



# Faculty Development Program by **IIM Ranchi** 2020-21



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## **Indian Institute of Management Ranchi**

The ninth Indian Institute of Management was established at Ranchi in 2009. This was made possible with the extensive support of the Indian Institute of Management Calcutta and the Government of Jharkhand, working under the guidance of Ministry of HRD, Government of India.

IIM Ranchi currently offers a two year MBA in General management, which is our flagship program and a two year MBA program in Human Resources Management (MBA-HRM). We also offer PhD in Management and executive PhD in Management for working professionals.

Thus IIM Ranchi prides itself in its carefully designed curriculum, a value-oriented approach and a holistically nurturing environment. Our programs are aimed at grooming students to enable them to face challenges of the real world; to make them efficient leaders who are grounded and humble; to instil in them the quest for excellence and not just for achievement. Having said that, with a pool of immensely talented students, guided by the most competent and capable faculty, we are truly an institute with a difference.

### **About the FDPs**

**IIM, Ranchi has been providing working executives, both at senior as well as junior levels, opportunity to update their knowledge and competencies with the latest business practices and tools. The programs are designed on wide ranging of topics so as to create value for the participants from diverse backgrounds.**

**Our FDPs are intended to enhance the skills of the faculties. The themes cover areas related to Marketing, Finance, International Business, HR, Strategy, Operations, Quality and Ethics. These are conducted by experienced resource persons drawn from the both academia and industry. The pedagogy followed is mostly interactive in the form of role plays, group activities, case discussions, presentations and video clips**

**Certificate of Participation** shall be provided to all the participants



## Proposed FDPs During 2020-21

SL.No	Program Title	Area	Program Director	Days	Proposed Dates	Fees( Per Candidate)
1	Econometrics For Financial Research	Finance	Prof.Sayantan Kundu	4	November 25 to 28,2020	Rs 29400(Non Residential-In Campus) Rs 23000(Online)
2	Experimental Design Methodology Workshop.	Finance	Prof.Divya Agarwal	2	December 21 to 22,2020	Rs 16200(Non Residential-In campus) Rs 13000(Online)
3	Revenue Management and Dynamic Pricing	Operations Management	Prof Amit Sachan	3	January 29 to 31,2021	Rs 22800(Non Residential-In campus) Rs 18000(Online)
4	Data Analytics with Python	Operations Management	Prof. Nitin Singh	2	November 7 to 8,2020	Rs 16200(Non Residential-In campus) Rs 13000(Online)
5	Learning R Programming Language and Multivariate Data Analysis	Operations Management	Prof.Sasadhar Bera	2	January 16 to 17, 2021	Rs 16200(Non Residential-In campus) Rs 13000(Online)
6	Workshop on Participant Centred Learning	Strategic Management	Prof Swarup Kumar Dutta &Prof.Rohit Kumar	2	February 19 to 20,2021	Rs 16200(Non Residential-In campus) Rs 13000(Online)
7	Teaching Entrepreneurship and Innovation	Strategic Management	Prof.Rohit Kumar	3	December 03 to 05,2020	Rs 22800(Non Residential-In campus) Rs 18000(Online)
8	Experimental Design: Concepts and Applications	Marketing	Prof.Mayank Jyotsna Soni & Prof Subhro Sarkar	3	November-2020	Rs 22800(Non Residential-In campus) Rs 18000(Online)

# Econometrics for Financial Research

## Introduction

Any research in financial domain mandates testing of hypotheses based on real data, mostly obtained through primary or secondary sources. Availability of higher frequency data enabled researchers to test new theories that calls for complicated statistical methods.

With the advent of powerful computing, empirical research in the field of finance has come to the forefront, not only as a means of testing existing theories, but also financial data is increasingly being used to empirically find factors of asset returns and volatility. Financial data is typical and have stylized properties. Over the past few decades, statistical methods of time series analysis have evolved and financial time series analysis has attracted substantial attention in recent years, especially with the 2003 Nobel awards to Professors Robert Engle and Clive Granger. This is still a developing field and new models are coming to fore through research. Any research in the field of Finance and Economics will need knowledge of techniques learnt in this course.

