SCLI

Sambodhi
Capacity
and Learning
Institute

ADVANCED CERTIFICATE PROGRAMME

Data and Public Policy
Analytics

About the course

In an era marked by a growing imperative for evidence-based decision-making within an increasingly complex and data-rich world, professionals in relevant fields are compelled to possess advanced analytical skills. The exponential growth of available data necessitates the ability to extract meaningful insights crucial for effective policy design and evaluation.

The **Advanced Certificate Programme (ACP) - Data and Public Policy Analytics** plays a pivotal role in bridging the gap between traditional policymaking and the evolving landscape of data analytics, providing professionals with the essential tools to navigate intricate datasets. It empowers them to apply sophisticated statistical models and employ machine learning techniques to unpack public policies. By augmenting their analytical capabilities, this program enables professionals to make more informed, data-driven decisions, fostering the development of efficient and impactful public policies that effectively address contemporary challenges.

The course is structured into **six comprehensive modules**, each addressing a key facet of the data and public policy domain. During the course, participants will gain an in-depth understanding of foundational concepts, statistical methodologies, advanced modeling techniques, and cutting-edge machine learning applications, all tailored to the specific challenges and complexities of public policy.

The course offers a holistic and hands-on approach, ensuring that participants not only grasp the theoretical underpinnings of data analytics but also develop practical skills to navigate the complex landscape of public policy. Graduates of this program will emerge with the expertise to contribute significantly to evidence-based policymaking and effective communication of data-driven insights

Course highlights

1 **Practitioners' lens**

Developed and facilitated by industry experts and seasoned practitioners.

2 **Multi-sectoral perspectives**

Uses frameworks, case studies, real-world examples, and data sets from different sectors.

3 **Weekend learning for working professionals**

Tailored for mid-to-senior level policy professionals with weekend classes.

Duration

The total course duration is 48 weeks. There are 6 modules, and the duration of each module is 8 weeks. Every module consists of instructor led sessions with core readings and assignments. Online sessions will be conducted during the weekends.

Cohort begins

June 15, 2024 to May 17, 2025

Level of effort

To ensure successful completion of online sessions, readings, and assessments, it is suggested that participants allocate **approximately 7.5 hours per week**. This includes 2.5 hours of instructor led online sessions and around 5 hours of self-study and assignments. It's important to keep in mind that every participant has their own pace of learning, so this estimate serves as a general guideline to help with time management.

Language

English

Minimum entry requirements

Graduate or post-graduate degree in social science, economics, public policy, development economics etc. with minimum 60% marks. There is no formal requirement for previous professional work experience.

Learning objectives

Upon completion of the ACP - Data and Public Policy Analytics, the participants will:

01 Gain a well-rounded skill set that combines technical proficiency in data analytics with a deep understanding of public policy contexts.

02 Master and apply advanced statistical and analytic methods relevant for addressing policy challenges.

03 Be able to contribute meaningfully to evidence-based policymaking.

04 Enhance their ability to communicate analytical policy insights to a broad range of stakeholders.

Core modules

The ACP - Data and Public Policy Analytics equips participants with training in data analytics paired with hands-on policy research. The programme includes six interrelated modules comprehensively covering aspects of data and public policy analytics.

Data fundamentals

This foundational module immerses participants in the essentials of data, covering tabular and graphical representation, descriptive statistics, and probability theory. Participants will gain hands-on experience in managing data using Database Management Systems (DBMS) and working with public datasets. The module ensures a solid grounding in the fundamental principles that underpin subsequent analytics.

This module focuses on statistical methods relevant to public policy analysis. Moving beyond the basics, this module explores both descriptive and inferential statistics, providing a deeper understanding of univariate and bivariate analyses. Participants will learn to apply statistical methods to draw meaningful insights from data, laying the groundwork for evidence-based policy decision-making.

Statistics for public policy

Advanced Statistical Modeling for Public Policy

Building on statistical foundations, this module introduces participants to multivariate analyses, including regression models (multivariate and logistic), Principal Component Analysis (PCA), and Time Series analysis. Participants will gain proficiency in leveraging advanced statistical techniques to unravel complex relationships within policy datasets.

Delving into the realm of program evaluation, this module equips participants with causal inference methodologies such as Randomized Control Trials (RCT), Difference-in-Differences (DID), Regression Discontinuity (RD), Instrumental Variables (IV), and Interrupted Time Series (ITS). Participants will learn to assess the impact of policy interventions with a focus on establishing causal relationships.

Causal Inference

Machine Learning and public policy

This module introduces participants to machine learning techniques, including Classification and Regression Trees (CART). Participants will explore the application of machine learning algorithms to public policy scenarios, fostering an understanding of how predictive modeling can enhance decision-making.

The final module focuses on translating analytical findings into compelling narratives for policymakers. Participants will learn data visualization techniques using tools such as Tableau and Power BI. Additionally, the module covers the art of crafting effective policy briefs, memos, and op-eds, ensuring that insights are communicated persuasively to diverse audiences.

Data storytelling and policy communications

Assessments

Each module will consist of formative assessments such as case studies, problem sets, quizzes, response papers etc. There will be a summative assessment towards the end of the course in which the participants will work on a real-case policy scenario.

Who this course is for

Developed and taught by industry experts and policy researchers, the course is designed for individuals who are passionate about applying quantitative and data analytics to unpack public policy implementation and evaluation.

Course fee

INR 1,65,000+18% GST (USD 2400)

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