Department of Economics
University of Delhi, Delhi

Minutes of Meeting

Subject	:	B.A. (H)ECON003
Semester	:	I
Course	:	Introductory Statistics for Economics
Date & Time	:	13-May at 11:30 AM
Venue	:	Department of Economics
Chair	:	Rohini Somanathan and Reetika Garg

The meeting was attended by the following teachers

1	Abhash Kumar	ARSD college
2	Anil Kumar	Ramjas College
3	Ankur Bhatnagar	Satyawati College
4	Rakesh Kumar	Motilal Nehru College
5	Gaganpreet Kaur	SGTB KHALSA COLLEGE
6	Kanika Pathania	Sri Venkateswara College
7	Neha Anand	Satyawati College (Eve)
8	Neha Verma	Kirori Mal College
9	Nishtha sadana	Gargi college
10	Paramjeet Kaur	Sri Guru Gobind Singh College of Commerce
11	Pooja Sharma	Daulat Ram College
12	Poonam Kalra	St. Stephen's College
13	Richika Rana	JDMC
14	Shubhi Singh	Lady Shri Ram College for Women

Course Objectives: The course familiarizes students with methods of summarizing and describing important features of data. The course teaches students the basics of probability theory and sets a necessary foundation for Inferential Statistical Theory and the Econometrics courses. The familiarity with probability theory will also be valuable for courses in economic theory.

Course Learning Outcomes: The student would understand the concept of probability, random variables and their distributions and become familiar with some commonly used discrete and continuous distributions of random variables so that they would be able to analyse various real-life data.

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

- The detailed reading list for the UGCF course to be implemented in the academic session 2024-25.
- The pattern of the semester-end exam.

- How to give a good intuition of the concepts to the students by using some practical concepts.

The issues discussed in the meeting are as follows:

1. It was felt that multiple textbooks with different notation and slightly different definitions are confusing for students. It would be better to focus on a single textbook and use the others as supplementary material for practice with problem-solving. This would also allow more material in the basic textbook to be covered. Accordingly, it was decided to use J. Devore's textbook as the principal text.
2. Detailed Chapter-wise readings are reported in the table given below.
3. Students should be aware of the following topics; however, no questions should be asked in the examinations:
   a) Stem and Leaf Display
   b) Only analytical questions on pictorial representation should be asked in the exams
   c) Relation between Poisson distribution and Exponential Distribution
   d) Double integration for Joint continuous random variables in Ch 5 should be kept simple.
4. The teacher's expressed the difficulty in grading the paper in the required period of time at the end of the semester exams. There were two main causes for this:
   a) Not all teachers were willing to do a reasonable share of the corrections.
   b) Each examination had too many questions and sub-parts, making grading more time-consuming than it need be.

   It was also felt that mistakes in exam papers would be avoided if exam setters sent in a pdf file to the exam branch.

5. **End semester exam**: This would be of 90 marks. The following decisions were taken regarding the choice offered within topics and the weightage given.
   (i) **Unit 1 and 2** would be given a combined weight of 20 marks, **Unit 3** of 20 marks, **Unit 4** of 30 marks and **Unit 5** would be given a weightage of 20 marks.
   (ii) Units 1 and 2, would together have 3 questions, of which students would be required to do 2 questions
   (iii) Units 3 would be compulsory, and would have two questions of 10 marks each.
   (iv) Units 4 would be compulsory, and would have three questions of 10 marks each
   (v) Units 5 would be compulsory, and would have two questions of 10 marks each
   (vi) There would be a limited number of sub-parts per question. No sub-part would be less than 5 marks and if a sub-part had more than 5 marks, the marks would be in multiples of 5.
6. The **internal assessment** would comprise two class tests of 12 marks each. Lecture attendance will carry 6 marks. The **continuous assessment** would comprise of 35 marks tutorial assignment which would involve plotting the distribution in R / Excel and Quizzes / problem solving during tutorials. Tutorial attendance will carry 05 marks.

7. In order to achieve uniformity in evaluation of final answer scripts, it was decided to include the following notes in final question paper:
   (i) All questions within each section are to be answered in a contiguous manner on the answer sheet. Start each question on a new page, and all sub-parts of a question should follow one after the other.
   (ii) All intermediate calculations should be rounded off to 3 decimal places. The values provided in statistical tables should not be rounded off. All final calculations should be rounded off to two decimal places.
   (iii) Simple calculators are allowed.

8. In the question paper, if tables are to be provided, they should be done using Devore.

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

Content (Unit-wise):

Unit 1: Introduction and overview

The distinction between populations and samples and, between population parameters and sample statistics; Pictorial Methods in Descriptive Statistics; Measures of Location and Variability.

Unit 2: Elementary probability theory

Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

Unit 3: Random variables and probability distributions

Defining random variables; discrete and continuous random variables, probability distributions; expected values and functions of random variables.

Unit 4: Special Probability Distributions

Properties of commonly used discrete and continuous distributions (uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables).

Unit 5: Random sampling and jointly distributed random variables

Density and distribution functions for jointly distributed random variables; computing expected values of jointly distributed random variables; conditional distributions and expectations, covariance and correlation.

Unit No.	TOPIC	READINGS FROM CORE TEXTS
1.	**Introduction and Overview**	***Devore: Ch 1***
2.	**Elementary Probability Theory**	***Devore: Ch 2***

3.	**Random Variables and Probability Distributions**	***Devore: Ch 3 (3.1-3.3), Ch 4 (4.1-4.2)***
4.	**Special Probability Distributions** (No questions will be asked on relation between Poisson distribution and Exponential Distribution)	***Devore: Ch 3 (3.4-3.6) and Ch 4 (4.3-4.4) including Bernoulli, Binomial, Geometric Hypergeometric, Poisson, Uniform, Exponential and Normal distribution.***
5.	**Random Sampling and Jointly Distributed Random Variables**	***Devore: Ch 5.1-5.2 (excluding the section on more than two random variables)***

Essential Readings:

1. Devore, J. (2012). Probability and Statistics for Engineers, 8th ed. Cengage Learn-ing.

Supplementary Readings:

2. Hogg, R., Tanis, E., Zimmerman, D. (2021) Probability and Statistical inference, 10th Edition, Pearson India Education Services Pvt. Ltd.
3. Miller, I., Miller, M. (2017). J. Freund's Mathematical Statistics with Applications, 8th ed. Pearson.

Recommended Readings for Teachers:

1. John A. Rice (2007). Mathematical Statistics and Data Analysis, 3rd ed. Thomson Brooks/Cole.
2. Gelman, A., & Nolan, D. (2017). Teaching statistics: A bag of tricks. Oxford University Press.