This faculty development program will consist of 24 hours of lectures as well as hands on exercises to elucidate the concepts and techniques of financial econometrics. It will be conducted through 16 sessions of one and half hours each, spread across 4 days,

## Objectives of the Program

The primary focus in this course will be to acquaint students with the growing field of financial econometrics and its applications in asset pricing, modelling financial returns, stochastic volatility and to the broad area of empirical study in finance.

Participants will learn time series ARMA and ARIMA models, Volatility models like GARCH and variants of it, Vector Autoregressive Models and analysis of Panel data.

The objective of this course is to prepare students to be in a position to

1. Understand the stylized facts of financial data
2. Understand how empirical research is done in academic or practice settings
3. Understand the methodologies of Time Series Analysis and Stochastic Volatility modelling
4. Conduct independent empirical research based on time series and panel financial data
5. Apply concepts in decision making in academic or corporate research



### Indicative Content of the Program

The program will follow the following day wise schedule. Each session will be of 90 minutes.

The pedagogy will be mixture of class lectures, software-based illustration of data and methods and hand on exercises for each topic.

Day	Session	Session Title	Topics Covered
1	1	Review of Basic Econometrics	Ordinary Least Squares, Assumptions, coefficient estimation, interpretation of regression results, forecasting.
	2	Dummy and interaction variables	Capturing different of intercept and slope across categories. Hand on exercise.
	3	Stylized facts of Financial Data	Stylized facts of financial data, insignificant mean, auto correlation, volatility clustering, log normality
	4	Introduction to Time series data	Introduction to time series data, concept of autocorrelation and partial correlation and stationarity. Trends and seasonality in classical way, test of stationarity (ADF Test)
2	5	From stationarity to modelling	Hands on exercise on Autocorrelation, partial correlation and test of Stationarity
	6	Univariate Time series modelling	Autoregressive models, characteristics of roots and stability of the AR Models. Moving average models, Hands on exercise
	7	Univariate Time series modelling	ARMA and ARIMA models. Hands on exercise
	8	Modelling long term relationship: Cointegration & Structural break	Differentiated vs. Integrated series, cointegration. Tests for cointegration. Test for structural break.
3	9	More on Cointegration & Structural break	Hands on Session on cointegration and structural break
	10	Multivariate Time series modelling	Vector Auto Regressive (VAR) Models, VAR with Error Correction (VECM), Causality
	11	Multivariate Time series modelling	Hand on session on VAR, VECM and Causality
	12	Volatility models: Conditional Heteroskedastic models	Volatility models, Conditional heteroskedastic models, ARCH effect, volatility clustering, conditional volatility, ARCH, GARCH, TGARCH and EGARCH models.
4	13	Volatility models: Conditional Heteroskedastic models	Hands on session on conditional volatility models, application to find Value at Risk
	14	Panel data for Finance	Introduction to panel data, usefulness, techniques,
	15	Panel data for Finance	Fixed effects, random effects, their usefulness, tests and specifications.
	16	Panel data for Finance	Hands on session on Panel Data estimation

**Program Director: Prof.Sayantana Kundu**

**Fees Per Candidate:Rs 29400(Non Residential-In Campus),Rs 23000(Online)**

**Proposed Dates:November 25 to 28,2020**

# Experimental Design Methodology Workshop

## Introduction

This workshop is designed to give insights into the world of experimental design methodology. The workshop is designed to be interactive and is filled with activities and presentations, instead of a monologue by me!! Hence, it is advisable that the assigned readings in each session are read before the workshop. The readings are not heavy and the purpose of the readings is to focus on the experimental design, not on the research gap.

## General Guidelines

Kindly read all the readings assigned for the sessions and come prepared to raise questions among each other. If you are assigned to be a discussion leader for a particular reading, you have the added responsibility to provide a 5-minute verbal overview of the reading (you don't have to repeat the contents...just the research question, the finding, the methodology, what you liked about the methodology and any critique you want to make. End with a few questions to start the discussion).

