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IIM Ahmedabad is India’s premier management school, world renowned for its excellence in research and education. IIMA’s doctoral programme contributes to the Institute’s mission by supporting the pursuit of cutting edge research.

The doctoral programme prepares qualified and capable scholars who will shape thought in academic institutions and management organisations. We recruit highly motivated individuals with outstanding academic backgrounds. The doctoral programme provides participants exposure to a broad variety of research interests and faculty deeply engaged with practice and policy. Students develop strong theoretical foundations through coursework in particular areas and receive training in highly specialized research methods. At the dissertation stage, they have an opportunity to engage actively and deeply with academics, practitioners, and policymakers as they conduct interdisciplinary research. The programme affords doctoral students the flexibility to use appropriate research methods for their research questions.

The mix of breadth of coverage, proximity to practice and policy, and flexibility in methodology enables doctoral students to undertake meaningful research on complex and relevant topics. Supporting the academic research is cutting edge infrastructure, including the best management library in India, and access to state-of-art online resources.

The doctoral programme enrolled its first student in 1971 and graduated its first student in 1974. Since then, 378 doctoral students have been conferred with the doctoral title, and have gone on to contribute significantly to management academies and other institutions.

We invite you to consider our doctoral programme and would be happy to discuss your academic interests if you have the inclination and commitment to undertake rigorous training, conduct research relevant to management practice and policy, and pursue an academic career with focus on research.
Introduced in 1971, Ph.D. Programme in Management (erstwhile the Fellow Programme in Management, Ph.D.) is one of the earliest doctoral programmes of Management Science in India. It remains the preferred choice for students aspiring to pursue a career in Management at institutions of higher learning such as business schools/universities as well as in consulting firms, think tanks and leading corporates in India and abroad. So far, 378 students have successfully completed the programme.

Over the period of time, Ph.D. Programme has evolved gradually from its purpose of ‘knowledge dissemination’ to ‘knowledge creation’. This shift in emphasis has, thus, created an ecosystem of advanced research and publications. Ph.D. scholars investigate a wide range of highly specialised topics in the overall gamut of management disciplines like marketing, finance, economics, public policy, business policy, human resources, and organizations. Our Ph.D. students come from diverse backgrounds, including engineering, economics, psychology, public policy, management, and social sciences, and from all stages of life. Some begin immediately after their undergraduate studies, while others pursue their doctoral ambitions after a decade or more of professional experience. The first two years of rigorous coursework provide the requisite theoretical foundation and in-depth understanding of the respective areas of specialization. Successful completion of the course work makes students eligible to pursue their dissertation. The Ph.D. students have to demonstrate their independent research thinking through publications in top class academic journals and make scholarly presentations of their work. Their contributions extend not only to business practices, but also to public policy and governance.

We provide a thriving intellectual environment for our doctoral students. The faculty at IIMA brings tremendous research strength and a wide variety of industry and government experience across diverse sectoral and functional domains. The institute encourages cross-sectoral and cross-functional research. Research collaboration with faculty abroad is also supported and encouraged. We provide excellent research facilities including a state-of-the-art library on management literature, journals and databases, data labs with high computing facility, subject specific research centers, housing on campus, a decent fellowship, and additional financial support for research and conference attendance.

We invite you to consider our Ph.D. Programme and would be happy to discuss your academic interests, if you have the inclination and commitment to undertake rigorous training of the frontiers of management and subsequently pursue an academic or a corporate career with a focus on research.
The Indian Institute of Management Ahmedabad (IIMA) has over fifty years of leadership in management education. It was established in 1961 as an autonomous Institution by the active collaboration of the government of India, government of Gujarat, and industry. Today, it is not only a leader in applied management education in Asia, but also one of the finest institutions of management education in the world.

IIMA was conceived as a school of management and not purely as a business school. Its mission is to contribute to the development of management thought through research, teaching, institution building, and consulting. It also aims to professionalize some of the vital sectors of India's economy such as agriculture, education, health, transportation, energy, and public administration.

To this aim, IIMA has established 10 research centres over the years, name it Centre for Management in Agriculture (CMA), Centre for Management of Health Services (CMHS), Centre for Infrastructure Policy and Regulation (CIPR), Centre for Retailing (CFR), IIMA-Idea Telecom Centre of Excellence (IITCoE), Ravi J. Matthai Centre For Educational Innovation (RJMCEI), India Gold Policy Centre (IGPC), Centre for e-Governance (CEG), and Centre for Innovation, Incubation & entrepreneurship (CIIE). JSW School of Public Policy is also being established at IIMA.

IIMA has a large and distinguished faculty whose contributions to management research are significant. IIMA’s faculty members work on industry and government sponsored research, and lend their expertise to industry and other strategic sectors. IIMA’s emphasis on academics and the efforts of its faculty are responsible for the Institute’s position as a top management school in Asia.
The objective of the Ph.D. Programme in Management is to provide students with skills to identify and research complex issues in the field of management. The Programme seeks candidates with outstanding academic background, intellectual curiosity, and discipline needed to make scholarly contribution.

Ph.D. is a research programme. To the selected students, IIMA provides an excellent environment for carrying out advanced research, thus creating highly committed researchers trained in the most recent methodologies and engaged in producing original research work.

The programme provides a diverse set of opportunities for interdisciplinary education and research. The small entering class ensures close interaction between the faculty and Ph.D. students. The faculty-student ratio for the Ph.D. programme is almost 1:1. After completing the two years of coursework and upon successful completion of comprehensive examination, students have the freedom to select their area/topic of research as well as their thesis advisory committee members.

Cross disciplinary and cross functional research is encouraged at the institute.

Students join the Ph.D. programme as a part of one of the eleven functional/sectoral groups. The students generally spend a little over four years in the program including two years of rigorous course work. While the advanced doctoral level courses from other areas to enhance the breadth of their knowledge and explore cross-functional perspectives.

Some recommended PGP courses provide a general management overview and develop basic skills from a practitioner’s perspective. During these two years, close interaction with the faculty members provide intellectual stimulation and help develop students' own research interests and professional goals. The doctoral dissertation provides them with an opportunity to make original contributions to an area of management or to one of its source disciplines.

PROGRAMME HIGHLIGHTS
• FACULTY STUDENT RATIO IS ALMOST 1:1.
• FREEDOM TO SELECT RESEARCH AREA/TOPIC.
• CROSS DISCIPLINARY AND CROSS FUNCTIONAL.
• RESEARCH IS ENCOURAGED.
• RENOWNED FACULTY.

The programme offers research training in the following eleven areas of high levels of specialization:

- Business Policy
- Economics
- Finance & Accounting
- Food & Agri-business
- Human Resource Management
- Information Systems
- Innovation & Management in Education
- Marketing
- Organizational Behaviour
- Production & Quantitative Methods
- Public Systems Group
IIMA’s faculty have studied and worked in the best of institutions within India and around the world. Their involvement with the public and private sector organizations within and outside India allows them to bring relevant managerial issues into the classroom and in their research. This creates an exceptional environment for developing a research programme that can build sound theory for analysing complex managerial problems.

IIMA attracts reasonable research funding every year from multiple external agencies in addition to the institute’s internal fund. The Ph.D. students can jointly work on a research project with faculty members when research interests align. This provides Ph.D. students with an additional avenue to get research exposure and opportunities to publish their work.

**Academic Standards**

IIMA expects its doctoral students to achieve high levels of academic scholarship and integrity.

Candidates have to meet the specified academic requirements before they can move from one phase of the programme to another. Those who fail to maintain academic standards, at any stage, may be advised to withdraw from the programme. The programme helps build proficiency in undertaking original inquiry in a field of management by first building an academic background in the area of specialization through course work, exhibiting proficiency in cutting edge methodology and research by completing the comprehensive examination, and getting trained to undertake original research by completing the dissertation.

**Academic Advisor**

A member of the faculty from the student’s area in consultation with the Area Chairperson acts as an Academic Advisor to the Ph.D. students during the first year of the programme. The academic advisory process operates as follows:

The Academic Advisor helps students identify courses in their areas of interest, monitors their performance, and guides student during Phases I and II of the programme. Students seeking summer projects with the faculty may seek the help of the Academic Advisor.

Students are advised to closely interact with the Academic Advisor of their area from the time they enter the programme. This responsibility, however, is taken over by the Thesis Advisor once the student completes her comprehensive examination and starts working on her thesis proposal.

**Faculty Seminars and Workshops**

Faculty seminars and research workshops are regularly organized at the Institute. Doctoral students are active members of the community that regularly attends and participates in these activities which provide great exposure and networking opportunities.
Ph.D. Programme in Management

Programme Overview

Phase I
(First Year Course Work)
• First Year Ph.D. Compulsory Courses
• First Year Area Ph.D. Courses
• Courses from other Areas and other Post Graduate Programmes (PGP, PGP-FABM, PGPX) and FPM Elective Courses

Course Work
The coursework is spread across a minimum of six terms and an Induction term at the beginning of the programme. Each academic year begins in May/June and ends in March/April and has three terms. All Ph.D. students, irrespective of their areas of specialization, take a set of compulsory courses in their field of specialization and other interest areas. All students are also required to take program-wide compulsory courses specially designed to provide breadth of knowledge in the field of management and also teaching and research skills.

Phase II
(Second Year Course Work)
• Second Year Ph.D. Compulsory Courses
• Second Year Area Ph.D. Courses
• Courses from other Areas and other Post Graduate Programmes (PGP, PGP-FABM, PGPX)
• Preparation and Completion of Area Comprehensive Examination

Course Work: Requirements and Structure
The course work requirements have to be completed in two years, including an Induction term. The Induction term (which is common to all students), starting last week of May/first week of June with duration of about 3 weeks, has a flexibility to take exams during the fourth week.

Course Work Structure
• Credits: 30.5
  • Ph.D. Core Courses 08.5 Credits
  • Area Courses 16.0 Credits*
  • PGP Courses 06.0 Credits

*Area Core Courses are limited to 6 credits

During summer, at the end of the first year of coursework, students are required to do a research project either with a faculty member at the Institute or in any other organization. First year course work end with successful completion of all the courses with a minimum prescribed proficiency. While students need to meet certain academic requirements across all courses, a higher performance is required in certain Area Specified Courses. (see area pages for details of such courses in each area).

Phase III
Doctoral Dissertation
• Formation of Thesis Advisory Committee
• Approval of Thesis Proposal
• Research and Writing of Dissertation
• Thesis Seminar
• Thesis Defence

Comprehensive Examination
Upon completion of the coursework, the students take the area comprehensive examination. The area comprehensive examination tests whether the
student has obtained a satisfactory level of knowledge in his/her field of specialization and whether he/she has satisfactorily integrated the various courses taken in the area.

If and only if a student passes the comprehensive examination, he/she enters the Thesis stage. The thesis stage consists of first developing a thesis proposal, for which the student identifies a thesis topic, forms a Thesis Advisory Committee (TAC), presents a seminar on the thesis proposal to the IIMA academic community, and gets the thesis proposal approved by the TAC. Then the student works closely with the TAC on his/her thesis. On completion of the thesis research, the student submits the thesis, gives a seminar, and defends the same.

**Academic Assistance**

All Ph.D. students past the successful completion of their comprehensive exam must independently assist in two unique courses (postgraduate courses offered in the institute/Ph.D. compulsory courses).

**Doctoral Dissertation**

The dissertation or thesis provides the student with an opportunity to undertake original research in the area of interest. The dissertation should be a scholarly contribution to the knowledge pertinent to the understanding and resolution of management problems. Research is an essential part of the doctoral student’s training at IIMA. Throughout the programme, starting as early as Phase I, students are encouraged to be actively involved in research activities at the Institute and with faculty members.

Phase III begins with the formation of the Thesis Advisory Committee in the initial part of the third year. Students are encouraged to meet faculty members with whom they share research interests and seek their assistance in identifying a dissertation topic as early as possible. In addition to the close working relationship during the course work, this interaction helps the student find a thesis advisor and form the thesis advisory committee. The thesis advisor advises the student on his dissertation and chairs the thesis advisory committee comprising at least two other members.

The student develops a written proposal and with the agreement of the thesis advisor gives a seminar on the thesis proposal. The proposal has to be approved by the thesis advisory committee. From then onwards, the student works closely with her/his thesis advisory committee on the dissertation. When the candidate’s advisor judges that the dissertation is complete, the student gives a seminar on the dissertation work and subsequently defends orally the dissertation before a thesis examination committee. The Ph.D. Prog. Chairperson appoints the thesis examination committee comprising of two members from the thesis advisory committee and two other members. While the course work formally gets over with the completion of Phase II, doctoral students are encouraged to continue taking advanced courses of interest even during this last stage of study.
1 | Business Policy

Faculty

- Agarwal, Anurag K.
- Basant, Rakesh
- Chatterjee, Chirantan
- Fuad, Mohammad
- Karna, Amit (Chairperson)
- Maheshwari, Sunil
- Mathur, Ajeet N.
- Pathak, Akhileshwar
- Ram Mohan, M.P.
- Sharma, Sunil
- Singla, Chitra
- Sud, Mukesh
- Sugathan, Anish
- Verma, Sanjay

The focus of research, teaching and advisory services of the Business Policy area lies in issues of corporate and competitive strategy, entrepreneurship, innovation, international business, and legal aspects of business. The area faculty have investigated organizational response to changes in the economic environment of business, management and analysis of competitive forces, business growth and diversification, mergers and acquisitions, turnaround strategies, innovations and technology management, design of cross-border value chains and constellations, governance, competitiveness and international economic relations, issues in intellectual property and contract management. The context for area's activities spans large public and private enterprises, startups, small and medium enterprises and family owned organizations.

Some of the recent research projects have been:

- Co-evolution of capabilities in cross-border collaborations
- Management of Innovations and Technology
- Commercialization of Traditional Knowledge based Technologies by Small Entrepreneurs: An Exploration of Strategic and Policy Options
- Corporate Governance for Shareholder Value
- The Business Logic of Dotcom Businesses
- Strategies of Family Owned Companies
- Strategic and Organizational Contexts for Innovations in the Software Sector
- Taking Charge and Reshaping Corporations
- Governance of institutions
- Issues at the Strategic Leadership Interfaces
- Understanding Dynamic Capabilities
- Re-internationalisation of enterprises

The Doctoral programme of the area develops knowledge, skills and attitudes in students that would enable them to pursue rewarding academic careers in strategic management, international business, and corporate governance. Although the requirements for admission to the programme are same as mentioned in the Admission Requirements section, candidates entering this area would benefit from work experience in an organization for at least two years.
The Programme
A student specializing in the Business Policy area takes a wide range of courses, including those in areas of specialization. A typical course set in the programme is as follows.

Students develop their own programme of study in consultation with faculty to complete course requirements.

First and Second Year Area Ph.D. Courses

Compulsory courses
- Strategic Management-I and II
- Foundations of International Strategic Management
- Strategy & Innovation
- Advanced Seminar on Action Research Methodologies

Elective courses (This list is indicative and courses offered may differ)
- Economics of Strategy
- Corporate Governance
- Advanced Strategy & Innovation
- Frontiers of International Strategic Management
- Seminar on Entrepreneurship

Third Year
- Comprehensive Examination
- Dissertation

Fourth and Fifth Year
- Dissertation

Some Recent Thesis Titles and Placement of students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Anita Kerai Assistant Professor, IIM Kozhikode</td>
<td>Antecedents and Consequences of Top Management Team’s Power Structure in a Family Business Context</td>
</tr>
<tr>
<td>2019</td>
<td>Sai Chittaranjan Kalubandi Assistant Professor, IIM Bangalore</td>
<td>Essays on the Internal Markets of Business Groups</td>
</tr>
<tr>
<td>2017</td>
<td>Anish Purkayastha Lecturer, University of Sydney Business School</td>
<td>Internationalization of Emerging Market Firms: A dynamic capability</td>
</tr>
<tr>
<td>2016</td>
<td>Abrar Ali Mohammad Usmanali Saiyed Ahmedabad University</td>
<td>Patterns and Determinant of Internationalization by New Ventures in India: A Study of Entrepreneurial, Firm and Industry Factors</td>
</tr>
</tbody>
</table>
Economics is a basic discipline for a well-rounded management education. The curriculum for doctoral students, therefore, includes several courses in theoretical and applied economics. Other than research in core areas of economics, significant research has been done by faculty members of the area on the efficiency of public enterprises, fiscal and monetary policy, sources of economic growth, comparative rates of growth in developing countries, regional disparity in growth in India, planning for rural development and employment, entrepreneurship development, regulation (especially that relating to infrastructure), innovation and alliances at the firm level, labour market issues, agricultural policy and trade issues, and policies relating to IPRs and FDI. Recent faculty research projects have been on:

- Competition policy in India
- Economics of regulation
- Pharmaceutical economics
- Experimental economics
- Mechanism Design
- Industrial Organization Theory
- Behavioral Game Theory
- Applied game theory
- The cooperative theory of matching problems
- Measurement of inflation expectation
- Measurement of efficiency and productivity
- Monetary policy transmission
- Aggregate supply and growth – inflation trade-off
- New Keynesian DSGE models: dynamics of inflation
- Network structure of the international trade network
- Emergence of Zipf’s law in size distributions of economic quantities
- Endogenous business cycle models
- Applications of evolutionary game theory to macroeconomics
- Networks
- Migration networks
- Business, Economic and Demographic History
The Programme

A doctoral student in the area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows.

