Department of Economics,
Delhi School of Economics
University of Delhi

Minutes of Meeting

Subject   :   B.A. (H) Economics
Course   :   Introductory Statistics for Economics Econ003
Date   :   8th August, 2023 at 3.00 pm
Venue   :   Department of Economics
Chair   :   Prof Pami Dua/Dr Anish Gupta/ Dr Reetika Garg

The meeting was attended by the following:

S.No.	Name	College
1	Prof. Pami Dua	DSE
2	Anish Gupta	DSE
3	Deepika Goel	Aryabhatta College
4	Shikha Singh	Daulat Ram College
5	Dr. Anshika Sagar	Hindu College
6	Poonam Kalra	St. Stephen's College
7	Abhash Kumar	ARSD College
8	Neha Verma	Kirori Mal College
9	Ankur Bhatnagar	Satyawati College
10	Kanika Goyal	College of Vocational Studies
11	Madhuri Singh	Kalindi College
12	Jagadish Konthoujam	Shri Ram College of Commerce
13	Mamta Lamba	College of Vocational Studies
14	Gunjan Khandelwal	Shyam Lal College
15	Abhinav Parashar	Sri Aurobindo College (Evening)
16	Pooja Sharma	Daulat Ram College
17	Reshmi Ganguly	Lady Shri Ram College for Women
18	Shubhi Singh	Lady Shri Ram College for Women
19	Taramati	Zakir Husain Delhi college evening
20	Dr. Amrat Lal Meena	Motilal Nehru College
21	Shruti Goyal	Shivaji College

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 2023-24.
➢ 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. Teachers suggested that some portions of Devore and Hogg, Tanis and Zimmerman seem overlapping which could be avoided while doing one to one mapping of the syllabus with the suggested readings.
2. Chapter-wise exclusions are reported in the table given below for detailed readings.
3. Moment Generating Function (MGF)treatment of distributions is excluded.
4. 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.
5. The following weightage of each unit was agreed upon:

   Unit 1: 10 marks
   Unit 2: 10 marks
   Unit 3: 20 marks
   Unit 4: 30 marks
   Unit 5: 20 marks

6. The following pattern of the question paper was decided
   The question paper would consist of 2 parts.
   Part A: This would contain 4 questions from Unit 1, 2 and 3
   — First question would be from Unit 1 worth 10 marks and would be compulsory.
   — The students will have to then attempt 2 out of 3 questions from Unit 2 and Unit 3.

— Question 2, 3 and 4 will have one part of 5 marks from Unit 2 and one part of 10 marks from Unit 3.

Part B: This would contain 3 questions from Unit 4 and 5

— The students will have to attempt 2 out of 3 questions from Unit 4 and Unit 5.

— Question 5, 6 and 7 will have two parts of 5 and 10 marks each from Unit 4 and one part of 10 marks from Unit 5.

7. In order to achieve uniformity in evaluation of final answer scripts, it was decided to include the following note in final question paper:

   a) 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.

   b) 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.

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

9. The continuous assessment would comprise of 35 marks tutorial assignment/Any other work related to application of conceptual understanding of the subject. Tutorial attendance will carry 05 marks.

10. The internal assessment would comprise of 12 marks Class test, 12 marks Class test/assignment. Attendance will carry 06 marks.

11. In order to finalise detailed reading list, the following sub-committee was constituted:

    1 Deepika Goel, Aryabhatta College
    2 Neha Verma, Kirori Mal College
    3 Poonam Kalra, St. Stephen's College
    4 Kanika Goyal, College of Vocational Studies

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* *Hogg, Tanis and Zimmerman: Ch 1(1.5)*
3.	**Random Variables and Probability Distributions**	*Devore: Ch 3 (3.1-3.3), Ch 4 (4.1-4.2)* *Hogg, Tanis and Zimmerman: Ch 2 (2.1-2.2, 2.3 till pp 58 or ex 2.3-6) (Moment Generating function is not to be covered)*
4.	**Special Probability Distributions** (No questions will be asked on relation between Poisson distribution and Exponential Distribution)	*Devore: Ch 3 (3.4-3.6) except negative binomial distribution, Ch 4 (4.3-4.4) except gamma distribution* *Hogg, Tanis and Zimmerman: Ch 2 (2.5) (MGF treatment of distributions is not included)*
5.	**Random Sampling and Jointly Distributed Random Variables**	*Devore: Ch 5.1-5.2 (excluding the section on more than two random variables)* *Hogg, Tanis and Zimmerman: Ch 4 (4.1-4.4) (In section 4.2, discussion on least squares regression line to be excluded)* *Double integration can be kept simple)*

Essential Readings:

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