## Schedule

### Day 1

#### 10am-11:30 am Session 1: Introductions to experimental Design

Borghans, L., Heckman, J. J., Golsteyn, B. H., & Meijers, H. (2009). Gender differences in risk aversion and ambiguity aversion. *Journal of the European Economic Association*, 7(2-3), 649-658. (Session Reading for all participants)

11:30am-1:00 pm

#### Session 2: Types of experimental Design

2:00pm-3:30 pm

#### Session 3: Analyzing experimental Data

3:30pm-5:00 pm

#### Session 4: Field Experiments

Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of management journal*, 45(4), 735-744. (To be presented, using PPT, by a Volunteer Participant – 15 min, max 7 slides)

### Day 2

2:00pm-3:30 pm

#### Session 5: Experimental Economics

Holt, C. A., & Laury, S. K. (2002). Risk aversion and incentive effects. *American economic review*, 92(5), 1644-1655. (Session Reading for all participants)

Chan, C., & Mogilner, C. (2017). Experiential gifts foster stronger social relationships than material gifts. *Journal of Consumer research*, 43(6), 913-931. (Session Reading for all participants)

Hsee, C. K., & Rottenstreich, Y. (2004). Music, pandas, and muggers: on the affective psychology of value. *Journal of Experimental Psychology: General*, 133(1), 23. (To be presented, using PPT, by a Volunteer Participant – 15 min, max 7 slides)

3:30pm-5:00 pm

#### Session 6: Lets create your experiment

Each participant will be given 15 minutes to present their research idea and a basic experimental design on it. You are expected to specify the type of design, analysis methods and potential limitations in your experimental design. Use a short PPT of not more than 7 slides. The PPT should be emailed to workshop facilitator before xx.

**Program Director: Prof. Divya Agarwal**

**Fees Per Candidate: Rs 16200(Non Residential-In Campus), Rs 13000(Online)**

**Proposed Dates: December 21 to 22, 2020**



# Revenue Management and Dynamic Pricing

## Introduction

There is growing interest among business schools in teaching MBA courses in revenue management and Dynamic Pricing. Revenue Management and Dynamic Pricing is the scientific method of managing prices, inventories, and capacities of perishable products and services to maximize revenue. The primary aim of Revenue Management is selling the right product to the right customer at the right time for the right price. Dynamic pricing also referred as surge pricing, demand pricing or time-based pricing allows prices to respond to current market conditions. This Faculty Development Program (FDP) on Revenue Management and Dynamic Pricing will introduce the participants to the facets of Revenue Management, their applicability, and their tools and techniques. The focus will be on the use of Statistics and Operations Research techniques in managing and enhancing revenue.

## Objectives of the Program

The Objective of the Program will be:

1. Participant will understand the concepts of revenue management and Dynamic Pricing in various settings like airlines, sports, restaurants, hotels, sports etc.
2. Participant will understand how revenue management systems improve revenue
3. Participants will be aware of various tools and techniques used in revenue management

The program is meant for the current and prospective faculty members, research scholars of management institutes, staff training institutes of central and state governments. The participants are expected to have a basic knowledge of statistics and Operations Research.

## Pedagogy of the Program

The participants will acquire knowledge of revenue management and Dynamic Pricing; develop skills to apply the concepts, methods and techniques to resolve real life issues. The participants will be groomed via interactive lecture sessions, illustrative examples/cases and spreadsheet-based calculation.

## Indicative Content of the Program

1. Introduction to Revenue Management and Dynamic Pricing
2. Little's Law and Nesting Concept
3. Price optimization and Price differentiation
4. Demand Modelling for RM
5. Network Revenue Management
6. Multi-version Pricing
7. consumer Preferences and van westen drop analysis
8. Measuring Revenue Management Effectiveness and Displaced Revenue
9. Value based pricing
10. Markdown Management

**Program Director: Prof. Amit Sachan**

**Fees Per Candidate:Rs 22800(Non Residential-In Campus),Rs 18000(Online)**

**Proposed Dates:January 29 to 31,2021**



# Python for Data Analytics

## Introduction

Data analytics is receiving increasing interest in research, academics and business. At the same time, Python is an established programming language that is increasingly applied in data sciences research projects, teaching and practical problem solving cases. It is a high level language which is easy to learn and implement. Researchers and academics find it fairly simple to understand and are increasingly adopting it in their research and teaching.