First Year Area Ph.D. (Compulsory) Course

- Mathematics for Economists
- Microeconomics – I
- Microeconomics – II
- Macroeconomics – I
- Macroeconomics – II
- Econometrics-I

Second Year Area Elective Courses:

- Computational Economics
Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Deepak Bisht</td>
<td>Associate, JP Morgan, Mumbai</td>
<td>Explorations in Modeling and Forecast Assessment of Energy Derivatives</td>
</tr>
<tr>
<td>2018</td>
<td>P K V Kishan</td>
<td>Assistant Professor, Institute of Rural Management Anand (IRMA)</td>
<td>An Empirical Exploration of Education and Inequality – Three Essays</td>
</tr>
<tr>
<td>2017</td>
<td>Siddhartha Bhasker,</td>
<td>O P Jindal Global University</td>
<td>Evolution of new Freight Structure in India over the Long Run: A Policy Assessment</td>
</tr>
</tbody>
</table>

Third Year
- Comprehensive Examination
- Dissertation

Fourth Year
- Dissertation
The teaching and research interests of the Finance and Accounting Area spans a broad range of issues such as, earnings and cash flow manipulation, corporate disclosure, management control, corporate finance, corporate governance, asset pricing, market microstructure, management of financial institutions, risk management, financial regulation and empirical methods in finance. The faculty members are vigorously engaged in both academic and applied research. The Area faculty members serve on several government committees and corporate boards.

Some of the recent research projects undertaken by faculty in the Area are:

- Do managers manipulate gross profits? Role of product market competition
- Liquidity and bid-ask spread behavior in the Indian market
- Block trading and market microstructure issues
- Systematic risk factors in the Indian stock market
- Influence of sentiment in market-wide pricing of assets
- Impact of the Introduction of Call Auction on Price Discovery

As the primary emphasis of the programme is to prepare students to engage in high quality research, candidates must possess a strong aptitude for abstract thinking and quantitative analysis. Requirements for admission to Ph.D. in Finance and Accounting are mentioned in the Admission Requirements section later.

**The Programme**

The programme has a two-year coursework phase followed a dissertation phase, which usually takes about two years. The coursework takes the students through a range of courses, intended to familiarize the participants with the core theoretical foundations, empirical methods, and stylized empirical realities of modern finance. A student specializing in the Finance & Accounting Area takes wide range of courses including those in the area of specialization. A typical course set in the programme is as follows.

**First Year Area Ph.D. Core Course**

- Foundations of Finance
- Asset Pricing
- Seminar Course in Corporate Finance
Seminar Course in Empirical Accounting Research  
Empirical Research in Auditing and Corporate Governance

**Second Year**  
(This list is indicative and courses offered may differ)  
Seminar Course in Behavioural Finance (Elective)  
Derivatives Pricing (Elective)  
Empirical Asset Pricing (Core)  
Seminar Course in Accounting and Markets (Elective)  
Seminar Course in Accounting and Organization (Elective)  
Mathematical Finance (Elective)  
Corporate Finance in Emerging Markets (Elective)  
Applied Functional Analysis in Finance (Elective)

**Third Year**  
Comprehensive Examination  
Dissertation

**Fourth Year**  
Dissertation (continued from third year)

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### Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Qambar Abidi</td>
<td>Indian Institute of Management Kozhikode</td>
<td>Regulatory Reforms and State Supervised Corporate Bankruptcy Reorganization</td>
</tr>
<tr>
<td>2019</td>
<td>Sakina H. Poonawala</td>
<td></td>
<td>Essays on Audit Committee and Board Composition</td>
</tr>
<tr>
<td>2019</td>
<td>Sonali Jain</td>
<td>NTPC School of Business, Noida</td>
<td>Studies in Indian Equity Derivatives Markets</td>
</tr>
<tr>
<td>2018</td>
<td>Suman Saurabh</td>
<td>Assistant Professor, Department of Industrial and Management Engineering, IIT Kanpur</td>
<td>Essays on Share Repurchases</td>
</tr>
</tbody>
</table>
The Centre for Management in Agriculture (CMA) at IIMA is an inter-disciplinary research Centre, which was founded in 1963 and designated as a Centre in 1971. CMA is involved in applied, policy, and problem solving research in food, agribusiness, rural, and allied sectors. Its work is relevant to organizations dealing with agri-inputs and services including seeds, fertilizers, agrochemicals, farm machinery/equipments, rural credit, and insurance as well as organizations involved in agri-outputs including procurement, processing, and marketing of outputs such as foodgrains, fruits, vegetables, livestock products, fish, poultry, processed foods and forest produce. It also addresses government policy on these sectors at the union and the state levels.

The Centre undertakes policy research in a range of fields, relevant to the public, cooperative, voluntary/non-profit and private sector organizations in the sector. The studies attend to issues of farm and allied inputs, farm and allied outputs, agricultural finance, agro and rural marketing, international agro trade, rural organizational planning, implementation, and monitoring, producers’ institutions, and rural development planning, and administration. The CMA faculty undertake a number of policy-related research studies for the Ministry of Agriculture & Farmers’ Welfare, Government of India as one of the three Agro-Economic Research Units (AERUs) along with 12 Agro-Economic Research Centres (AERCs) in India. CMA also provides consulting services to national and international, private, public, cooperative, and voluntary organizations.

Some of the major ongoing and recently completed research projects are:

- Improving Water Use & its Efficiency in India’s Agriculture: The Impact of Pradhan Mantri Krishi Sichai Yojana (PMKSY) - Per Drop More Crop
- Understanding Performance and Impact of Producer Companies – Case Studies Across States and Promoters in India
- Assessing the Impact of the e-NAM Initiative Linking APMC Markets: Evidence from Villages
- Production, Markets and Trade: A Detailed Analysis of Factors Affecting Pulse Production in India
- Performance Evaluation of Pradhan Mantri Fasal Bima Yojana (PMFBY)
- Decision-Oriented Information Systems for Farmers: A Study of Kisan Call Centres (KCC), Kisan Knowledge Management System
(KKMS), Farmers Portal, and M-Kisan Portal (All India Coordinated Study)

- Decision-Oriented Information Systems for Farmers: A Study of Kisan Call Centres (KCC), Kisan Knowledge Management System (KKMS), Farmers Portal, and M-Kisan Portal in Gujarat
- Enhancing Rice Productivity and Food Security: A Study of the Adoption of the System of Rice Intensification (SRI) in Selected States of India
- Farmers’ Participation in India’s Futures Markets: Exploring Direct and Indirect Benefits

Agro-input Marketing Models in India: Performance and Potential

This doctoral programme with specialization in Food & Agribusiness aims at developing graduates for academic careers in leading management educational institutions, which need faculty members who can address managerial issues related to food and agri-business, rural, and allied sectors, as well as research and training organizations. Requirements for admission to the doctoral programme in Food & Agribusiness are mentioned in the section on “Admission requirements”. Applicants to this area must have an aptitude for research and inclination to work in food, agribusiness, rural or related sectors.

The Programme

A candidate in the Food & Agribusiness area takes a wide range of courses including those in the area of specialization. The Area specialization courses are listed below (this list is indicative and courses offered may differ):

First Year Courses
- Agro-Food Value Chain Management and Development

Second Year Courses
- Agricultural Management I
- Agricultural Management II
- Agricultural Development Policy
- Foundations of New Institutional Economics (Elective)

Third Year
- Comprehensive Examination
- Dissertation

Fourth Year
- Dissertation

Some Recent Thesis Titles and Placement of students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Aashish Argade</td>
<td>Assistant Professor, Institute of Rural Management Anand (IRMA)</td>
<td>Choice Determinants and Comparative Evaluation of Agri-output Marketing Channels – A Farmers’ Perspective</td>
</tr>
<tr>
<td>2016</td>
<td>Kanish Debnath</td>
<td>FLAME University</td>
<td>The Role of Community Health Insurance in Perfecting Financial Inclusion</td>
</tr>
<tr>
<td>2014</td>
<td>Dinesh Jain</td>
<td></td>
<td>Institutional Interaction and Participative Decision-Making in Development Programmes: A Study of Their Importance in Effective Natural Resource Management</td>
</tr>
<tr>
<td>2014</td>
<td>Varsha Khandker</td>
<td>Faculty, TAPMI</td>
<td>Challenges in the Introduction of New Technologies: A Study of the Performance and Adoption of Hybrid Rice in India</td>
</tr>
</tbody>
</table>
The Human Resource Management area comprises faculty members having interest in HRM, employee/Industrial relations and human behavior.

Current research interests of the faculty include:-philosophical foundation of HRM, psychology of leadership, Neuro-science of decision making, high-performance management systems, Dark Triad personality, strategic human resource management, international and cross cultural HRM, performance management and high performing work organizations, work climates, compensation and rewards, employee empowerment, employee engagement, negotiation in business, and alternate dispute resolution, human resource information systems, public personnel management, people management in services, management of healthcare systems and hospitals, employment relations, business turnaround, ethics in business and corporate social responsibility and employer branding.

The admission requirements for the area are given in the section on Admission Requirements.

### Faculty
- Agarwal, Promila
- Chandwani, Rajesh
- Maheshwari, Sunil (Chairperson)
- Moses, Aditya
- Sarrien, Miguel
- Singh, Manjari
- Varkkey, Biju

### The Programme
A student specializing in the HRM area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows:

#### First Year Area Ph.D. Course
- Foundation Course in HRM

#### Second Year Courses
- Foundations of Research in HRM I
- Foundations of Research in ERM I

#### Third Year
- Comprehensive Examination

#### Fourth Year
- Dissertation

### Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Shrihari S Sohani, Assistant Professor, IIM Indore</td>
<td>Linkages between Human Resource Flexibility, Ambidexterity and Successful Outcomes in the Context of Information Technology Firms</td>
</tr>
<tr>
<td>2017</td>
<td>Jatin Pandey, Assistant Professor, IIM Kozhikode</td>
<td>Job Performance of Women at Work in Rural India: Job Demands-Resources (JD-R) Perspective</td>
</tr>
<tr>
<td>2017</td>
<td>Jatinder Kumar, Assistant Professor, XLRI, Jamshedpur</td>
<td>Institutionalization of Ethics at Workplace: Study of Contributory Role of HR &amp; Line Functionaries</td>
</tr>
<tr>
<td>2017</td>
<td>Pearl Malhotra, Visiting Faculty, IIM Bangalore</td>
<td>“Indirect” Impact of High-Performers on Subordinates’ Careers</td>
</tr>
<tr>
<td>2017</td>
<td>Rama Shankar Yadav, Assistant Professor, IIM Rohtak</td>
<td>Exploring the Impact of Employee Perceptions of CSR on Work Related Behaviour with Spirituality as a Moderator</td>
</tr>
</tbody>
</table>
The Information Systems area was set up to respond to the importance of, and need for, research in computer applications in management of government, private and public enterprises, and other forms of organizations. Starting in the 1970s in an environment that was largely unaware of the potential benefits of computerization, IS area has worked at identifying potential applications, implementing these applications in public and private sectors, and designing and offering courses related to its area of work.

The thrust of the area is to stay at the cutting edge of management computing and facilitate development of decision-making capabilities for socio-economic development. Research in decision support systems, expert systems, computer aided instruction, management information systems, algorithm design, developmental informatics, software export, etc. has been an important tool in achieving this objective. Recent research has been in mobile ad-hoc networks, e-Governance, ICT for development, decision support systems, text analytics, social networks, multi-criteria decision analysis, and crowd-based platforms. Some recent research projects are:

- Designing and managing enterprise wide digital infrastructure
- Design and analysis of algorithms for project management
- Object oriented frameworks for parallelized nonlinear optimization
- Modeling of supply chain management problems
- Frameworks for evaluation of e-Government Projects
- Data mining, machines learning and big data analytics
- Mining of complex networks and social network analysis
- Effectiveness of data visualization constructs
- Knowledge management in software and other industries
- Open innovation
- Internet Governance
- Community radio service using mobile ad-hoc networks
- Peer-to-peer data sharing in mobile ad-hoc networks
- Crowd-based platforms
- Open source software communities

As the interests of the faculty are very broad, research topics chosen
by doctoral students also tend to have wide variety. Based on the topic of dissertation, tools used in the research may vary and may include user surveys, decision support systems, econometrics, machine learning methods, and optimization techniques such as integer or non-linear programming. Some topics could need extensive software development.

A thesis in information systems could be conceptual and a researcher could build on existing literature or develop case studies. While the dissertation need not necessarily use sophisticated technical tools, the topic should be necessarily concerned with information systems. It is essential that a doctoral student should have a good insight into and appreciation for the role of information technology in management and skills for model building and analysis to understand the impact of decisions involved in this area.

In the past, doctoral students have worked in areas like: Multi-mode multiple resource constraints in project scheduling and machine scheduling problems, Study of Indian telecom startup firms in the context of new firm formations, Developing e-Government impact assessment framework, Collaboration in Internet enabled supply chains, Developing and optimizing the distribution model for electronic supply chain management systems in the Indian context, Alliances and partnerships in electronic businesses, Studying the behaviour of buyers and sellers in an e-commerce context, and Developing a framework for evaluating open innovation projects.

The Programme
A student specializing in the Information Systems area takes a wide range of courses including those in the area of specialization. A typical course set in the programme is as follows.

First Year
- Networks and Distributed Systems
- Data Structures and Programming
- Database Management Systems
- Systems Analysis and Design
- Knowledge Systems for Multi-Criteria Decision Making under Uncertainty

Second Year Courses
(This list is indicative and courses offered may differ)
- Framework for Information Systems
- Structure and Economics of IS-enabled Networks
- Research Issues in Internet Governance and Policy
- Artificial Intelligence
- Exploratory Data Visualization
- Seminar in Online Text and Analysis
- Data Mining Algorithms and Applications

Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
</table>
The ‘Innovation and Management in Education’ (IME) stream of IIMA’s doctoral program was launched in 2014, and is offered through the Ravi J. Matthai Centre for Educational Innovation (RJMCEI). The RJMCEI was established in 1991, with an initial mandate to work on institution building and higher education. The RJMCEI now has a robust research agenda built around innovations in education, especially in the public schooling system.

What does IME aim at?
The doctoral program in Innovation and Management in Education aims at developing robust research scholars and teachers who can take up leadership roles in educational organizations and systems. The focus on innovation and management will develop in the graduates a unique academic capability that combines a management perspective with the broader theme of innovation in education. This fits in with the emerging demand for people with fresh perspectives on educational change from a wide range of emerging academic institutions, organizations that provide services and ancillary support to the regular educational structures, well-established national and international educational planning organizations and academic institutions, and various research bodies and social policy think tanks.

