



SAFA | COLLEGE OF ARTS AND SCIENCE

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PG DEPARTMENT OF ECONOMICS

CERTIFICATE COURSE CODE	: SFAEC009
CERTIFICATE COURSE NAME	: Computational Economics and Data Analytics
DATE	: 18-07-2023 to 14-11-2023
COURSE TEACHER	: Lakshmi Devi R
DESCRIPTION	: This course provides students with an understanding of advanced tools used for analysis of economic data and evaluates any activities related to the sectors of economy, finance, and business.

Objectives:

1. **Introduction to Computational Economics:** Provide participants with an understanding of the role of computational methods in economics, including their application in modelling economic phenomena and analyzing economic data.
2. **Foundations of Data Analytics:** Introduce participants to the fundamentals of data analytics, including data collection, cleaning, analysis, and interpretation, with a focus on applications in economics.
3. **Statistical Methods for Economics:** Teach participants statistical techniques commonly used in economics, including regression analysis, hypothesis testing, and time series analysis, to analyze economic data and test economic theories.
4. **Policy Analysis and Decision Making:** Enable participants to use computational and data analytics tools to analyze economic policy issues, evaluate policy interventions, and support evidence-based decision making in economic and public policy domains.
5. **Practical Applications and Case Studies:** Provide hands-on experience through practical exercises, projects, and case studies applying computational economics and data analytics techniques to real-world economic problems and datasets.

Outcomes:

1. **Proficiency in Data Analytics:** Participants will develop proficiency in collecting, cleaning, analyzing, and interpreting economic data using statistical and computational methods.
2. **Economic Modelling Skills:** Participants will be able to construct and analyze economic models using computational techniques, allowing them to simulate economic scenarios and study their implications.
3. **Policy Analysis Expertise:** Participants will acquire the skills to conduct policy analysis using computational and data analytics tools, helping them evaluate the impact of policies and inform decision making.

4. **Critical Thinking and Problem-Solving:** Participants will develop critical thinking and problem-solving skills to tackle complex economic issues and devise data-driven solutions.
5. **Sustainability Practices:** Participants will incorporate energy-efficient and sustainable design practices into LED light product development, contributing to environmental conservation and resource efficiency

SYLLABUS

MODULE 1

Introduction to Data Analytics.

Importance of data analytics, Types of data analytics, statistical methods for data analysis.

MODULE 2

Introduction to document software.

Basics of MS Word, MS Excel and Power point.

MODULE 3

Data analysis by using MS Excel

Navigation, data entry and use of formulas.

MODULE 4

Analysis of data in spreadsheets

Filtering, sorting, look-up functions and pivot tables.

References:

- Data Analytics: Principles, Tools, and Practices- Dr. Gaurav Arora, Chithra Lele, Dr. Munish Jindal.
- Microsoft Office 365-Matt Vic
- Data Analysis with Excel-Manisha Nigam