

**UNIVERSITY OF DELHI**  
**DELHI SCHOOL OF ECONOMICS**  
**DEPARTMENT OF ECONOMICS**

**Minutes of Meeting**

**Subject: B.A. (Hons) Economics, Third Semester (CBCS)**

**Course: Data Analysis (HS31)**

**Skill-Enhancement Elective Courses (SEC) - Credit: 4**

**Date: 10th August, 2020**

**Venue: Online**

**Convener: Prof. Surender Kumar**

**Attended by:**

<b>S. No.</b>	<b>Name of Teacher</b>	<b>College</b>
1	Dr Appala Naidu	ARSD
2	Deepika Goel	Aryabhatta College
3	Divya Seth	Sri Guru Gobind Singh College of Commerce
4	Dr. Hena Oak	Miranda
5	Dushyant Tyagi	Zakir Hussain €
6	Anjali Bansal	Kalindi
7	Akanksha Aggarwal	JMC
8	Amit Jha	Sri Venkateswara College
9	Anshika Sagar	Hindu College
10	Ashok Kumar	Daulat Ram College
11	Deepika Kandpal	PGDAV (M)
12	Divya Singh	St Stephen's
13	Dr Kalpana Negi	Shyama Prasad Mukhrajee College
14	Dr. Renu Kumari	
15	Dr. Rupali Sharma	SGTB Khalsa College
16	Gaurav Bhattacharya	Gargi College
17	Gunjan Tuteja	Gargi College
18	Har Simrat Kaur	Lady Sri Ram College for Women
19	Indranil Chaudhary	PGDAV
20	Isha g	Lakshmibai College
21	Iti Tomar	SPM
22	Jasleen Kaur	Mata Sundri College for Women
23	N.M.Singh	Aryabhatta College

24	Niti Bhutani	Hindu College
25	Nupur Kataria	Maitreyi College
26	Pankaj Khandelwal	JDMC
27	Poonam Kalra	St Stephen's
28	Prabhjot Kaur	IP College
29	Priyanka Arora	SBSC
30	Rakesh Kumar	Dyal Singh (M)
31	Saumya Verma	LSR
32	Shweta Nanda	ARSD
33	Sonam	Hansraj College
34	Swati Yadav	Bhagini Nivedita
35	Sushmitha	SRCC
36	Swati Saini	Dyal Singh College
37	Apoorva Gupta	Ramjas College
38	Manisha Jayant	SPM
39	Lavanya	JMC
40	Suresh Kumar	Kalindi
41	Henna Sikka	DCAC
42	Divya Seth	SGGSCC

### **Course Objective**

This is a skill enhancement course for data analysis. The students will be given hands on training on using statistical and computing software to better visualize and understand data concepts. The course is designed to be delivered through 2 classroom lectures and 4 computer lab classes per week.

### **Course Learning Outcomes**

The course will use data simulations and publicly available data sources to help students learn about data types, their organization and visual representation. They will learn how to compute summary statistics and do some basic statistical inference.

### **Unit 1**

Introduction to the course: How can the representation and analysis of data help us study real world problems. Publicly available data sets.

- Levine *et. al* pgs 25-35, Chapter 1 Sections 1.1-1.3
- Devore, Chapter 1, pgs 32-33 (trimmed mean)
- Data base of Indian Economy, RBI ([www.dbie.rbi.org.in](http://www.dbie.rbi.org.in)), world bank data set
- On data and its representation and a large data set

[https://www.ted.com/talks/hans\\_rosling\\_the\\_best\\_stats\\_you\\_ve\\_ever\\_seen](https://www.ted.com/talks/hans_rosling_the_best_stats_you_ve_ever_seen) (Gapminder.org)

### **Unit 2**

Using Data: Available statistical software, steps in data storage, organisation and cleaning  
Levine *et. al*. Chapter 1, Section 1.4 onwards; Chapter 2, Sections 2.1-2.2

Gardener Chapter 1(pg1-24), ch 2(till pg52)

### Unit 3

Visualisation and Representation: Alternative forms of presenting summarising and presenting data.

Levine *et. al.* Chapter2, Section 2.3 onwards; Chapter3.

Tattar *et. al.* Chapter 2(pg 15-18,41-46)

### Unit 4

Simple estimation techniques and tests for statistical inference

Levine *et. al.* Chapter7; Chapter8, Sections 8.1-8.4 and pg 292-293; Chapter9;

Chapter10, Sections 10.1,10.4, Pg361- Summary onwards, Relevant parts of Excel guide

### References

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

2. P. Tattar, S. Ramaiah, B. Manjunath: A Course in Statistics with R, Wiley (2018)

3. Mark Gardener: Beginning R The Statistical Programming Language, Wiley (2012)

4. Jay L. Devore: Probability and Statistics for Engineering and the Sciences, 8th edition, Cengage Learning (2012)

### Reference for Teachers

1. Hadley Wickham & Garrett Golemund: R for Data Science, (2017). It's a freely available online book.

### MINUTES OF THE MEETING (10<sup>th</sup> August, 2020)

1. Rstudio should also be downloaded for the treatment of data through the following link <https://rstudio.com/>, and for this book by Wickham will be helpful <https://rstudio.com/resources/books/>
2. This course has been assigned 2 lectures and 4 practicals.
3. The college should provide 4 lab hours per week to conduct these practicals.
4. Internal Assessment will be worth 25 marks of which 5 marks will be for attendance and 20 marks for a hands-on project for the project the students are expected to use secondary sources of data available in public domain (eg. Indian economy data, World Bank data etc.) and analyse it using **at least** one of the software taught (Excel and R) preferably both(though for different parts of the project).

5. The University end of semester exam will be worth 75 marks which will be conducted in the lab. It will be a combination of theory and practical questions with greater weightage to the latter.

Given the uncertainty around starting offline classes, any online exam should also involve a practical component where data is provided to students to work on.

6. The same reading list can be indicative for GE(31): General Elective, Credit:6