Recent doctoral work through IME
Doctoral students of the IME program have worked on some interesting topics in educational innovation. The three completed works are the following:

- Change in leadership behaviour through online professional development programs – Contextualizing “community” based on identity, cohesion, and intentionality
- Collaborative learning in virtual space and learning in the physical workplace: The case of in-service public-school teachers in India
- Media, Cognition and Assemblage Perspectives on ICT in Education: A Three-Part Study in an Early-Adopter Indian School

The ongoing dissertations include:

- Determining Effects of Online and Offline Activities on Teacher Self-Efficacy Beliefs in a Web-based Professional Development Programme
- Developmentally effective experiences in a graduate business school and their role in self-authorship among students
- Peer Mentoring and the Development of Instructional Expertise
For further details please visit: https://www.iima.ac.in/web/areas-and-centres/areas-and-groups/rjmcei

Admission requirements
The requirements for admission to the doctoral programme in “Innovation and Management in Education” are mentioned in the section on “Admission Requirements.” Applicants must have an aptitude for research and inclination to work in education or related sectors.

The Programme
A student specializing in the Innovation and Management in Education area will take a wide range of courses including those in the area of specialization. Some of the courses offered by the RJMCEI during the first two years of the program include the following:

- Analyzing and Evaluating Educational Policy
- Applied Quantitative Techniques for Educational Research
- Change and Innovation in Education
- Economics of Education: Empirical Approach
- Education: Theory, Policy and Practice
- Effective Strategies for Survey Development and Implementation
- How to Motivate Students for Learning?
- Organizational Development and Change in Educational Institutions
- Qualitative Research Methods in Education
- Structural Equation Modeling

Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Deepak Maun</td>
<td>Faculty, O. P. Jindal Global University, Sonepat (Haryana)</td>
<td>Collaborative Learning in Virtual Space and Learning in the Physical Workplace: The Case of In-Service Public-School Teachers in India</td>
</tr>
<tr>
<td>2019</td>
<td>Samvet Kuril</td>
<td>Assistant Professor, Ahmedabad University</td>
<td>Change in Leadership Behaviour through Online Professional Development Program: Contextualizing “Community” based on Identity, Cohesion, and Intentionality</td>
</tr>
</tbody>
</table>
Marketing Area faculty has wide range of interests in research and dominant interest in case writing. The research interests include consumer information search and consumer choice; consumer response to advertising, sales promotion, dynamic pricing, and country of origin; strategic response of organizations to dynamic market conditions, sales people’s customer orientation, brand extension strategies, relationship marketing, B2B marketing, ethic logistics, new product introduction and management, international marketing strategies of firms, different pricing strategies; strategic firm behaviour under competitive conditions (using mathematical modeling techniques), competitive strategies, comparative impact of marketing spend on shareholder value, alliances and firm cooperation, market driving strategies, customer based business strategies, strategies for retailing, etc. Some recent research projects are:

- Case Development on "Paradigm Shift of Apollo Tyres Ltd."
- Examining Service Profit Chain for Online Retail Store Using Individual Level Data
- Hedonic Shopping Behaviour: A Cross-Country Study
- New Product Development Initiatives in India
- Cases in Retail
- Examining Service Profit Chain for Online Retail Store Using Individual Level Data
- New Product Development Initiatives in India
- Store Cues and Shopper Values: A Means-End Chain Approach
- Path to Purchase
- Place of Origin Effects in Service Quality Perceptions among Indian Consumers
- Path to Purchase
- Shopper Marketing
- Legal and Ethical Issues in Advertising: A review of Indian Advertisements
- Interaction effects between consumers’ cognitive load and promotion framing for strong and weak brands
- Liberating yet stressful: the paradoxical implications of the use of Mobile Communication Devices by professionals
- Managing Emotions: Emotional Labor or Emotional Enrichment
- Use of social media for promotion related messages by Indian Brands
Impact of bundle forms on change in consumers’ Reference Price (IRP) of bundle components
The effect of counting direction of time on hedonic / utilitarian preferences
Impact of interaction of primes on consumer behavior
Comparison of blind and sighted individuals on parameters of memory, preference prediction on detection
Identifying the Enablers of Reverse Innovation in Emerging Markets
In depth study of Analytics process development in Indian Organizations - a few cases
Brand Adoption by Retailers that Serve Customers at the Base of Pyramid
Turning Around the Business as Well Creating Sustainability
Green Advertising
Legal and Ethical Issues in Indian Advertisements
Advertising and Promotions in Mobile Platform
Ordering effect in alphanumeric brand names
Impact of price framing on quality perceptions
Samsung Electronics in India: Challenges of Multi-Channel Retailing
Airtel Zero: Data Pricing, Two Sided Markets Led Business Models and Net Neutrality
Hippo on Twitter: Tracking Product Stock-outs in Retail Stores:
The Quest for Gold: Communications Challenge
GE in India: Changing Healthcare
Fruitzone India Limited (A): Designing the Research Questions
Fruitzone India Limited (B): Designing the Research Questionnaire
Fruitzone India Limited (C): Data Collection & Analysis
Fruitzone India Limited (D): Additional Conclusive Research
Q-Connect: Reaching Rural Customers with Assam Mobile Theatre
Selling Sketches - The case of Artistically Yours (A)
Selling Sketches - The case of Artistically Yours (B)
ABC Films: Marketing Research on Product Placement (A)
ABC Films: Marketing Research on Product Placement (B)
ABC Films: Marketing Research on Product Placement (C)
Snapdeal: Business Models, Price Discounting and Consumer Behavior in a Nascent Online Market
BART: Sales force and Pricing in B2B markets
Impact of Price Regulation on Availability of Pharmaceuticals in India
Tensile Pricing
Impact of Price Discounts on a Bundle on Reference Price and Purchase of Components
Building, Sustaining and Managing Brand Relationships
Pricing Theory: A Neuroscience Perspective
Cross-Cultural Content Analysis Studies in Advertising
Parental LOC as an antecedent to parental style
Significant contributions in case research span business and non-business enterprises and encompass almost all areas of marketing management in the Indian context. In the last three years, the marketing area faculty have written more than 35 new cases based on field data. The business contexts covered include information technology, manufacturing, automobiles, retailing, financial services, other services, online recruitment, and media. The decision areas covered by the case studies cover all areas of marketing: segmentation and targeting, positioning, product, brand, price, advertising, sales promotion, distribution, retail, sales management, organisation design, and strategy and strategic marketing.

Admission Criteria
The requirements for admission into the doctoral programme in marketing are the same as the ones mentioned in the Admission Requirement section. While it is not mandatory, prior academic and/or experiential exposure to marketing and related areas would be of some help for aspiring applicants. Successful applicants should show potential for developing abilities to (a) understand and crystallize important and interesting marketing problems, (b) conceptualize a research plan, (c) implement the research plan, and (d) make original and substantial contribution to the knowledge pool in the domain of their inquiry.

The Programme
Student will undertake doctoral level courses from various domains in first year. Students in the marketing area gain a basic understanding of management through undergoing a few courses in the first year with PGP students. In the second year, students build a strong background through taking three different types of courses. Required marketing area courses in the second year provide participants an opportunity to build strong background in quantitative models in marketing, marketing strategy, applications of behavioural sciences in marketing, marketing theory, and marketing management. They are expected to take courses in research methodology such as econometrics, experimental analysis, statistical analysis, and mathematical and applied game theory models in marketing. Participants can gain a broad perspective in
the field of marketing management through taking a package of graduate level marketing elective courses in brand management, sales and distribution management, marketing strategy, advertising and sales promotion, retailing, logistics, internet marketing and e-commerce, strategic marketing, and customer based business strategies. In order to complete their requisite credits, a student, in consultation with the faculty, can design the second year course package from the three types of courses.

The broad course designs in marketing in the first year are listed below. (This list is indicative and courses offered may differ.) A typical course work in the second year also is given below.

**First Year Area Specified Course**
- Marketing Strategy

**Second Year**
(This list is indicative and courses offered may differ.)
- Behavioural Science Applications in Marketing
- Game Theory and Strategic Behaviour (jointly offered with Economics area)

**Third Year**
- Comprehensive Examination
- Dissertation

**Fourth Year**
- Dissertation

### Some Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Ankur Kapoor</td>
<td>IIM Udaipur</td>
<td>The Impact of Non-Volitional Interferences on Product Evaluation and Choice</td>
</tr>
<tr>
<td>2019</td>
<td>Sudipta Mandal</td>
<td>IIM Indore</td>
<td>Toward a Better Understanding of Negation and Brand Recall Memory</td>
</tr>
<tr>
<td>2018</td>
<td>Biswajita Parida</td>
<td>Visiting Faculty, XLRI Jamshedpur</td>
<td>An Experimental Investigation of Advertising Effectiveness in Roadblock Advertising</td>
</tr>
<tr>
<td>2018</td>
<td>Pinaki Roy</td>
<td></td>
<td>A Strategic View of Refurbished Goods</td>
</tr>
<tr>
<td>2017</td>
<td>Rajesh R. Nanarpuzha</td>
<td>IIM Udaipur</td>
<td>Interplay of Religion and Marketplace Transactions</td>
</tr>
<tr>
<td>2017</td>
<td>Jithesh Kumar K.</td>
<td>Assistant Professor, O P Jindal Global University</td>
<td>The Influence and Interaction of Online Store Brand and Product Brand on Pre-Purchase and Post-Purchase Consumer Behaviour</td>
</tr>
</tbody>
</table>
The Organizational Behaviour (OB) area is internationally recognized for its teaching and research. Faculty members in the area have diverse research interests which include individual and interpersonal effectiveness, job involvement, gender issues at the workplace, work attitude, organizational excellence, human resources development, organizational culture, organizational dynamics and design, organizational learning, organizational change and strategic organizations. Recent research in the area has been on:

- Alternative ways of organizing
- Cross-cultural issues
- Ethnicity and diversity at the workplace
- Leadership
- Organization citizenship behaviour
- Organizational commitment and psychological well-being
- Organizational sense making
- Team work
- Technology, power, and work
- Transformation of organization and industry
- Work-family issues

If students have an interest to apply their knowledge in their basic discipline such as psychology sociology, economics or political science to the organizational context, research in OB will allow them to do so. It is not necessary for candidates to have an MBA degree, or a degree in psychology or sociology, to do an Ph.D. in the area. Rather, students from diverse disciplines are encouraged to apply for the doctoral programme in OB.

**The programme**
A doctoral student in the OB area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows.

**First Year courses**
- Basics of Micro OB
- Organizational Structure and Processes

**Second Year Courses**
(This list is indicative and courses offered may differ)
- Advanced Micro OB
Advanced Topics in Quantitative Methods
Classics in OB
Crafting and Publishing of Research
Leadership in Organizations: A Review of Theory and Practice
Methods of Qualitative Research: Gathering and Analysing Data
Organization Theory and its Social Context
Organizational Change
Organizational structure and processes
Psychometric Methods
Quantitative Methods and Analysis

Third Year
- Comprehensive examination
- Dissertation

Fourth Year
- Dissertation

Some Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Nidhi Mishra</td>
<td>Assistant Professor, IIM Bodh Gaya</td>
<td>The Trajectory of Forgiveness in Workplace Bullying: A Hermeneutic Phenomenological Study of Target Coping</td>
</tr>
<tr>
<td>2019</td>
<td>Shiva Kakkar</td>
<td>Assistant Professor, Goa Institute of Management</td>
<td>The Influence of Perception of Performance Management System and Regulatory Focus on Work Engagement</td>
</tr>
<tr>
<td>2018</td>
<td>Avina Jenifa Mendonca</td>
<td>Assistant Professor, IIM Nagpur</td>
<td>Beauty Service Work as Dirty Work: Understanding Employees’ Lived Experiences</td>
</tr>
<tr>
<td>2017</td>
<td>Sanket Sunand Dash</td>
<td>Assistant Professor, Xaiver University, Bhubneshwar</td>
<td>Antecedents and Consequences of Job Crafting by School Teachers</td>
</tr>
<tr>
<td>2017</td>
<td>Supriya Sharma</td>
<td>Vice-President, CIIE; Visiting Faculty, IIM Nagpur</td>
<td>Contradictions Between Identity &amp; Image of an Organization: Exploring Responses in New Entrepreneurial Ventures</td>
</tr>
</tbody>
</table>
The Production and Quantitative Methods (P&QM) area offers courses on Operations management, Operations research, and Statistics. Doctoral students in the area are required to be proficient in all the three areas while developing advanced level skills in at least one of the three. The area offers doctoral level courses in mathematical programming, statistics, stochastic processes, operations management, technology management, modelling and contemporary manufacturing methods and techniques.

Faculty research interests in Operations management are on strategic or operational issues related to manufacturing and service planning, supply chain coordination, shop floor scheduling and improving productivity of plant operations, design of operations, technological change and innovation, R&D capabilities, economics of flexible operations and process planning. In operations research, faculty interests include linear and integer programming, large scale optimization, combinatorial optimization, revenue management and network optimization. Interest in this area is both in modeling as well as in development of algorithms and heuristics for such problems. Typical application areas for research include finance, logistics, and the process industry. Faculty research interests in statistics are modeling discrete and financial data, survey sampling, finite population inference, biostatistics, longitudinal and survival analysis, Bayesian inference, reliability analysis, time series analysis, statistical genetics, directional statistics, functional data analysis and stochastic processes.

The Programme

First and Second Years

During the two-year coursework phase, students take a wide range of courses, including those in their area of specialization and other management areas.

Area students are required to take course work of 5.5 credits of core courses in the first two years. In addition to this, 8.5 credits of Ph.D. core courses, 10.5 credits worth of Area courses (Area Elective + Project Course/Special Topic Course + Other Area Core/Elective + Ph.D. Electives) and 6 credits of PGP Courses are required over entire course work.

An indicative list of electives that students can choose from is given in the next section.
**Third Year and later**
At the beginning of the third year, a student is required to appear for and pass a comprehensive examination on the courses that s/he has credited in the first two years. On successful completion of the comprehensive examination, a student decides on a topic of her/his research and her/his thesis advisor. The student then presents and defends her/his thesis proposal and works on her/his doctoral thesis.

**First Year & Second Year Area Ph.D. Core Course**
- Linear Algebra
- Operations Research
- Advanced Probability for Management
- Classical Operations Management

**Second Year Elective Courses**
*(This list is indicative and courses offered may differ)*
- Algorithms on Graphs and Networks
- Applied Multivariate Analysis
- Applied Regression Analysis
- Applied Statistical Inference
- Approximate Methods in Solving Real World Complexities
- Bayesian Methodology for Business Research
- Convexity & Optimization
- Game Theory for Operations Management
- Large Scale Optimization
- Mathematical Modelling for Integer Program & Theory of Valid Inequalities
- Non-linear Optimization
- Queuing Models
- Revenue Management and Dynamic Pricing
- Real Analysis
- Statistics II
- Stochastic Processes
- Systems Analysis and Simulation
- Survey of Statistical Methods Used in Management Research
- Time Series Analysis

**Third Year**
- Comprehensive examination
- Dissertation

**Fourth Year**
- Dissertation

**Some Recent Thesis Titles and Placement of Students**

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Prasanna R</td>
<td>Post-Doctoral fellow, John Molson School of Business, Concordia University, Montreal, Canada.</td>
<td>Hub Interdiction Problems: Models and Solution Approaches</td>
</tr>
<tr>
<td>2018</td>
<td>Poonam Rathi</td>
<td>American Express</td>
<td>Change Point, Prediction and Classification with Functional Data</td>
</tr>
<tr>
<td>2018</td>
<td>Kavitha Chetana Didugu</td>
<td>HCL Technologies, Associate technical architect</td>
<td>Streaming Data: New Models and Methods with Applications in the Transportation Industry</td>
</tr>
<tr>
<td>2017</td>
<td>Sayan Putatunda</td>
<td>Data Scientist, Amazon</td>
<td></td>
</tr>
</tbody>
</table>
The Public Systems Group (PSG) at IIMA was the earliest academic group in the country, dedicated for working on public policy and governance systems. The group undertakes cutting edge research, offers contemporary courses, conducts training modules, and provides expert advisory and consultancy on public policy, strategic management, governance and administration.

The focus of the group is to promote research backed by strong theoretical foundation to gain scholarly understanding of social and political processes that underpin policymaking and to develop impactful solutions for addressing issues on planning, operations and management of public systems that are fundamental to the society. The group is multi-disciplinary in nature with expertise in public policy and administration, management science, social and behavioral science and humanities.

