

**St. Xavier's College (Autonomous), Ahmedabad**  
**Syllabus of Semester – III of the following departments under Faculty of Science**  
**based on Under Graduate Curriculum Framework – 2023 (NEP)**  
**to be implemented from the Academic Year 2023-24.**

**FACULTY OF SCIENCE**

**DEPARTMENT OF STATISTICS**

Course	Title	Content	Hours/Week	Credit
SEC	Statistical analysis using JAMOVİ software	U-1: Introduction to Jamovi U-2: Descriptive data analysis U-3: Presentation of Data	4 hrs	2

**SKILL ENHANCEMENT COURSE**

**Statistical analysis using JAMOVİ software**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course Title & Code	Credit Distribution of The Course (Total - 02 Credit)			Prerequisite(s) of the Course (if any)
	Lecture	Practical	Experiential lab	
Statistical analysis using JAMOVİ software	0	4	0	Basic Mathematics, Observation & Analytical Skills

**Course Outcomes:**

- CO-1 Gain familiarity with statistical concepts and techniques commonly used in data analysis.
- CO-2 Learn how to import data from various sources into Jamovi, such as spreadsheets or statistical software formats.
- CO-3 Understand how to manipulate data within Jamovi, including sorting, filtering, and recoding variables.
- CO-4 Learn to calculate and interpret descriptive statistics, such as mean, median, standard deviation, and frequencies.
- CO-5 Gain proficiency in creating visualizations, including histograms, scatter plots, bar charts, and box plots, to explore and present data effectively.

**Learning Outcomes:** After completion of this course, the students will be able to

- (1) Efficiently navigate the Jamovi user interface, accessing various tools and features for data analysis.
- (2) Calculate and interpret descriptive statistics to summarize and understand the characteristics of datasets.

- (3) Generate a variety of visualizations, including histograms, scatter plots, bar charts, and box plots, to explore data and communicate findings effectively.

**Unit-I: Introduction to Jamovi** (12Hrs)

- Introduction and Features of Jamovi
- Navigating and Understanding User interface (UI)
- Types of Data, Measurements of Scale
- Entering data, Importing data, Wrangling data
- Computing means, Computing z-scores
- Transforming variables
- Computing variables
- Filtering cases

**Unit-II: Descriptive data analysis** (18Hrs)

- Measures of central tendency
- Measures of Dispersion
- Exporting tables and plots
- Frequency distribution
- Normality test
- Categorical data analysis
- Tabulation, Frequency tables, Contingency tables
- Descriptive summary

**Unit-III: Presentation of Data** (10Hrs)

- Simple Bar diagram
- Multiple bar diagram
- Sub-divided Bar diagram
- Line chart
- Pie Diagram
- Histogram
- Scatter diagram
- Box plot
- Violin chart

**References:**

1. "Discovering Statistics Using Jamovi" by Andy Field, Jeremy Miles, and Zoë Field.
2. "Statistics with Jamovi for Dummies" by Greg Fox and Michael Mitchell.
3. "Introduction to Statistics: A Hands-on Approach with Jamovi" by Robert V. Hogg, Elliot A. Tanis, and Dale Zimmerman.

**Pedagogy:**

1. The course is taught using computer to solving problem through examples and exercises.
2. Students are encouraged to use resources available on open sources.