## Objectives of the Program

The objective of program is to understand & learn the application of techniques in data analytics with Python for teaching and research. This program is intended for faculty, researchers and doctoral scholars of management institutes/departments, engineering colleges, Universities and staff training institutes. This program is also useful for faculty, researchers and doctoral scholars who wish to learn Python.

## Pedagogy of the Program

The participants will get understanding of specific methods and techniques (as outlined in indicative content below) in data analytics so that they can apply it in teaching and research. The pedagogy will be on Python with illustrative examples/cases. No prior experience or understanding of Python is required. Participants are expected to work on Python during session.

## Indicative Content of the Program

1. Fundamentals & basic elements in data analytics
2. Introduction to Python
3. Python Installation Package
4. Python distribution environment
5. Working with Anaconda, Jupyter
6. Key Python libraries in data sciences projects
7. Pandas
8. Numpy
9. SciPy
10. Machine learning methods (logit, decision tree, random forest)
11. ScikitLearn
12. StatsModels
13. Optimization problems in analytics
14. PuLP library
15. Data analytics reports in Python

**Program Director: Prof. Nitin Singh**

**Fees Per Candidate: Rs 16200 (Non Residential-In Campus), Rs 13000 (Online)**

**Proposed Dates: November 7 to 8, 2020**

# **LEARNING R PROGRAMMING LANGUAGE AND MULTIVARIATE DATA ANALYSIS**

## **Introduction**

This is a foundation course of learning R programming language. The basic purpose is to provide brief and straightforward descriptions of how to conduct data analysis and produce graphics using R software. R is a statistical computer program made available through the Internet under the General Public License (GPL). Some basic theory will be described before R code writing and understanding the outputs. Providing more insight, both univariate and multivariate statistical analysis will be covered with R packages.

## **Objectives of the Program**

1. Loading data into R, transform the variable(s) and perform summary statistics
2. Visualization of data by using R visual graphics
3. Univariate analysis for a wide range of data sets
4. Different types of multivariate data analysis techniques
5. Feel comfortable to analyze univariate and multivariate data sets using R

## **Pedagogy of the Program**

The participants will get concepts and hands-on-experience to understand and analyses the data through online lectures, interactive discussion, and Illustrative examples/cases. Freely available statistical software will be used to create graphical and numerical output for the analysis.

## **Indicative Content of the Program**

1. A short tutorial on R programming and R data structure
2. Descriptive statistics and data visualization
3. Hypothesis testing and analysis of variance
4. Correlation and Regression analysis
5. Summary statistics for multivariate data
6. Discriminant analysis
7. Principal component analysis
8. Multidimensional scaling and correspondence analysis
9. Cluster analysis

**Program Director: Prof. Sasadhar Bera**

**Fees Per Candidate: Rs16200(Non Residential-In campus), Rs13000(Online)**

**Proposed Dates: January 16 to 17, 2021**

# WORKSHOP ON PARTICIPANT- CENTRED LEARNING

## Introduction

Participant -centred learning (Case Method) is a powerful teaching approach that combines academic theory with practical application. Cases focus on business issues that managers face every day which require deep analysis and planning. In addition, the focus is on the interactive process in the class leading to higher student engagement and motivation. This method of teaching and learning is gaining immense popularity worldwide as an effective pedagogy of keeping the class engaged. The workshop will focus on the process of teaching and writing cases. During the case teaching section participants are expected to learn:

1. How to create a case teaching plan
2. Preparing for the class
3. Encouraging discussions amongst the participants
4. Different approaches for managing class discussion
5. How to develop taking notes
6. How to keep the participants engaged
7. How to adjust case teaching approach to suit different audiences

In addition the workshop would also introduce and explore the art of writing cases which would include-

1. Planning the writing process
2. Field work
3. Teaching notes
4. Abstracts

## Who Should Attend the Program?

Participants from academic, industry and government are expected in the two- day program. Representatives from the academic community specially research assistants, doctoral candidates, case writers, instructors, lecturers, and professors in all management-related disciplines would benefit from the Workshop. Besides trainers from the industry as also government stand to benefit from the Workshop.