Current research interests of the faculty include energy and climate change, environmental studies, social policy, urban planning and management, public finance, education policy, transportation systems and policy, ICT enablement in transport systems and infrastructure, smart cities and rehabilitation, community development, marketing of public services, impact assessments, hospital and health systems, and telecommunications policy.

Current and recent faculty research projects cover the following themes:

**Energy and the Environment:**
- Peer to Peer Power Trading using Block Chain
- Grid Responsive Buildings
- Energy and Mass Exchange in Vegetative Systems
- Assessment of CO2 Capture and Storage Potential
- Electronic Waste Management
- Environmental Impact Assessment
- Natural Resource Access and Equity
- Thermal Power Policy
- Social Policy, Entrepreneurship and Innovation, and Urban Development:
  - Social Entrepreneurship
  - Corporate Social Responsibility and Irresponsibility
  - Innovation in Small and Medium Industries
  - Innovations in Higher Education
  - Right to Education
  - Gender and Social Justice
Social Protection Policies for Children
Digital IDs and Welfare
Developmental Participatory Theatre
Globalization, Social Movements and Public Participation
Accountability Mechanisms in Social Policy
Urban Governance Reforms and Public Service Delivery
Development-Induced Displacement and Rehabilitation
Housing Policy, Transit-Oriented Development
Transportation and Telecommunications
PPPs in Infrastructure and Transportation
Urban Transportation Planning, Management and Policy
High Speed Rail Development
Trucking Policy, Urban Freight
Pricing in Urban Transport Systems
Agent Based Transport Modeling and Analysis
Transportation Operations Modelling
Automation of Transportation Operations
Electric Vehicles
Impact Evaluation of Transport Investments and Policies
Travel Behavior Analysis
Travel and Traffic Surveys
Intelligent Transportation Systems
Public Transport and Nonmotorized Transportation Planning
Wireless Technology and Broadband Connectivity
Internet Governance of Government services
Economic Value of Unlicensed Spectrum

Some Recent Thesis Titles and Placement of Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Name Placement/Current Organization</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Samudra Sen Adani Institute of Infrastructure Management (AIIM)</td>
<td>Higher Education in India: Efficiency, Quality and Sustainability</td>
</tr>
<tr>
<td>2019</td>
<td>Vidhee Avashia Post-Doctoral Researcher at IIM Ahmedabad and Visiting Faculty at IRMA, Anand</td>
<td>Development, Climate Change and Indian Cities: Framing and Implementing Policies</td>
</tr>
<tr>
<td>2018</td>
<td>Debdatta Mukherjee</td>
<td>Essays on Corporate Social Performance (CSP) &amp; Corporate Social Responsibility (CSR): A Global to Firm Level Analysis</td>
</tr>
</tbody>
</table>

Research work of faculty members is published in highly-acclaimed international and national journals based on high quality collaborative research projects between academics and practicing managers/policy makers; our course material is drawn from original case studies from international policy and management institutions. Doctoral students are encouraged to produce scholarly research papers and present their work in national and international conferences, individually or in collaboration with faculty members with whom they share common research interests. Institute has provision for sponsorship of doctoral students to present their work in international and national conferences.

The PhD Programme
A student specializing in the PSG Area takes all common PhD core courses together with core and elective courses offered by PSG. A typical set of PSG courses in the PhD is as follows:

**First Year Area PhD Core Courses**
- Public Policy
- Methods for Policy Analysis and Research

**Second Year Area PhD Core Courses**
- Public Finance
- Public Management

**PhD Elective Courses**
(This list is indicative and the courses offered may change from year to year)
- Energy and Environment Policy
- Interpretive Research Methods
- OR Applications in Public Systems

**Third Year**
- Comprehensive Examination
- Dissertation

**Fourth Year**
- Dissertation
Resources at IIMA

The main campus houses the academic complex including the doctoral programme office, most of the faculty housing facilities, eighteen student dormitories, the library, and a sports complex. The new campus has seventeen additional dormitories for students, family accommodation for married students, and a classroom complex. A new state-of-the-art sports complex is also coming up in the new campus.

**LIBRARY**
The Vikram Sarabhai Library is committed to providing widest possible access to information and this commitment is reflected in the range of services provided by it. Its website http://library.iima.ac.in is linked to various online databases that are available from any networked computing device within the library and the institute. VSL has also launched an android app for accessing its resources. The library spares no efforts to fulfill its mission by selecting, acquiring, organizing, retrieving, maintaining and providing access to a collection of materials (both print and non-print) and electronic resources that address the interest and needs of the members.

**Resources**

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<th>Particulars</th>
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<td>Current Subscription to Journals</td>
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<tr>
<td>News Papers</td>
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</tr>
</tbody>
</table>

**E-Resources**
The library subscribes to a number of company and industry databases, bibliographic databases and E-journals to provide latest scholarly information to the users.

**Company & Industry**
ACE Equity (Offline), ACE Knowledge and Research, ACE Mutual Fund (Offline), Bloomberg, CAPITALINE (Offline), CAPITALINE (Online), CMIE – PACE, CMIE - Prowess dx, CMIE – Prowess IQ, Comupstat (North America University Package), Corporate Social Responsibility, CRISIL Research, CRSP (Center for Research in Security Prices), Dion INSIGHT, EMIS Intelligence (ISI Emerging Markets (Asia)), Euromonitor Passport, FIG - Market Intelligence platform (SNL), Frost & Sullivan Growth Partnership Services, Gartner, Indian Boards, Infraline - Coal Sector, Infraline - Oil & Gas Sector, Infraline - Power Sector, Institutional Shareholder Services (ISS), MarketLine Advantage, NASSCOM Member Directory, SeekEdgar, Statista, Thomson Reuters Eikon, Thomson Reuters LPC, Tracxn, Venture Intelligence : M&A Deal Database, Venture Intelligence : Private Equity Deal Database, Venture Intelligence : Real Estate Deal Database, WARC (World Advertising Research Center), WRDS

**Economics & Statistics**
CEIC database, CMIE – CapEx, CMIE - CapEx DX, CMIE – Commodities, CMIE - Economic Outlook, CMIE - Industry Outlook, CMIE - States of India, CMIE Trade DX, comScore Web Behavior database (2017), Datastream, District Metrics, DSI Data Service & Information, EPWRF Economic and Market Review and Research, EPWRF India Time Series, Indiastat.com, MICA Indian Marketing Intelligence, OECD & IEA Statistics.

**Datasets**

**Legal**

**Research Support Tools/Databases**
Avoiding Plagiarism, COS Papers Invited, EBSCO American Doctoral Dissertations, 1933 – 1955, EBSCO Research Starters – Business, Grammarly, ProQuest Dissertations & Theses Full Text: The Humanities and Social Sciences Collection, Sage Research Methods Online, Scival Funding (Funding Institutional), Scopus

**News Papers & Magazines**

**Archival Collection**

**E-Books**

**E-Journals**

**Others**
World Bank Data, Encyclopedia of Britannica, Power Lingo Fx25

**Specialized Search Tools**
EBSCO Discovery, EBSCO A to Z and RemoteXs for internal users.

**Services**
- Circulation
- Reading Facility
- Mail Alert Service
- Reference and Information
- Scanning
- Database Search Service
- Document Delivery
- Inter Library Loan
- Photocopy
- Indexing and Bibliography
- Abstracting
- Orientation Programme
- Information Literacy Programme
- Online Public Access Catalogue
- E-Book Reader Lending Service
- Book Drop Box Facility
- 3D Printer Facility
- Topical Book Display
- Online Chat Facility
- JAWS Talking Software and SARA CE Book Scanner for Visually impaired
- KIBO Software for Visually Impaired
- Library VR Application
- KIOSK for Self Issue/ Return/ Renew of Books

**Institutional Repository:**
The IIMA Institutional Repository has been created to collect, preserve and distribute the scholarly output of Indian Institute of Management, Ahmedabad. It is an important tool to facilitate scholarly communication and preserve institutional knowledge.

Currently the repository contains more than 17000 items consisting of faculty publication, thesis and dissertation, student’s project, working papers, IIM news etc.
Publications:
The library has been publishing two quarterly information bulletins since 1998
- Current Contents in Management: Marketing
- Current Index of Management: Marketing.
It has started NICMAN (National Information Centre for Management) Membership in order to help/facilitate business/management related researchers in their research.

INFORMATION TECHNOLOGY AT IIMA
A Local Area Network (LAN) with more than 2000 nodes connects all the members of the Institute community with each other. This network has a single mode backbone capable of 10/40 Gbps network speed.

There are more than 120 managed network switches which handle the internal data traffic. The Institute has installed a high end core Cisco 6807-XL L3 switch in high availability (HA) at the data center to enhance security and improve network throughput. Every workplace on the campus including program participants’ rooms in dormitories, faculty offices, classrooms, management development center, computer lab, Ph.D. lab, and administrative offices has network connectivity. Using long range Ethernet technology, faculty/staff residences have also provided network connectivity to the Institute’s LAN.

The Institute has put a wireless layer (Wi-Fi) on top of this LAN with high level of security using username password based authentication. More than 1000 Access Points have been installed throughout the Campus for a superior Wi-Fi experience. The WLAN infrastructure is also upgraded to the 802.11ac Wave 2 standards. A Next Generation Firewall is installed to enhance the network security.

Every participant and faculty member has a networked, business-performance personal computer or laptop. The Institute’s network is linked to the Internet via a set of three leased lines enabling round-the-clock Internet connectivity on the campus. All the Internet Service Providers (ISPs) from whom the Institute has procured Internet bandwidth have installed fiber optics link from the campus to their hub. This ensures very high quality of bandwidth to the Internet. The Institute has recently upgraded internet bandwidth to 250 Mbps bandwidth from Ishan through TCL, 250 Mbps bandwidth from Ishan and up to a 1 Gbps link from National Knowledge Network (NKN).

The campus network is supported by a large server farm with more than 100 high speed servers, running on a wide variety of platforms. Servers are virtualized using VMware hypervisor. Many servers on this network make use of Linux and open source software for providing the necessary services. For every workgroup (faculty, participants, staff, etc.), there is a set of dedicated servers which provide a core layer of services like Internet access, and file/print services. The E-mail facility is managed through Google which provides us web based email client, built in chat facility, Google docs, Google apps, Google sites and few other facilities as well. The main web server (http://www.iima.ac.in) carries information on IIMA. Another web server (http://stdwww.iima.ac.in) provides facilities for individual participants to host their home pages.

Every dormitory has a high-speed shared network printer with web based print billing software. In addition, participants are provided centralized high speed printers having username/password based printing facility. There is a wide variety of software packages available to the participants and faculty for their academic and research work. These packages include several language processors, statistical, math programming, simulation, project management, CASE tools, etc.

Every classroom is equipped with a projector, a PC, and a DVD player. Some of the classrooms are equipped with IP/ISDN based video conferencing capability. A fully equipped computer classroom is also available in the computer center where on-line computer based training can be imparted. The IIMA website includes payment gateway and offers access to a large repository of IIMA case studies and research reports.

IIMA is also planning number of initiatives in very near future like implementing ERP solution, IP Telephony, Campus wide CCTV surveillance system, Automated Backup for end user devices, building Smart Classrooms, Build Mobile Application as a one stop portal for all academic, administrative, cultural and general activities etc. as a part of journey goal to make IIMA a truly SMART CAMPUS. The idea is to do digital transformation to enrich “Digital Experience”. 
Life on campus

Life on Campus
Decision to join a long-duration program and to live in a campus might be a challenging task for the family. However, the IIMA campus ecosystem and the cooperation from the Ph.D. community will make the transition less taxing.

Accommodation
All Ph.D. students are provided with free accommodation on campus. Unmarried Ph.D. students stay in one of the new dormitories with spacious rooms, an attached bathroom, and ample storage space. The married students are provided a spacious 1-BHK accommodation (based on availability) complete with all furniture including beds, table, chairs, study table, cupboards, and a dining table. The kitchen comes equipped with piped gas supply and a gas stove. Campus has 24X7 electricity and water supply and a high-speed WiFi connection. A bank and post office are also located within the campus premises.

Healthcare
IIMA values the health of its community members. All Ph.D. students are covered under institute’s group insurance facility. The institute has a dispensary with full-time residential doctors and an ambulance is parked 24*7 at the old campus. Referrals to specialists at leading hospitals are also made available as and when needed. A medical store is also located inside the campus. Both heritage and new campuses have well-equipped gyms, which can be used by the family members.

Childcare
The campus has reputed schools in its vicinity, where admission has to be sought individually. It also has a professionally-maintained crèche, the benefits of which can be availed by residents of campus at a nominal rate. The safe and secure campus houses well-maintained indoor and outdoor sports facilities which can be availed by children of Ph.D. students at a nominal rate.

Professional opportunities
Ahmedabad is a fast growing city that offers interesting career opportunities. It is a hub of industrial activity in Western India and is home to several renowned institutions of higher education. The city provides opportunities for spouses of students to work. Additionally, the family members can explore opportunities within the campus in various centres and administrative departments.

Activities and amenities
The campus has a diverse population from all states of India and several festivals are celebrated with fervor round the year. The student body organizes various events including cultural festivals, plays, dance and singing events, movie screening, food festival etc. There are more than 45 clubs run by students that organize a wide range of events round the year. The research seminars, Annul lectures and informal debates enrich the academic environment. Several activities, except those specifically related to courses, are open to the entire Ph.D. community including family members. The family members also get access to the huge library collection and all the sports facilities. There are more than 5 food joints within campus with facility for room delivery and many of them stay open till 4AM. The Ph.D. community also conducts and encourages initiatives such as family dinners and get-togethers that promote healthy interaction among the members of Ph.D. community.
Admission & Financial Aid

Ph. D. Programme
The Ph. D. Programme of IIMA admits students who have a strong academic background, are highly motivated and who have the intellectual curiosity to undertake original research. The programme prepares students for a career in academia or research positions in industry.


Students spend generally a little over four years that includes two years of rigorous course work. From the First term onwards students take advanced Ph. D. level courses in the Area of high levels of specialization along with some recommended Post Graduate Programme (PGP) courses which provides a general management overview and develop basic skills for analyzing managerial problems. After completing the course work, students have to pass an Area Comprehensive Examination to demonstrate that they have reached a level of proficiency in the Area of high levels of specialization. Subsequently, students work on their Ph. D. dissertations. These dissertations are expected to make original contributions to an Area of management or to one of management’s source disciplines.

Students admitted to the programme receive a comprehensive fellowship that covers all costs and in addition provided a modest living allowance. IIMA has excellent facilities in computing, library, and faculty resources. IIMA faculty members publish actively in scholarly journals and consult with industry and government within and outside the country. Case writing and related research are actively pursued by faculty and students.

Graduates of the Ph. D. Programme are placed in world class organizations in teaching, research and consulting positions. A total of 378 doctoral students have graduated from IIMA so far.

Basic Eligibility Criteria:
The candidate must hold, subject to the condition laid down below:

<table>
<thead>
<tr>
<th>Entry Qualification</th>
<th>Minimum Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s</td>
<td>Or</td>
</tr>
<tr>
<td>Post graduate diploma (2 yrs)</td>
<td>3 years</td>
</tr>
<tr>
<td>Professional qualification - CA/ICWA/CS with B.Com/Degree</td>
<td>4 years</td>
</tr>
<tr>
<td>B.Tech./4 year Degree with 6.5 CGPA or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

* Duration for completion of Ph.D.

Condition:
The Master’s degree or equivalent qualification/Bachelor’s degree or equivalent qualification should be: (a) from any of the Universities incorporated by an act of the central or state legislature in India or other educational institutions established by an act of Parliament or declared to be deemed as a University under section 3 of UGC Act, 1956; or (b) recognized by the Ministry of HRD, Government of India or (c) possess an equivalent qualification from an institution approved by AICTE.

