Experimental Econometrics: Design and Analysis Training Course

Professional Development Training Course Outline

Category	Research and Data Analysis	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In the era of data-driven decision-making, *Experimental Econometrics* stands at the forefront of modern economic research, bridging theory with empirical evidence. Experimental Econometrics in Design and Analysis Training Course equips participants with essential tools to design robust economic experiments, apply advanced econometric techniques, and interpret complex datasets for real-world policy analysis. Through a dynamic learning environment, participants will explore causal inference, randomized control trials (RCTs), and quasi-experimental designs while enhancing their statistical programming skills in Stata, R, and Python.

With a strong emphasis on practical application and data science integration, this course is tailored to meet the rising demand for economists, data analysts, researchers, and policy advisors who can execute and analyze experimental research. By the end of the course, participants will be well-versed in designing experiments, validating assumptions, and implementing rigorous econometric strategies using real-world case studies from development economics, public policy, and behavioral finance.

Programme Curriculum

Experimental Econometric in Design and Analysis Training Course

Introduction

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Course Objectives

1. Understand the core principles of experimental design in economics.
2. Master causal inference methods including RCTs and natural experiments.
3. Gain proficiency in econometric software tools (Stata, R, Python).
4. Apply difference-in-differences, IV, and panel data models.
5. Explore randomized control trial design and impact evaluations.
6. Conduct and interpret field and lab experiments.
7. Implement regression discontinuity design (RDD) and matching methods.
8. Learn to mitigate selection bias and endogeneity.
9. Apply experimental methods to policy evaluation and development economics.
10. Analyze behavioral economics experiments with econometric rigor.
11. Develop actionable insights from experimental data analysis.
12. Produce and present academic-quality reports based on experimental findings.
13. Build practical skills for conducting evidence-based research in economics.

Target Audience

1. Economics researchers and data analysts
2. Policy evaluators and development practitioners
3. University students in economics or statistics
4. Monitoring and Evaluation (M&E) officers
5. Government economists and policy makers
6. NGO and international organization staff
7. Data scientists focusing on social impact
8. Academic professionals and PhD candidates

Course Duration: 5 days

Course Modules

Module 1: Foundations of Experimental Econometrics

- Overview of experimental vs observational research
- Importance of causal inference
- Types of economic experiments
- Introduction to hypothesis testing
- Ethical considerations in experimentation
- **Case Study**: Behavioral experiment in consumer choice

Module 2: Designing Randomized Controlled Trials (RCTs)

- Principles of randomization
- Sample size and power calculation
- Implementing treatment and control groups
- Compliance and attrition analysis
- Threats to internal and external validity
- **Case Study**: RCT on microcredit impact in rural communities

Module 3: Field Experiments and Lab Experiments

- Differences and trade-offs
- Recruiting subjects and field protocols
- Strategy-proof designs
- Measuring behavior and incentives
- Blinding and placebo design
- **Case Study**: Incentive-based learning in education settings

Module 4: Instrumental Variables (IV) and Endogeneity

- Concept and need for IV
- Identifying valid instruments
- Two-stage least squares (2SLS) estimation
- Weak instrument problem
- Applications in policy research
- **Case Study**: Education and earnings using quarter of birth as IV

Module 5: Difference-in-Differences (DiD) and Panel Data

- DiD assumptions and identification
- Fixed and random effects
- Time-varying treatment effects
- Event studies
- Robust standard errors
- **Case Study**: Minimum wage policy and employment outcomes

Module 6: Regression Discontinuity Design (RDD)

- Sharp vs fuzzy RDD
- Running variable and bandwidth selection
- Local linear regression
- Validating the design assumptions
- Visual interpretation of discontinuity
- **Case Study**: College grant eligibility and academic success

Module 7: Matching Techniques and Quasi-Experiments

- Propensity score matching (PSM)
- Nearest neighbor and kernel matching
- Covariate balancing
- Sensitivity analysis
- Synthetic control methods
- **Case Study**: Impact of health insurance expansion

Module 8: Data Analysis and Reporting

- Cleaning and preparing experimental data
- Interpreting regression output
- Visualizing experimental results
- Writing data-driven research reports
- Presenting findings to stakeholders
- **Case Study**: Reporting RCT results for policy adoption

Training Methodology

- Hands-on coding sessions in Stata, R, and Python

- Real-world datasets and replication exercises
- Group discussions and peer reviews
- Daily quizzes and problem-solving labs
- Case-based learning from published experimental studies
- Capstone mini-project applying full experimental cycle

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com