**Program Director: Prof Swarup Kumar Dutta & Prof. Rohit Kumar**

**Fees Per Candidate: Rs 16200(Non Residential-In campus) ,Rs 13000(Online)**

**Proposed Dates: February 19 to 20, 2021**



# Teaching Entrepreneurship and Innovation

## Introduction

The workshop will focus on teaching entrepreneurship and innovation related issues that are relevant to both new venture and entrepreneurs. In addition to the discussions related to designing the course outline and course content, the focus is on how to transform students from being a 'job seeker' to a 'job-creator'. The workshop is designed for people who are either teaching or planning to teach the subject of entrepreneurship in any business school in India. Different methods of teaching and learning including simulation, role-plays and teaching through cases is gaining immense popularity worldwide as an effective pedagogy of keeping the class engaged, while teaching the subject of entrepreneurship and innovation. The workshop will focus on both the content and process of teaching and different teaching pedagogies. During the workshop participants are expected to learn:

1. how to create a course pack for teaching entrepreneurship & innovation
2. different aspects and typology of entrepreneurship
3. entrepreneurship orientation and corporate entrepreneurship capability
4. different teaching tools and techniques
5. different approaches for managing class discussion
6. how to keep the participants engaged
7. designing project work and evaluation

In addition, the workshop would also focus on writing compact cases on topics related to entrepreneurship and innovation

## Who Should Attend the Program?

Participants from academic, industry and government are expected in the three day program. Representatives from the academic community specially research assistants, doctoral candidates, case writers, instructors, lecturers, and professors in all management-related disciplines would benefit from the workshop. Besides trainers from the industry as also government stand to benefit from the Workshop.

## Indicative Content of the Program

1. Introduction to Teaching Entrepreneurship
2. Entrepreneurship and Innovation
3. Course Design and Content
4. Different Teaching Pedagogies
5. What works in the classroom?
6. Writing and teaching a Compact Case
7. Innovation, EO and CCE
8. Using simulations
9. End-term Project (design and evaluation)

**Program Director: Prof.Rohit Kumar**

**Fees Per Candidate: Rs 22800(Non Residential-In campus) ,Rs 18000(Online)**

**Proposed Dates:December 03 to 05,2020**

# Experimental Design: Concepts and Applications

## Introduction

Experimental research has been used tremendously in research due its capability of studying cause and effect. It enables a researcher to properly plan and conduct experiments in order to gain meaningful conclusions. This FDP on “*Experimental Design: Concepts and Applications*” is addressed to the academicians and researchers in the discipline of Management to help them understand the basic principles, analysis and interpretation of results of experimental research. The FDP aims at providing hands-on experience in analyzing various experimental research designs.

## Participants

1. Faculty members who are in the beginning or middle of their career and interested in experimental research.
2. Doctoral scholars in their thesis stage who are interested to explore experimental design.

## Modules

Session will be a combination of lecture, discussion, and hands-on learning experience; and would cover the following-

1. Designing an experiment: Types and usage.
2. Analysis of experimental designs using ANOVAs, MANOVA, ANCOVA, and MANCOVA.
3. Moderation analysis in experiments using spotlight and floodlight analyses.

**Program Director: Prof Myank Jyotsana Soni & Prof Subhro Sarkar**

**Fees Per Candidate:Rs 22800(Non Residential-In campus) ,Rs 18000(Online)**

**Proposed Dates:November-2020**

## Contact Details For Inquires and Nomination

Please address your queries and nominations to:

Mr. Manas Banerjee

MDP-Coordinator

IIM Ranchi

Suchana Bhawan ,Audrey House Campus

Meur's Road, Ranchi 834 008, Jharkhand, India

Tel: +91 0651 2280113

Fax: +91 0651 2280940

E-mail: [office.cmdp@iimranchi.ac.in](mailto:office.cmdp@iimranchi.ac.in)

Mr. Vikash Kumar

Administrative Officer-MDP

IIM Ranchi

Suchana Bhawan ,Audrey House Campus

Meur's Road, Ranchi 834 008, Jharkhand, India

Tel: +91 0651 2280113

Fax: +91 0651 2280940

E-mail: [vikash2.kumar@iimranchi.ac.in](mailto:vikash2.kumar@iimranchi.ac.in)