Candidates who are in the final year of their Master’s/Bachelor’s
Programmes that would make them eligible, can also apply. Such candidates, if selected, will be allowed to join the programme provisionally only if they submit a certificate latest by May 31, 2020 from the Principal/Head of the Department/Registrar or Director of the university/institute (issued on or before May 31, 2020) stating that they have appeared for the examinations (including practical examinations) in all the subjects required for obtaining the Master’s/Bachelor’s degree/equivalent qualification. Their admission will be confirmed only when they submit the mark sheets and a certificate of having passed the master’s/bachelor’s degree/equivalent qualification referred to in the certificate issued by Principal/Registrar of their college/institute. The deadline for submission of mark sheet and the certificate is December 31, 2020. Please note that those candidates who have applied on the basis of their master’s degree will have to submit final degree mark sheet/certificate, and those who have applied on the basis of their B. Tech /4 year degree will have to meet the 6.5 CGPA (or equivalent) stipulation. Non-fulfilment of these conditions will automatically result in the cancellation of the provisional admission.

**Selection Process**

Candidates applying to the Ph. D. Programme are required to take the Common Admission Test (CAT) or a standard test in lieu of CAT. For NRIs and Foreign students this standard test is the Graduate Management Aptitude Test (GMAT).

Different Areas of high levels of specialization of IIMA have specified different standard tests that candidates applying to the Ph. D. Programme in their Areas can take in lieu of CAT. These standard tests are given in the following table:

<table>
<thead>
<tr>
<th>Area of high levels of specialization</th>
<th>Standard Test in lieu of CAT *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Policy</td>
<td>GRE/GMAT</td>
</tr>
<tr>
<td>Economics</td>
<td>GRE/GMAT/GATE/UGC-JRF in relevant discipline</td>
</tr>
</tbody>
</table>

* Valid for two years from the date of the standard test and should be valid on the deadline of submission of the application form

Scores of CAT 2017, 2018 and 2019 are considered valid for application to the Ph. D. Programme in 2020.

**Standard Test Score not required if an applicant is:**

- PGP Alumni of any IIM
- PGPX/PGP-PMP Alumni of any IIM where such courses are offered (Part-time/evening/week-end/Distance Learning programmes of IIM are NOT considered)

Candidates will be short listed and called for an interview at Ahmedabad during March-April 2020 for final selection on the basis...
of their performance in CAT or the standard test in lieu of CAT, academic background, and experience.

**Fellowship and Expenses**

IIMA provides a comprehensive fellowship that covers all academic expenses including tuition, computer, library, medical insurance, placement and alumni fees, and in addition includes a monthly subsistence allowance of Rs.32,800/- (Slab A) for first and second years, Rs.35,400/- (Slab B) after completing comprehensive examination and Rs.39,300/- (Slab C) after submitting the TAC approved thesis proposal.

A Contingency Allowance of Rs. 25,000 per year (for five years) to cover research expenses, expenses on books, photocopying etc. are also available to all students. Students are entitled to get up to an amount of Rs.1,75,000/- (upper limit) for attending international conference/workshop/summer school during their entire tenure with Ph.D. Programme system (maximum 5 years). (Further details are described in the Ph. D. Programme Brochure).

Since the Ph. D. Programme is a full time residential programme, accommodation is provided to all the students in dormitories. A fixed number of houses for married students are available on campus.

**How to Apply**

Application Form and Brochure will be available online. Candidates can fill-up the application form online and is eligible to apply for a maximum of three Areas of high levels of specialization. An application fee of Rs.500/- can be paid through IIMA gateway. The last date for submitting the application will be January 23, 2020.

Also please refer to the IIMA’s advertisement for Ph. D. Programme that will appear in leading newspapers during September 2019.

**Important Dates to Note:**

- Link open for Online Application: September 10, 2019
- Last date for submitting Online Application: January 23, 2020

For further information/clarifications, please contact:
In-charge
Ph. D. Programme
Indian Institute of Management Ahmedabad
Vastrapur, Ahmedabad 380 015
Phone: 079-66324638/39
**Phase 1 Courses**

**COURSE WORK STRUCTURE**

Total Credits: 30.5  (Ph.D. Core Courses: 8.5 Credits, Area Courses: 16.0 Credits#, and PGP Courses: 6 Credits*)

<table>
<thead>
<tr>
<th>Ph.D. CORE/COMPULSORY COURSES (with credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Induction Term</strong></td>
</tr>
<tr>
<td>Mathematics (0.75)</td>
</tr>
<tr>
<td>SocPol-I (0.75)</td>
</tr>
<tr>
<td>Excel Workshop (Compulsory but Non-credit)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ph.D. ELECTIVE COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics-II (1.0)</td>
</tr>
<tr>
<td>Psychology-II (0.5)</td>
</tr>
</tbody>
</table>

# 16 credits worth of Area Courses (Area Core/Elective + Project Course/Special Topics Course + Other Area Core/Elective + Ph.D. Electives). The Project Course/Special Topics Course (1.5 credits) is a compulsory requirement.

It is to be noted that Area Core Courses are limited to 6 credits.

*6 credits of PGP courses are required over entire course work
Phase 2 Courses

Business Policy Area Courses

Advanced Seminar on Action Research Methodologies
This specialized course in hermeneutic research methodologies using action research context focuses on inquiry frames to understand dynamics of management processes. This is particularly useful where the lived reality is to be phenomenologically experienced and interpreted especially where controlled experimentations are impossible.

The specific learning aims of this seminar are:
- to understand the systemic underpinnings of different action research approaches and how they impact systems, structures and processes
- to review the scope and application of action research methodologies in a variety of contexts and inquiries
- to become familiar with the pitfalls of attributing motivations in management research and to distinguish between conscious and unconscious feedback loops
- to develop research design strategies for using action research methodologies and hermeneutically resolving the constraints of transference and subjectivity to gain some first-hand experience of action research methodologies

Corporate Governance
The course focuses on the main theoretical perspective of "Agency Theory" to study mitigation mechanisms like boards, executive compensation, ownership structure and the market for corporate control to deal with corporate governance issues/agency issues with emphasis on unique governance issues in an emerging economy context.

Economics of Strategy
[Jointly offered with Economics Area]
The course exposes the participants to various neoclassical and non-neoclassical theories of the firms along with concepts and tools of industrial organization that may help them understand firm strategy.

International Strategic Management
This course aims to deepen understanding of management challenges associated with discovering and inventing international business strategies for managing cross-border value chains. The course exposes students to complexities of strategy and develops conceptual foundations by introducing them to prevailing terms and concepts and emerging praxis around complex activities of global, international and multi-domestic product-services linkages of business organizations with due regard to developments in various international fora.

Seminar on Entrepreneurship
The elective on Entrepreneurship is designed to familiarize students with the theoretical and empirical perspectives in the field of Entrepreneurship. Specifically, the course enables students to appreciate the different perspectives in entrepreneurship research, develop skills in evaluating this literature, and develop and evaluate research questions in this field.

Strategy and Innovation
The focus of this course is on innovation as a strategy for sustainable competitive advantage. It emphasizes understanding and application of concepts that address the content and process issues for managing innovations.
Strategic Management I and II
The objectives of these courses are to strengthen the theoretical underpinnings of students, and expose them to the extensive research carried out both in the domain of strategy formulation and implementation.

Economics Area Courses:

Mathematics for Economists
Mathematical rigor has become an integral part of economics literature, and this course serves as an introduction to such rigorous thinking. The course aims to provide in-depth treatment to various mathematical concepts used in subsequent advanced coursework in economics: microeconomics, macroeconomics, econometrics, game theory, etc.

Microeconomics I & II
The microeconomics courses build the foundations for understanding of the decision of rational individual decision makers. We first understand individual decision making by consumers and producers. The next part of the two courses looks at how these consumers and producers interact in markets, the different forms of markets as well as market failures.

Macroeconomics I & II
This are courses on macroeconomic modeling. We will work through a sequence of standard models to understand the dynamics and comovements of aggregate variables like consumption, output, inflation etc. We will use dynamic programming as the basic tool and hence, will develop the necessary methods during the course. The goal of these courses are to introduce the course-participants to the basic tools used in modern macroeconomics. We will also use computer programs to simulate the models and test their implications on data.

Econometrics I
The course acquaints the students with the idea of econometrics, use of regression techniques in a research context, and understanding of various issues and solutions to those issues. The first module provides an introduction and deals primarily with cross sectional models. The second module introduces the participants to the basic ideas and tools of time series econometrics. The third module provides a comprehensive approach to panel data techniques.

Computational Economics
This is a course on computational economics, not on numerical methods although we will use numerical methods to a large extent to solve the models. Over the last two decades, there has been an enormous change in how economists and finance people do research. Availability of large scale data and computational power has ushered in a major change in terms of how modern economics is done. Applications of computational models are wide-ranging; from macroeconomic DSGE style models to time-series models of forecasting, empirical industrial organization to agent-based models.

Time Series Analysis
This course introduces the theory and methods of time series analysis for research in economics and finance. The objective of the course is two-fold. First is to give participants enough technical background to enable them to read research papers in applied time series analysis. The second is to introduce select advanced topics useful for analysis of macroeconomic and financial time series.

Econometrics II
The course is designed to review various advanced analytical tools from econometrics/data analysis which are important and relevant for empirical research across disciplines. The objectives are to understand the advanced analytical tools which are developed in recent times and are commonly used in the applied research today, learn how these new methods are getting used in today’s empirical research methods and published papers, expose to a number of examples and new data, and provide with software tool kits that will enable students apply these methods to real data. This course complements Econometrics I.
Advanced Macroeconomics
This is an advanced course on macroeconomics. We will go through set of tools and a series of models to understand macroeconomic phenomena in time domain and frequency domain. In particular, we will explore extensions and foundations of the representative agent economy and discuss models with heterogeneous agents.

Economics of Strategy
Organizational economics encompasses various levels of analysis at the same time. OE literature (broadly defined to include both the neo-classical and non-neoclassical strands) is perhaps the only strand of economic literature which simultaneously provides insights at the firm, industry and the economy levels. The course exposes students to the theory, concepts and tools of organization economics that may help them understand firm strategy, and the economic roots of many concepts they learn in various courses on strategy, marketing etc.

Global Business and Economic History
"Business History" is important to understand the evolution of firms, markets and societies over time. It imparts a historical sensibility to contemporary issues, provides lessons from the past and broadens the horizon of the management scholar. The course introduces key concepts, events and business practices that mark the evolution of modern business at both a global and Indian scale.

Data Envelopment Analysis
This course provides the students with conceptual foundations of productivity and efficiency from the perspective of production economic theory, Operations Research (OR) and also to show how one can use real life data to measure and compare performance of different decision making units. This is an advanced doctoral level course in DEA. The emphasis of this course is both on understanding the production theory and OR applications using mathematical programming.

Public Policy and Economics of the Transport Sector
The objectives of the course are to understand current issues and trends in the transportation industry; understand the economics of transportation systems, across multiple modes: demand, cost, regulation, pricing, quality of service, subsidies, competition, and project appraisal; learn the principles of applying economic tools to improve transportation system performance; understand the urban transportation policy development process: fighting congestion and air pollution, provision of mass transportation, and increasing safety of travel; and develop a research agenda around the sector.

Decentralization and Public Policy
The purpose of this course is to illustrate the role of decentralization in enabling the formulation of effective public policies. In these lectures, we will show that decentralization is at best a necessary condition for effective public policy. Democratization, however, is a sufficient condition, since it enables households to participate in the process of design, provision and management of public goods and services. The first half of the course will focus on explaining some of the theory related to decentralization and democratization. In the second half specific problems that could be addressed by policy will be discussed. The design of this course is such that the theory will be discussed first followed by presentation of empirical results.

Foundations of New Institutional Economics
This course aims to equip participants with tools and frameworks to identify institutions and institutional change in the policy process. This course begins by laying down the necessary ground-rules for understanding institutional evolution and design, such as: agency and contracts; incentives and transaction costs; property rights and firm behavior; collective action and human nature. The major works of important institutionalists such as Ronald Coase, Douglass North, John R. Commons, Oliver Williamson, Mancur Olson, Elinor Ostrom and Daniel Bromley, amongst others are covered. It then works through the transcripts to understand real economic systems.
through empirical examples and cases. Subsequently, the course engages with participants in identifying institutional aspects in their individual research programs.

Organizational Economics
This is a course on personnel economics, a field of labor economics concerned with employee motivation, performance and productivity within organizations. During the course, we will examine canonical models of selecting, motivating and retaining agents and the empirical evidence in support of these models. While many papers frame the research question within the firm, the lessons have wide application outside the firm as well—in government, in non-profit and volunteer organizations, in education and health, and many other settings. In recent years, Nobel Prizes to Oliver Hart, Bengt Holmstrom, Oliver Williamson and Jean Tirole have directly referenced their contributions to organizational economics. The course will consider both theoretical models as well as empirical evidence presented in support of various models. We will critically discuss gaps in the literature and possible research topics, and then begin work on closing those gaps.

Networks and Granularity
This course introduces participants to social networks and its applications to economics. First part of the course introduces general network terminology and provides a perspective on applications of network theory in economics and finance. The second part of the course is focused on theoretical models of networks where it covers models of network formation and also games on networks.

Finance and Accounting Area Courses:

Applied Functional Analysis for Finance
The objective of the course is to provide the students intending to do research in the areas of Mathematical Finance/Quantitative Finance/Financial Economics a rigorous introduction to Functional Analysis and Operator Theory.

Asset Pricing
Asset Pricing is the first F&A area Ph.D. course for finance-track candidates. The objective of this course is to introduce the basic principles of financial economics. Beginning with a recap of essentials from PGP-I Financial Markets, the first half of the course would cover the theory of choice under uncertainty and the classical mean-variance approach to CAPM. The second half of the course would cover the modern stochastic discount factor approach to asset pricing in incomplete markets using the geometry of state-space diagrams. The course ends with a review of stylized facts about asset returns and empirical performance of asset pricing models.

Corporate Finance in Emerging Markets
This seminar course focuses on research in emerging economy context in the domain of corporate finance. This course provides an overview of research in corporate finance issues in emerging economies. It attempts to aid students in their pursuit of research in the domain of corporate finance in the emerging economies by discussing issues that are germane to unique conditions that prevail in these economies.

Derivatives Pricing
The objective of this second year F&A area Ph.D. course is to provide an introduction to the theory of derivatives pricing. Beginning with a review of relevant prerequisites from “Asset Pricing”, the course first builds the intuition of necessary concepts using discrete time models before moving to derivatives pricing in continuous time. The course uses a mix of readings from textbooks, review papers and select classic papers from the field of derivatives pricing.

Empirical Accounting Research
The aim of this course is to introduce students to the ever growing field of empirical accounting research. Students get an opportunity to read, present and critically analyze influential research papers in the area. They are able to get an insight into the reasons why certain questions have been asked by the researchers, and how they have attempted to answer. Students then suggest the improved
questions, improved ways in which the questions could have been answered, and the unanswered questions which can pave the way for future research. Domains covered are earnings management, executive compensation, corporate governance, disclosure, etc. After undergoing the course, students are able to make an informed choice whether their dissertation can be in any of the domains.

**Empirical Asset Pricing**
The course exposes the participants to the interplay among the financial economic theory, data availability and econometric methods while studying asset pricing. This course complements the compulsory Ph.D. course ‘Asset Pricing’ by discussing (a) the empirical properties of asset returns and (b) issues in the estimation of asset pricing models. This course mostly covers asset pricing issues related to stocks.

**Empirical Research in Auditing and Corporate Governance**
The purpose of this course is to expose Ph.D. students to the most relevant research being conducted on various topics related to the field of Auditing and Corporate Governance. The course helps the participants to identify possible directions for future research in related fields and also helps them to learn the necessary methodologies that are needed to conduct high quality research in related fields.

**Foundations of Finance**
The objective of this course is to introduce essentials of utility theory, financial economics and mathematical preliminaries for asset pricing and corporate finance. The course is divided into four parts. The first part covers microeconomics of asset pricing and builds basics of expected utility theory and risk aversion. The second part reviews main results from mathematics of vector spaces and random variables. The third part covers portfolio theory, separation theorems and static CAPM. The fourth and the final part introduces economics of information asymmetry, signaling and agency theory to build foundations for corporate finance.

**Mathematical Finance**
This course helps to prepare for the rigors of analysis by imparting the skills of analytical tools. The course would help in identifying the right tool to apply in diverse situations, interpretation of the results and the theoretical underpinnings of how mathematics can be effectively used in complex financial functions.

