St Aloysius College (Autonomous), Mangaluru - 575003

Re-accredited by NAAC with 'A' Grade with CGPA 3.62/4

Ranked 95 in College Category - 2021 under NIRF, MoE, Government of India

Recognised as Centre for Research Capacity Building under UGC-STRIDE Scheme

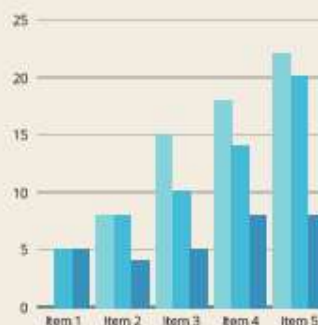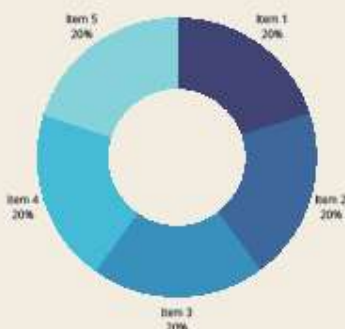Recognised under the DBT - BUILDER Scheme, Government of India

College with "STAR STATUS" conferred by DBT, Government of India

Recognised by UGC as "College with Potential for Excellence"

DEPARTMENT OF STATISTICS

Offers a certificate course
on

An Introduction to Python

Course duration: 30 Hours
Course Fee: Rs 500/-
Eligibility: Anyone who is interested in Statistical Analysis.
Commences on : 28th May, 2022
Contact: 9880754538, Email Id:statisticsdept@staloysius.edu.in
Last date to register is 27th May, 2022

Register here

Dr Aruna Kalkur T
HOD, Department of Statistics

Ms Sonal Caren D'Souza
Coordinator

Rev. Dr Praveen Martis SJ
Principal

ST ALOYSIUS COLLEGE (AUTONOMOUS), MANGALURU - 575003
DEPARTMENT OF STATISTICS-(2022-2023)

Sl. No	Particulars	Details

1.	Title of the Course	An Introduction to Python
2.	Objectives	❖ To demonstrate Python installation and setup Python. ❖ To explore Python versus other programming languages. ❖ To understand the basic concepts in Python: Variables, Assigning values, Lines, Strings, Basic Operators, Functions etc. ❖ To explore the tools likes Lists, Tuples and Dictionaries. ❖ To execute Python scripts, display and get the input. ❖ To analyse the data using descriptive statistics and statistical tools. ❖ To visualize the data using Python with different types of graph and charts.
3.	Learning Outcomes	At the end of this course, the learners will be able to: ❖ create new variables, functions, strings and so on. ❖ use various built in functions in Python. ❖ create and edit visualizations using Python. ❖ interpret charts and graphs using Python. ❖ be able to carry out the statistical analysis using Python.
4.	Course Duration: Practical session / assignments / Tests	Theory session : 10 hours Practical session: 15 hours Assignment: 5 hours **Total : 30 hours**

5.	Course content (Unitized)	**Unit I:**
		Introduction to Python: Introduction to Python dictionary, Various comments involved in Python, Use of multi-line statements, Quotations in Python, Multiple Assignments.
		Python Operators: Arithmetic operators, Comparison operators, Assignment operators, String Special operators, String formatting operators.
		Unit II:
		Built-in Data Types:
		Variable names, Numeric Data Types- Floating point, Complex, Integers; Boolean data types, Strings, Lists, Tuples, Arrays & Matrices – One Dimensional & Two-Dimensional Arrays, accessing elements of an array, rounding of arrays- round, floor, ceil; Concatenation.
		Data Type Conversion:
		Defining a function, Calling a function, Scope of variables, Global v/s Local variables.
		Unit III:
		Python for Econometrics, Statistics & Data Analysis: Background, Conventions, Components of Python Scientific Stack- Python, NumPy, SciPy, matplotlib & seaborn, pandas, statsmodels, jupyter notebook.
		Descriptive Statistics:
		Mean, Median, Variance, Covariance, Correlation, Linear Regression.
		Data Visualization in Python:
		Scatter Pot, Line Chart, Simple Bar Plot, Multiple Bar Plot, Component Bar Plot, Percentage Bar Plot, Pie Chart, Box Plot, Histogram.