics, 4th edition, Academic Press.
3. 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 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 a limited number of sub-parts.
- The internal assessment would comprise 12 marks for the class test and 12 marks for the 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).