**Seminar in Behavioural Finance**
Most of the models in financial economics assume complete rationality of economic agents and assume efficiency of the financial markets. However, several features of the asset prices remain a puzzle for the traditional finance theories. Behavioral finance makes an attempt to improve the understanding of several features of asset prices by assuming that at least some of the agents are not fully rational. The course offers a survey of the advances in asset pricing, investor and firm behavior, brought about by the behavioral finance theories.

**Seminar Course in Accounting and Markets**
The purpose of this course is to expose Ph.D. students to the manner in which accounting information is evaluated by corporate investors while determining their trading and investing securities. The course also highlights the fact that investors do not always evaluate accounting information rationally and that their evaluations are affected by various heuristics and biases affecting human judgment and decision making. The course helps the participants to identify possible directions for future research in related fields and also helps them to learn the necessary methodologies that are needed to conduct high quality research in related fields.

**Seminar Course in Accounting and Organization**
The purpose of this course is to expose Ph.D. students to the manner in which accounting information impacts organizational behavior of different types of managerial personnel. The course highlights how accounting information could be utilized to develop effective evaluation and incentive schemes and also highlights the interactive impact of accounting information and various heuristics and biases
on organizational behavior. The course helps the participants to identify possible directions for future research in related fields and also helps them to learn the necessary methodologies that are needed to conduct high quality research in related fields.

Seminar Course in Corporate Finance
This course covers selected theoretical and empirical work in the area of corporate finance. The emphasis is on recent developments in Corporate Finance based on information asymmetry and conflicts of interest between managers and shareholders and between “insiders” and “outsiders”.

Food and Agri-Business Area Courses

Agro-Food Value Chain Management and Development
Major objectives of the course are to familiarize the participants with the concept and the theory behind the value chain framework and its relevance for agribusiness; to expose participants to specific applications of this framework in the subsectors of agribusiness like garments, horticulture, food service, and the like; to help participants apply global and Indian learning in this field to understand and tackle issues of management and development in such chains and networks.

Agricultural Management I
The objective of this course is to introduce advanced concepts of consumer behavior, demand, supply, economic systems, water and input management, agricultural marketing, risk analysis, development and institutional economics.

Agricultural Management II
The objective of this course is to familiarize participants with concepts in natural resource economics, agricultural finance, management of technical change, agricultural trade, and public policy.

Agricultural Development Policy
The objective of this course is to develop a conceptual understanding and empirical perspective of major problem areas in development of agriculture and rural sector in India. In accomplishing this objective, a range of past, current and emerging agri-food policy issues and instruments, besides policy formulation process and the institutions or groups involved in this process, are considered. The course provides participants with a comprehensive exposure to the national and international dimensions of the agricultural economy using a business perspective. Additional emphasis is placed on the role of agriculture in economic development and international trade issues. The course analyzes implications of farm sector reforms and trade policies for businesses, farmers, consumers, and the larger economy.

Foundations of New Institutional Economics (Elective)
This course aims to equip participants with tools and frameworks to identify institutions and institutional change in the policy process. In the pursuit of understanding institutions – laws, rules, customs, and norms – that govern real economic systems, new institutional economics adopts a methodology that is not restricted to model driven deduction. This course begins by laying down the necessary ground-rules for understanding institutional evolution and design, such as: agency and contracts; incentives and transaction costs; property rights and firm behavior; collective action and human nature. It then works through the scripts to understand real economic systems through empirical examples and cases, with a focus on agri-food systems and natural resources. This will involve, amongst other things, problem identification, literature review and abstract writing exercises. Overall, class discussions and presentations will aim to cultivate institutional thinking among the participants which will help add layers of richer arguments to their own individual research programs.

Human Resource Management Area Courses

Foundations of Research in HRM I
This course revolves around research issues related to human resource planning, acquisition, performance management, competence development, career planning, and development issues.
Foundations of Research in HRM II
The anchoring topics in this course are compensation dynamics, the empowerment discourse, labour rationalization dynamics, human resource strategies in the context of mergers and acquisitions, sick unit turnarounds, corporate restructuring, and internationalization processes.

Foundations of Research in ERM I
Issues dealt with in this course revolve around the economic, political, social, legal, and collective trade union action determinants of employee relations.

Foundations of Research in ERM II
This course focuses on technological determinants of employee relations, employee grievance and discipline management, employee involvement initiatives, the social clause-trade regime debate in the employee relations context, and employee relations dynamics in the mergers/acquisitions and turnaround contexts.

International Human Resource Management
Human Resource Management is an important lever to achieve integration of different units along with the autonomy to subsidiaries. Thus increasing internationalization of firms makes it important to understand the HRM issues and practices in the context of MNCs. Further, globalization of business demands global mindset of managers. The course addresses these issues with focus on strategic issues in the management of MNCs, Role of HRM practices in MNCs’ effective management, Management of expatriates, and Cross-country comparison of HRM practices.

This course seeks to help students understand the Human Resource Management challenges associated with the operations of companies whose activities stretch across national boundaries.

Qualitative Methods in HRM
The learning objectives of this course are to enhance appreciation for the potential and relevance of qualitative research methodology; develop insights into the logic of qualitative research enquiry; gain understanding of some major qualitative research approaches like the ethnography, video-ethnography and phenomenology; get exposure to significant qualitative research tools and techniques; and develop hands on experience in analytical, interpretative and writing skills in the employment of qualitative research approaches.

Quantitative Techniques in HRM
This course provides doctoral students with the opportunity to apply the tools and methodologies learnt in the core curriculum to their research in the field of HRM. This course also exposes the students to latest development in the quantitative techniques in HRM. The focus of this course is to study various quantitative techniques used in processes related to employees in an organization. Apart from the organizational context, the course also looks into quantitative approaches used in the analysis of labor markets.

Theoretical Underpinning in HRM
This course will focus on the scholarship in the functional areas under the broad umbrella of HRM, such as Recruitment, Training and Development, Compensation, Organizational Structures etc. The key emphasis would be developing understanding about the highlighting the research issues related to the respective functional areas and corresponding application of theoretical frameworks.

Innovation and Management in Education Area Courses

Analyzing and Evaluating Educational Policy
The search for causality in relationship between variables is as frustrating as it is necessary. As elusive as they might be, claims about causality form the basis of much policy advice and advance our understanding of factors influencing human development. Relatively recent advances in the development and application of quantitative methods in identifying and estimating causal relationships also make this an exciting and productive line of research. The methods covered will include experiments, ‘natural’ experiments, instrument variables, regression discontinuity designs, propensity score matching and value-add models.
Applied Quantitative Techniques for Educational Research
This applied course builds on the insights and knowledge obtained in the first-year research methodology courses (Survey of Statistical Methods, and Statistics). Regression analysis is one of the most commonly used quantitative techniques used across various fields such as economics, education, psychology, sociology, and business. The course is designed to help students become more informed consumers of research and be able to apply these analytic techniques in educational/psychological research. The course will be based on a combination of theoretical and practice-oriented sessions that will provide working knowledge of statistical software like SPSS, STATA and R.

Change and Innovation in Education
Change and innovation are essential parts of any dynamic organization. This course examines the various aspects of change and innovation in the Indian educational context. These will be examined at individual, group, organizational and societal levels, across different sectors, namely literacy, school and higher education. Major educational initiatives within the country and selected innovations in other countries will be examined with respect to their role in effecting change and innovation in education.

Economics of Education: Empirical Approach
This course adopts on an empirical economist’s lens to analyze issues in education i.e. rate of return, production function, competition and choice, cost benefit and cost effectiveness and finally, financing of education. It provides an introduction to important themes in economics of education along with sophisticated empirical research techniques employed to explore these themes. The insights gained would be helpful in deeper understanding and analysis of issues not just in education, but broader social policy.

Education: Theory, Policy and Practice
The course presents an overview of contemporary issues in education, with the predominant focus being on the Indian experience.

Effective Strategies for Survey Development and Implementation
This course focuses on effective strategies for survey development and implementation. Using various hands-on, interactive tools and active learning techniques, the course covers steps of designing a survey from its conceptualization to implementation. Survey construction concerns how methodologists design surveys to assess specific constructs or abilities, and how to determine whether the surveys perform appropriately.

How to Motivate Students for Learning?
This course provides an opportunity to develop an in-depth understanding of human learning and motivation theories and then apply this knowledge to make a meaningful contribution to the lives of students from the local schools.

Organizational Development and Change in Educational Institutions
This course provides an opportunity to participants to study organizational development and change, and then carry out a real-life project in an educational institution designed to bring about a change that is based on diagnosis of the needs of the educational institution. The main objective of the course is to develop the skills required to carry out an intervention within an organization. The second objective is to learn about change in educational organizations—the process, resistance to change, and ways to overcome resistance.

Qualitative Research Methods in Education
This course provides an in-depth understanding of some of the approaches within the ‘qualitative’ tradition of research in education. While the use of the phrase ‘qualitative research’ is not unproblematic, we use it here to capture the broad approaches which fall under the constructivist/critical paradigms of research.
Structural Equation Modeling
The course builds on the insights and knowledge obtained in first year research methodology courses (Survey of Statistical Methods, Introduction to Research Methods and Qualitative Techniques) and provides hands-on training in Structural Equation Modeling (SEM). The course introduces the participants to survey-based research designs and the SEM analytic technique. The course provides inputs relating to measurement theory and ways to incorporate them in our analysis. The course is based on a combination of theoretical and practice-oriented sessions that provide working knowledge of statistical software like SPSS, AMOS and Mplus.

Information Systems Area Courses
Networks and Distributed Systems
The objective of this course is to introduce the participants to fundamentals of computer networks. The course will enable the participants to learn the basic concepts of Open System Interconnection model, P2P, mobile and wireless networks, and distributed systems. The participants will also be exposed to recent advances in networks and distributed systems.

Data Structures and Programming
The objective of this course is to introduce the participants to the concept of data structures such as linked lists, stacks, queues, hash tables, trees, and graphs. The course will help the participants understand the fundamentals of algorithm design, development and computational complexity analysis.

Database Management Systems
The objective of this course is to help the participants understand the fundamentals of database design and development. The basic concepts of database normalization, structured query languages, query optimization, and transaction processing will also be covered. The participants will also learn the emerging research issues in database management.

Systems Analysis and Design
This course exposes students to issues in the analysis and design of systems through formal methods. It deals with both structured and object oriented approaches to development of solutions in the emerging environments and addresses process management, quality, and productivity issues.

Knowledge Systems for Multi-criteria Decision Making under Uncertainty
Multi criteria decision aiding (MCDA) is an important and pervasive subfield of operations research. This course would discuss the recent developments in the area of MCDA. The confluence of uncertainty representation methods, popular MCDA models, and emerging machine learning techniques shall be investigated in detail.

Framework for Information Systems
This course will provide an overview of research issues and frameworks in the selection, design, implementation and evaluation of Information Systems in a managerial context. It will provide the participants with the tools and insights for developing, building and evaluating research and research proposals in the area of IS.

Structure and Economics of IS-enabled Networks
This course exposes students to the large-scale globally distributed IS-enabled networks prevalent in contemporary digital world. These IS-enabled networks are increasingly informing the human action at all levels ranging from individuals to firms. This course will cover two critical aspects of IS-enabled networks: structure and economics. While the former depicts how these networks are organized through a common set of mathematical principles, the latter focuses on the underlying operating mechanisms from an economic standpoint.

Research Issues in Internet Governance and Policy
The course will provide an overview of research issues and frameworks for analysis involved in policy design, implementation and evaluation for Internet and telecommunications, with a focus on developing countries such as India.
Artificial Intelligence
Artificial Intelligence (AI) is increasingly becoming almost a necessity in any business/management problem. The objective of this course is to study the basic concept of AI. Broadly, it would cover the development of AI in the last few decades, and its broad categories such as machine learning, classification approaches, pattern recognition, and fuzzy logic for dealing with imprecision. The focus is on basic concepts and the approaches that can be used as tools in any research area.

Exploratory Data Visualization
Exploratory Data Visualization is an approach that uses visual constructs and techniques to analyze a dataset, get maximum insights into the data and summarize its main characteristics. EDV tries to see what can be found beyond the formal modeling or hypothesis testing task and allow the data itself to reveal its underlying structure. This course will expose participants to a range of exploratory data visualization methods, tools and techniques.

Seminar in Online Text and Analysis
This seminar will provide an overview of the importance of online content. With the emergence of web 2.0 there is a deluge of online text. Technologies like online communities, social media, crowd funding platforms have further contributed to the volume and variety of content. The course covers analysis of different kinds of online text originating from reviews, blogs, social media, crowd funding and its multifaceted impact on businesses. It covers empirical papers largely from the IS and various other disciplines where the textual analysis and impact of online text has been studied.

Data Mining Algorithms and Applications
This course will introduce the participants to the key data mining concepts, methods and processes. The participants will get an opportunity to learn and apply data mining methods for solving real-world business problems. It will also help the participants understand the key issues, challenges and open research problems in mining large data repositories.

Marketing Area Courses

Behavioural Science Applications in Marketing
The objectives of this course are to expose students to the diverse approaches and sub-fields of behavioural science relevant for an understanding of consumer behaviour, enable students to identify research issues, and develop the ability to conduct consumer research relevant to Indian conditions.

Learning by Doing Experiments (Earlier Seminar on Experimental Methods in Marketing)
The purpose of this course is to provide technical skills for the design and implementation of experimental methods used in marketing. While the focus is on marketing, most of the techniques and discussion is relevant for any experimental research in social science/behavioural research. Accordingly, the papers discussed in this course though majorly from marketing also have a fair mix of papers from other related disciplines. A key objective of this course is to get the participants to ‘dirty their hands’ on actual experimentation. The project in this course is oriented towards getting doctoral candidates to conceptualize and design a simple experiment and then analyse the results from the study. The aim is to give the participants the necessary understanding as well as confidence to start doing experimental research.

The course will be useful to participants from marketing as well as those from other disciplines who plan to do behavioural research. Even for those who do not plan to do their doctoral research using experiments it might be a good skill to develop.

Seminar on Quantitative Models in Marketing
The objectives of this course are to expose students to diverse model building approaches like deterministic, stochastic, and simulation models for decision making in marketing, study the state of art in marketing model building in selected sub-areas of marketing decision making, and provide an experience in model building.
Neuroscience, Behavioural Theories and Marketing Applications
Behavioural economics is increasingly becoming mainstream as social scientists understand the limits of neo-classical economics. Similarly, advances in neuroscience are having an increasing impact on how marketing research is done. Increasingly, the stimulus response approach in consumer behavior is seen as being incomplete as it does not explain what happens in the brain when the consumer is behaving in a particular way; in a way the efficiency and effectiveness of the stimuli that we think lead to certain behaviours are open to question without bringing on board how that stimuli leads to the behaviour. This course is an attempt to address this gap by looking at three specific topics in the area – that of mental accounting that provides the underlying presently understood theoretical basis for consumer behaviour, of behavioural pricing and the neuroscience of human behaviour in a bid to connect the three and develop a new and better understanding of the field.

Reading Seminar in Marketing Management
The main objective of this course is to make students go through selected readings and research materials on various aspects of marketing management, selected from major works (articles, literature and research experience) on current marketing management problems. Seminal research on the major domains of marketing science is highlighted in this course with a view to motivate students to identifying their own line of future research.

Marketing Theory and Contemporary Issues
The objectives of this course are to review and evaluate major literature on the foundation of marketing, to provide an in depth understanding of the theory of marketing and their conceptual basis, provide an insight into selected contemporary issues in marketing, and initiate discussion regarding the potential application of marketing knowledge to address these issues.

Structural Equation Modeling
SEM, also known as covariance structure analysis and latent variable analysis, is extensively used for theory development in all major fields of research such as marketing, psychology, sociology, organization behaviour and life sciences. It is an advance multivariate technique which examines multiple dependence relationship simultaneously. Models in which a dependent variable becomes an independent variable in subsequent dependence relationships can be tested using SEM.

Seminar on Choice Models in Marketing and Economics
To introduce a discipline of modelling consumer choice and variety of its approaches depending on the context of data (disaggregate, aggregate data, and static versus dynamic choice) To expose students via a “hands on” approach to modelling and estimation – how to specify an economic model – translate the same into an econometric model and estimate the model parameters.

To help learn approaching customized demand model estimation – so that estimating complicated models, the students are not tied to assumptions or simplifications which are at variance with the data.

Organizational Behaviour Area Courses
Basics of Micro OB
This course introduces students to basic concepts relating to individuals and groups in organizations such as personality, attitudes, motivation, perception, attribution, learning and leadership. It provides an insight to the essence of research and research-based writing, initiating students into the discipline and exposing to the fundamentals of scholarship, knowledge-generation and theory-building. The teaching pedagogy emphasizes the foundations of research skills through academic readings, discussion critiques and term papers.

Organizational Structure and Processes
This course looks at how an organization as a unit interacts with the environment in terms of its structure, systems, management of its resources, survival, growth, and effectiveness. This course introduces participants to the above issues concerning behaviour of organizations. The main objectives of the course are to (1)
acquaint the participants with different streams of thought and terminology in organization-level phenomenon, (2) develop an ability to understand existing research in some prominent areas of macro-organizational behaviour, and (3) learn to apply conceptual frameworks to real-life organizational contexts.

**Advanced Micro OB**
This course, focusing on behaviour at individual, interpersonal and small group levels within workplaces, extends the elementary understanding acquired during the preceding courses which introduced the subject. Through in-depth analyses and rigorous critiques of research work in the substantive area and inclusion of contemporary and emerging topics in the field, the course covers important arguments, perspectives, conceptual frameworks and theories, builds disciplinary knowledge and develops research skills.

**Organization Theory and its Social Context**
This course is designed to acquaint students with the evolution and theories of organizations. The primary objective is to help students examine the basic question "Why do organizations behave the way they do?" Alternative ways of answering this question from diverse theoretical bases are explored. Sociological roots of organization theory and the impact of the specific social context on organization theory are also discussed.

**Classics in OB**
This course covers studies and articles on different aspects organizational behaviour that are considered historically important in the evolution of the field and may have helped define a new direction for OB. Emphasis is on not only building familiarity with such writings, but also on exploring what made these works seminal and to what extent such characteristics may be relevant today for advancing frontiers of knowledge in the field.

This course introduces doctoral programme participants to a variety of broad theoretical approaches located within a range of theoretical perspectives varying from social constructionism to critical realism. Further, the participants will explore select themes using multiple theoretical approaches, discussing relevant scholarly works. They will also explore the possibility of synthesizing or juxtaposing various theoretical approaches in order to examine a specific theme of their interest.

**Quantitative Methods and Analysis**
The course builds on the insights and knowledge obtained in first year research methodology courses (Survey of Statistical Methods, Introduction to Research Methods and Qualitative Techniques) and provides a hands-on training on using methods to perform empirical research. The course will be largely divided into two parts. The first part shall introduce the participants to quantitative research designs (experimental, survey based) and the analytic techniques used to analyze the data collected. This part will also provide inputs relating to measurement theory and concepts related to scale design. The second part will build on the concepts learnt in part one and will introduce the participants to advanced data analyses using structural equation modeling methodology. The course will be based on a combination of theoretical and practice-oriented sessions that will provide working knowledge of statistical software like R, SPSS and LISREL. Upon the completion of this course, the participants would: (1) understand the experimental, quasi-experimental and survey based research designs and the technicalities involved in the analysis of data collected using these designs, (2) understand the process of designing a questionnaire, the steps involved, and guidelines that must be followed at each step, (3) understand concepts like correlations, reliability, measurement error, validity, regression, causality, cross-sectional design, common method variance, mediation, moderation and other such terms used in the design and conduct of management research, (4) understand analysis techniques like t-tests, ANOVA, regression analysis, factor analysis and structural equation modeling (SEM), and (5) get hands-on training on statistical analysis packages like R, SPSS and LISREL.

**Methods of Qualitative Research: Gathering and Analysing Data**
The course aims to (a) acquaint participants with different research paradigms and their importance, building on participants' prior understanding of qualitative methods, (b) build a deep
Crafting and Publishing of Research
The course is designed to help students develop an understanding of the process of publishing research in peer-reviewed academic journals. The course is open to Ph.D. students in all areas although the readings are primarily drawn from research in organizational behavior, personnel and industrial relations, business policy, and economics. The course is especially appropriate for students interested in academic careers, which require publishing research in high quality peer-reviewed journals. The course is especially appropriate for students interested in academic careers, which require publishing research in high quality peer-reviewed journals. The course format will be a mix of lectures, class discussions (predominant), and interaction with guest speakers. The primary requirement for the course is a publishable research paper on a topic of interest to the students.

Leadership in Organizations: A Review of Theory and Practice
This course focuses on managerial leadership and will enable participants to equip themselves with a broad survey of theory and research on leadership in formal organizations. The topic of leadership effectiveness is of special interest, and the discussion keeps returning to the question of what makes a person an effective leader. The course aims to conduct a detailed and critical evaluation of major leadership theories, and a comprehensive review of empirical research conducted in leadership domain. Participants will be familiarized both with the core theories, models, frameworks and concepts of leadership, as well as with current research findings and a range of techniques, practices and skills that may be used in a professional environment. The course will be implemented as a seminar course featuring regular interactive activities such as presentations and class discussions. Upon the completion of this course, the participants will be able to (1) understand established theories and models of leadership in organizations, (2) critically reflect on the strengths and limitations of these theories and models and how they may be applied in an organizational, social, environmental and multicultural context, (3) examine current leadership research and debates, (4) understand and study the relationships between leadership theory and professional practice and (5) consider a range of techniques, practices and skills used to understand the contingent nature of leadership – both in scholarly and practical applications.

Advanced Topics in Quantitative Methods
The course builds on the insights and knowledge obtained in first two years of quantitative research methodology courses and provides a hands-on training on advanced methods of empirical research like mediated-moderation, moderated-mediation, multi-level modeling and longitudinal data analysis. The course will blend theory with practice and will introduce the participants to advanced data analyses techniques and modeling methodology. The course will be based on a combination of theoretical and practice-oriented sessions that will provide working knowledge of statistical software like R and SPSS.

Psychometric Methods
Measurement is fundamental to social sciences research and application. The purpose of this course is to introduce to the participants the central concepts of psychological measurement. The course takes a “nuts and bolts” approach, covering the critical aspects of psychometric theory including test construction, item analysis, reliability, validity, and measurement error. The course will aim to provide a foundation for designing and using robust measurements to perform empirical research in business areas. The seminar will be structured around a framework of measurement principles and will be based on a combination of theoretical and practice-oriented sessions that will provide working knowledge of concepts using statistical software like R, SPSS and LISREL.

Production & Quantitative Methods Area Courses
Linear Algebra
This is an introductory course in Linear Algebra. The aim is to provide a strong foundation in concepts to help participants understand and apply the ideas in their area of research.
Operations Research
This is an introductory doctoral level course in Mathematical Programming. The emphasis of this course is on understanding the theory of mathematical programming. While the subject of Operations Research is much more diverse than mathematical programming, we focus on fundamentals of the deterministic linear and network programming in this course.

Classical Operations Management
This course provides the basic theory and methodology inputs required for understanding key issues in Operations Management. The objective of the course is to expose the students to the classical themes and material in OM and prepare them for research in OM. The course comprises of the following modules:

Advanced Probability in Management
The course builds the theory of probability confining the discussion to the discrete sample space avoiding the measure theoretic approach. Besides getting a reasonably good understanding of the important concepts related to probability theory, the students are exposed to the mathematical rigour of proving theorems. Also it helps them to learn how to formulate a mathematical problem and solve it.

Algorithms on Graphs and Networks
The course aims to introduce students to graph and network algorithms. The takeaways from this course will be useful to students in a variety of courses in logistics and supply chain management.

Applied Multivariate Analysis
This course gives a balanced emphasis on theory and applications. It covers the following broad areas: Multivariate Normal Distribution and Related Inference Problems, Assessing Normality, Outlier Detection, Multiple Linear Regression Analysis, Variable Selection Problems, Multicollinearity, Heteroscedasticity, Regression Plots, Regression Diagnostics, Model Specification Tests, Auto correlated and Longitudinal Data Analysis.

Applied Regression Analysis
This course is designed to provide a comprehensive exposition on the scope and applicability of regression modelling techniques in solving real-life problems. In doing so, the aim will be to inculcate a sound understanding of both the underlying theoretical aspects of modelling as well as various issues that are encountered in applying the models in real-life scenarios. Real datasets and cases from diverse areas (like business administration, economics, engineering and social, biological and ecological sciences) will be analysed which will help the participants in reinforcing their methodological and conceptual understanding. It is expected that by the end of the course, the participants will gain a thorough understanding of various aspects of regression models and their applicability in analyzing datasets they may encounter during their Ph.D. coursework/programme and beyond. Since all applications will be carried out in the R programming language, this course can also aid the participants in learning this important statistical programming language at some length.

Applied Statistical Inference
This course will explore the concepts of statistical inference with applications in management research in mind. This course will start with basic inference but will also cover situations where assumptions about situations being ‘nice’ do not work, and one needs to go beyond the obvious. Estimation techniques, both theoretical and empirical, will be covered. Asymptotic as well as data-driven estimates will be derived. Examples will be discussed in detail. The theoretical discussions will be backed up by hands-on training to apply the methodology to data sets using R. Both standard packages and non-standard coding will be discussed.

Approximate Methods in Solving Real World Complexities
Exact approaches in solving problems are highly dependent on definitive problem structuring and on computational sophistication. They generate superior solutions, but with huge computational time and overhead. In solving real-world problems, very often heuristic procedures are applied as a trade-off for acceptable, but quick solutions. Meta-heuristic procedures are standardized and advanced
procedures that operate iteratively to generate improved solutions under dynamic system variations. In fact, most of the problems in real world are prone to dynamic and uncertain changes that are difficult to solve using standard and bespoke heuristics. This course discusses a host of meta-heuristic algorithms that can effectively address the real world complexities and inter-dependencies. Discussions shall cover some of the distinctive characteristics of these meta-heuristics such as learning, self-correction and adaption.

**Bayesian Methodology for Business Research**
Application of Bayesian methodology in solving business research problems is a fast growing area of research. In this course we will start from the scratch assuming no prior knowledge of Bayesian Methodology. Before getting into deeper issues of Bayesian modelling, we plan to devote adequate number of sessions at the beginning to acquaint the students with the basic tools and concepts of Bayesian inference. In this course, our emphasis will be on the modelling aspect of business data arising in different functional areas of management from a Bayesian perspective. In this context, we will discuss hierarchical Bayesian models, model checking (both data model consistency and model selection) and implementation of the methodologies through Bayesian computation.

**Convexity & Optimization**
Convex analysis is the analysis of properties of convex functions and convex sets in a normed vector space. In optimization, convexity plays a very important role in proving optimality results in both linear and nonlinear optimization. For instance, the concept of a separating hyperplane between two disjoint convex sets helps establish the sufficiency of KKT conditions for optimality of convex programming problem. However, to prove the existence of a separating hyperplane between two disjoint convex sets requires knowledge of continuous functions, affine transformations, dimension of sets, hyperplanes and uses other topological properties of sets such as closure, relative interior, relative boundary and compactness, amongst others. This course is aimed at establishing these results from basic results in set theory and topology. Among the topics discussed are basic properties of convex sets (extreme points, facial structure of polytopes), separation theorems, duality and polars, properties of convex functions, mimima and maxima of convex functions over a convex set and various optimization problems.

**Game Theory for Operations Management**
Game Theory deals with problems of strategic interaction between two or more players, wherein each player needs to decide its best action, while anticipating the reaction from the other(s). In business, such strategic interactions occur at various levels. If the decision making within a firm is decentralized, then such interactions may manifest between two of its functions; for example, between marketing and production for price and leadtime decisions (Pekgun et al., 2008). This also often manifests between two retailers deciding the stocking (newsvendor) quantity of a limited shelf-life product for the next period (Lipman and McCardle, 1997), or between two manufacturers/service providers for price and delivery leadtime (So, 2000), or between a retailer and a manufacturer in a supply chain (Tsay and Agarwal, 2000; Camdereli and Swaminathan, 2005; Wang and Zipkin, 2009), or between two supply chains (Liu & Tyagi, 2011). The objective of this course is to prepare students to analyze such problems of strategic interactions that are pertinent to Operations Managers. It also covers such problems that lie at the interface between Operations and other functions like, IT (Camdereli and Swaminathan, 2005); Marketing (Pekgun et al., 2008; Goic et al., 2011); Environment (Orsmedir et al., 2015; Zhou et al., 2016; Park et al., 2015); and Finance (Dada and Hu, 2008; Lai et al., 2011; Lai et al., 2012).

The course assumes no prior background on Game Theory. It will, therefore, begin with the basic concepts of elimination of dominated strategies and Nash Equilibrium to arrive at the outcome of a game. We will discuss four classes of games: static games of complete information; dynamic games of complete (perfect/imperfect) information; static games of incomplete information; and dynamic games of incomplete information. Corresponding to these four classes of games, we will discuss the four notions of equilibrium in games: Nash equilibrium, subgame-perfect Nash equilibrium,
Bayesian Nash equilibrium, and perfect Bayesian equilibrium. After developing the idea of corresponding equilibrium concept, we will study one or two problems of strategic interactions arising in each of the four categories of the games, which are relevant to Operations/Supply chain Managers. We will see how to arrive at the corresponding equilibrium for each of the games, and derive useful insights for Operations managers. To this end, the course will also introduce bilevel mathematical programming & its solution methods for Stackelberg Games (2-stage Dynamic games with complete and perfect information).

**Large Scale Optimization**

Real world optimization problems often tend to be large integer program/ mixed integer program (IP/MIP) problems, often to an extent that even the standard IP/MIP solvers, which use Branch & Bound and Branch and Cut algorithms, fail to solve them in reasonable time. In this course, students learn how to take advantage of the often hidden special structures of such problems either by relaxation or by decomposition into relatively easier/smaller problems, which can be solved efficiently using their special structures. The challenge then is how to recover the solution to the original problem from the solution to its relaxation/decomposition. To this end, the course introduces several decomposition techniques, namely, Cutting Plane Method, Lagrangian Relaxation, Benders Decomposition, Column Generation, and Dantzig-Wolfe Decomposition methods. The course also introduces linearization techniques for non-linear IP/MIP problems and their solutions using cutting plane techniques. Towards the end, the course also introduces Stochastic Optimization and Database Optimization Interface.

This is an applied course, and hence its focus is more on understanding and applications of the techniques rather than on formal proofs. The course introduces several practical applications from Hub-and-Spoke Network Design, Facility Location, Telecommunication Network Design, etc.

**Mathematical Modelling for Integer Program & Theory of Valid Inequalities**

Mathematically modeling a problem is as much an art as it is a science, and there may be more than one way of modeling the same problem. While computationally, there may not be much difference between alternate models of the same problem when dealing with only continuous variables, the same is no longer true when dealing with integer/binary variables. While dealing with integer programs (IPs)/mixed integer programs (MIPs), one formulation may be far more efficient than the others, depending on how closely their constraints approximate the convex hull of the integer feasible solutions. For certain classes of problems involving integer/binary variables (for example, shortest path problem, min cost network flow problem, min-cut problem, matching problem, etc.), there exist perfect formulations, which completely characterize the convex hull of the integer feasible solutions, and hence can be solved very efficiently simply as Linear Programs (LPs). For other classes of problems, where perfect formulations are not known, it is desirable to have a formulation that can approximate the convex hull as closely as possible or have facet defining constraints. To that extent, modelling in IPs/MIPs becomes more of a science than art, and one needs to have a good understanding of Polyhedral Theory.

The objective of the course is to train the participants to develop IP/MIP models, to understand the differences between alternate model choices, and to be able to identify one that is computationally more efficient. To achieve the above stated objective, each session will typically take up an interesting modelling exercise, and try to come up with alternate formulations, if possible. To be able to appreciate the computational differences among alternate formulations, participants will be trained in the use of a AMPL (A Mathematical Modeling Language) for modeling and solving large problems arising in real world.
Non-linear Optimization
The course introduces students to the fundamentals of non-linear optimization and then builds on it to introduce other advanced topics in the area of optimization. It enables students to enhance their understanding of optimization methods that may be suitable for problems with complexities such as non-linearity, non-convexity, discontinuity and non-differentiability.

Around 50% of the course focuses on the conventional techniques for solving non-linear optimization problems. 20% of the course focuses on non-traditional optimization techniques. Remaining 30% of the course discusses extensions of single objective optimization to multiobjective optimization, bilevel optimization and robust optimization.

Problem Solving With Heuristics
Many real-world optimization problems belong to the class of NP-hard problems, which mean that there are no methods that guarantee optimal solutions to large instances of such problems within reasonable time. However obtaining good quality solutions to such problems are important in practice, and research has focused on developing heuristic methods for such problems. In this course the participant is exposed to the current state of knowledge about heuristic techniques to solve large instances of combinatorial optimization problems.

Queuing Models
The participants will be able to appreciate the various queuing modelling constructs and solution algorithms as an analytical toolkit. Further, the participant will be able to develop customized models to analyse the performance of a practical system, and obtain design insights. No prior working knowledge of measure theory or stochastic processes is required. However, participants should have a prior course on basic probability theory.

Revenue Management and Dynamic Pricing
Revenue Management and Dynamic Pricing (RMDP) is the method of selling right product to the right customer at the right price at the right time. It is the scientific way of dynamically managing prices, inventories, and capacities of perishable services. Although core of RM is related to OR/Statistics, it has relationship with economics, marketing, information technology, human resources and legal dimension. In this doctoral courses, we plan to discuss those topics that cuts across four disciplines, PQM (OR/OM/Statistics), economics, marketing and information technology. Conceptually the course focuses on two three aspects, economics of pricing, optimization of perishable resources and forecasting of demand of perishable products. We discuss several aspects related to design of revenue management system. At end we discuss emerging research areas on the topic.

Real Analysis
The course analyses basic concepts in certain areas of mathematics and prepares students to take advanced courses. The topics covered include : structure of the real number system, infinite sequence-convergence and divergence, subsequence – Bolzano-Weierstrass Theorem, Cantor intersection property, Cauchy sequences, infinite series - convergence and divergence, tests for convergence, Metric Spaces - limits, continuity, Compactness – Heine-Borel theorem, connectedness and uniform continuity.

Statistics II
The course will provide an understanding of the statistical methods that are useful for carrying out research in management.

Stochastic Processes
The objective of this course is to provide the theoretical foundation for modelling and analysis of variety of processes in service and manufacturing environments that are characterized by uncertainty. Topics include birth and death processes, Markov chains, Markov processes, renewal theory, martingales and optimal stopping, processes with independent increments (e.g. Poisson, Wiener processes), Brownian motion and the theory of weak convergence, application of stochastic processes in logistics, inventory, manufacturing, marketing, and finance.
**Systems Analysis and Simulation**

To introduce the participant to the idea of simulation in management, and to expose them to the latest software and statistical techniques in simulation. The broad topics that will be covered are: Introduction to Simulation, Building Simulation Models, Input Modelling, Generating Random Input, Output Analysis, Comparing and Optimizing Systems, and Variance Reduction.

**Survey of Statistical Methods Used in Management Research**

This is close to a comprehensive review of major statistical methods that are used extensively in management research. This course should serve the purpose of exposing the student to these prolifically used statistical/empirical methods. While all attempts have been made to make the course comprehensive enough to include major techniques, it is not necessarily exhaustive. Additionally, this is a generic survey course to provide exposure to the methods to Ph.D. students. Students are advised to acquire additional expertise in any specific topic by choosing advanced courses offered by various relevant academic Areas of the institute.

**Time Series Analysis**

This course introduces the theory and methods of time series analysis for research in economics and finance. The objective of the course is two-fold. First is to give participants enough technical background to enable them to read research papers in applied time series analysis. The second is to introduce select advanced topics useful for analysis of macroeconomic and financial time series. After introducing fundamental concepts in time series analysis, the course covers the theory of stationary ARMA processes and reviews the relevant asymptotic distribution theory. This forms the bulk of roughly half the course and the basis for studying Vector Autoregressions (VARs) which is discussed next. Moving on from considering covariance stationary processes, the course next introduces the econometrics of unit roots. The core of the remaining portion consists of studying linear combinations of unit root processes, i.e. Cointegrated Systems (VECMs) and models with conditional heteroskedasticity (GARCH). We end the course by introducing State Space representations of time series models and Bayesian methods.

**Public Systems Group Courses**

**Public Policy**

This course provides an advanced level introduction to different theories of policy sciences, as well as training in the methodological tools and research processes enabling application to concrete policy issues. Reinforcing the interdisciplinary character of public policy research, the course draws on a vast international and Indian social science, humanities and philosophy literature to aid critical policy analysis.

**Public Finance**

This course aims to provide a comprehensive introduction to the principles and concepts of public finance. It examines the economic rationale for government activity and fiscal policies of different levels of government, and some major policy issues arising out of the process of macroeconomic reforms.

**Public Management**

This course presents a broad overview of the problem of organizing governmental processes and institutions to adopt and implement public policy. It will discuss specific management practices for directing large public systems.

**Methodologies for Policy Analysis and Research**

This course uses a seminar format, training students to develop effective research designs for public policy analysis and formulation. The course moves from an overview of philosophical worldviews such as positivism and social constructivism to procedures of inquiry such as ethnography and experiments, and finally to methods of data collection, analysis, and interpretation. Students also learn about critical elements of research such as hypotheses and research questions, literature reviews, writing styles, and ethical principles. In addition to analysis of published work across a broad range of social science disciplines, the course relies heavily on presentations by academics about their ongoing research and conversations with policy-makers about translating research into practice.
Energy and Environment Policy
The objective of the course is to provide theoretical understanding of policy issues concerning energy and the environment, and the learning of analytical tools such as energy environment policy models and their applications.

Interpretive Research Methods
This is an advanced seminar on interpretive research methods. These methods are explicitly concerned with meaning making in social science research. Interpretive methods draw instead on the philosophical orientations of hermeneutics and phenomenology. They are widely practiced in and relevant to the areas of public policy, organizational studies and management, political science, sociology and other inter-disciplinary fields.

OR Applications in Public Systems
Social impact of any decision is huge in managing public systems. Therefore uncertainties due to random incidents are difficult to handle leading to failures. This course deals with Operations Research as a tool for modelling and analysis of issues and challenges in managing public systems.

Public Policy Instruments for Environmental Management
This course is a survey of the policy instruments used in environmental management across the world with special emphasis on India. The course draws primarily on the environmental economics literature while bringing perspectives from other disciplines wherever possible.

Public Policy and Economics of the Transport Sector
This is an advanced course in transportation economics, policy and planning. The course begins by introducing theories and fundamental concepts of transportation economics across multiple modes. Topics include demand analysis, cost assessment, regulation, pricing, quality of service, subsidies, competition, and project appraisal. Principles of applying economic tools to improve transportation system performance are covered. We also discuss about the urban transportation policy development process, focusing on strategies to fight congestion and air pollution, design efficient mass transportation systems, and increase safety of travel. Students get to develop a research agenda around the sector.

Telecom/ICT Policy & Regulation
The course provides an overview of research issues and frameworks for analysis involved in policy design, implementation and evaluation for the telecom sector. Convergence and Internet are developments that have given rise to or created the need for new instruments and institutions. Spectrum management and broadband growth are two areas where developments in policy and regulation are important for national competitiveness. The role of national institutions in standards is gaining importance. The course will examine research issues related to the above.

Quantitative Methods for Causal Inference in Social Policy
The search for causality in relationship between variables is as frustrating as it is necessary. As elusive as they might be, claims about causality form the basis of much policy advice and advance our understanding of factors influencing human development. Relatively recent advances in the development and application of quantitative methods in identifying and estimating causal relationships also make this an exciting and productive line of research.
Areas of Research Interest

Business Policy

Agarwal, Anurag K
LL.M. (Harvard), LL.D (Lucknow)
Business Dispute Resolution, Contracts and Arbitration, Legal issues in Infrastructure and Intellectual Property, Strategic Management.

Karna, Amit
Fellow, IIM Ahmedabad
Capabilities of the firm, industrial clusters, innovation and industrialization of emerging market multinationals.

Mathur, Ajeet N
Ph.D. (IITs Bangalore)

Pathak, Akhileshwar
Ph.D. (Edinburgh)
Law, Liberalization, and Globalization

Ram Mohan, M P
Ph.D, IIT Kharagpur
Energy and environmental law, and its interaction with policy and society.

Sharma, Sunil
Fellow, IIMA
Capability building, Strategic decision making, entrepreneurship, risk and uncertainty, innovation, organizational learning, leadership, strategic thinking, Strategy and organization consulting

Singla, Chitra
Fellow, IIMB
Strategic Management, International Business, Corporate Governance, Family Business Firms.

Sud Mukesh
Fellow, IIMB
Corporate Entrepreneurship & Internationalization

Sugathan Anish
Fellow, IIMB
Institutional & Governance Infrastructure of Emerging Economies that fosters sustainable development of private & public stakeholders.

Economics

Basant, Rakesh
Ph.D. (Gujarat)
Technology Strategy and Management, Intellectual Property Rights, Industrial Organization, and Public Policy and Regulation

Chakrabarti, Anindya
Ph.D. (Boston University)
Intersection of Macroeconomics & network theory with particular emphasis on frictions in economic linkages and the resultant macroeconomic volatility

Chatterjee, Chirantan
Ph.D. (Carnegie Mellon University)
Applied Microeconomics, Economics of Innovation and Pharmaceutical Economics with special focus on global health and innovation.

Das, Abhiman
Ph.D. (IIFS, Mumbai)

Deodhar, Satish
Ph.D. (Ohio State University)
Microeconomics, Agricultural Trade and Policy, Imperfectly Competitive Market Structures, and Food Safety and Quality Issues

Dev, Pritha
Ph.D. (New York University)
Microeconomics, Game Theory and Development Economics

D’Souza, Errol
Ph.D. (JNU, Delhi)
Tax Reforms and Fiscal/Monetary Policy, Structure of Corporate Finance, Social Security and Livelihood Issues in the Informal Sector, Personnel Economics, and Governance Issues

Jain, Tarun
Ph.D. (University of Virginia)

Reetika Khera
Ph.D. Uni. of Delhi
Social policy issues such as hunger, nutrition, public health, corruption, and basic education in India

Mohapatra Sanket
Ph.D. (Columbia University, NY)
International Macroeconomics, private capital flows, sovereign and sub-sovereign credit ratings, financial liberalization, globalization, economic growth, poverty and inequality, and the development implications of migration and remittances
Morris, Sebastian  
Fellow (IIMC)  
International Trade and Investment, Economic Development, Public Sector, Small Firms, Public Policy Analyses, and Infrastructure Development and financing

Pingali, Viswanath  
PhD (Northwestern University), MS (So. Cal-cutta)  
Industrial Organization, Applied Econometrics, Behavioral Economics, Pharmaceutical Economics

Rampal Jeevant  
Ph.D, Ohio State University  

Tumbe, Chinmay  
Fellow (IIMB)  

Finance and Accounting

Agarwalla, Sobhesh Kumar  
Fellow (IIMA), A.C.A, Grad. C.W.A., C. S. Final  
Markets, Corporate finance, Accounting and Corporate laws

Desai Naman  
Ph.D, (Florida State University); Chartered Accountant (Institute of Chartered Accountants of India); M.Acc (University of Alabama)  
Auditing and corporate governance.

Gandhi, Shailesh  
Fellow (IIMA)  
Financial restructuring, business systems development, Accounting & costing systems, and Corporate Performance Measurement and Management

Jacob, Joshy  
FPM, IIM Lucknow  
Volatility Modelling, Market Microstructure, and Portfolio Optimization

Nagar, Neerav  
Fellow, IIM Calcutta  
Accounting and Earnings Management.

Pandey, Ajay  
Fellow (IIMA)  
Corporate Governance, Capital Market, and Financial Sector Regulations

Ram Mohan, T T  
Ph.D. (NYU)  
Banking Sector Reforms, Privatization and Corporate Governance

Singh, Pranav  
Ph.D (University of Illinois)  
Corporate Finance, Corporate Governance, and Law and Finance.

Varma, Jayanth R  
Fellow (IIMA)  
Financial Markets and Pricing Models, Financial Sector, and International Finance

Virmani, Vineet  
Fellow, (IIMA)  

Food & Agri-business

Gandhi, Vasant P  
Ph.D. (Stanford)  
Agri-business, Marketing of Agricultural Inputs and Food, Economic and Technical Policies in Food and Agriculture, and Investment Behaviour in Agriculture

Ghosh, Ranjan Kumar  
Ph.D. (Germany)  
Institutional Economics, Development Studies and Agri-food Value Chains.

Nagarajan, Hari K  
Ph.D. (University of Oklahoma)  
Political economy of reservations and women’s empowerment, impact of inheritance on welfare of women, role of welfare programs in rural development, green development through democratization, microeconomics of land reforms, price formation in agricultural markets, and role of local institutions in reducing vulnerability. He has published his research in journals such as the European Economic Review, Journal of Human Resources, Journal of Development Studies and, World Development.

Sharma, Vijay Paul*  
Ph.D. (NDRI)  
Agri-food Policy, International Trade and Development, including the World Trade Organization (WTO), Commodity Markets and Risk Management, Food Retailing, Agriculture Competitiveness, and Food Safety and Quality Issues

Singh, Sukhpal  
Ph.D. (Bangalore)  
Agri-business Management, Vertical Coordination, Food and Agricultural Input Marketing

Varma, Poornima  
Ph.D. (JNU)  

Human Resource Management

Aggarwal, Promila  
Ph.D. (Delhi)  
Examining employee-employer relationship, human resource management systems, the role of organizational culture and organizational outcomes.

Chandwani, Rajesh  
Fellow (IIM Calcutta)  
Human resource management practices in Indian organizations, mindfulness in organizations, healthcare, and scaling up of affordable healthcare services for the underprivileged.
Maheshwari, Sunil  
Fellow (IIMA)  

Moses, Aditya Christopher  
FPM (IIMB)  
Institutional Logics, Management Processes and Healthcare

Sarrion, Miguel  
Ph.D. (Strathclyde Business School, Glasgow, UK)  
Employee Engagement, Leadership, Organizational Climates, links between HR practices and Organizational Performance in Service Industries, in particular Tourism and Hospitality.

Singh, Manjari  
Fellow (IIMC)  

Varkkey, Biju  
Fellow (NIBM)  
Strategic HRM, Performance Management, Compensation Studies, Organisational Restructuring, Employment Relations, Public Management, and Infrastructure Studies

Information Systems

Aggarwal, Manish  
Ph.D. (IIT, Delhi)  

Deodhar, Swanand  
Ph.D. (University of Minnesota)  
Institutional Logics, Online Financial and Investment Platforms and Open Source Software communities

Gupta, Samrat  
FPM (IIML)  
Mining of Complex Networks and Heterogeneous Information Networks, Soft Computing and Machine Learning, Ensemble Modelling and Predictive Analytics

Jain, Rekha  
Ph.D. (IIT, Delhi)  
Telecom policy and regulation in the areas of IT implementation, Rural telecom, ICT strategy and management, spectrum management and local exchange competition.

Majumdar, Adrija  
Ph.D. (IIM Calcutta)  
Social Media, Online Communities, Crowd Funding, Information Privacy, and Text Mining

Krishnamoorthy, Srikumar  
Fellow (IIM Lucknow)  
Personalization in Electronic Commerce, Social Media and Web Analytics.

Ranganathan, Kavitha  
Ph.D. (University of Chicago, US)  
Research interests broadly include distributed computer systems with a focus on resource scheduling and user behavior in large scale Grids and peer-to-peer systems. Current research interests also include the use of technologies for emerging markets.

Verma, Sanjay  
Fellow (IIMC)  
E-Commerce and Knowledge Management Economics

Innovation & Management in Education

Chand, Vijaya Sherry  
Ph.D. (Education, Gujarat)  
Innovations of Primary School Teachers, Teacher Development, Decentralized Management of Education, Development Communication, Social Entrepreneurship and Assessment of Social Development Programs

Chakraverty, Devasmita  
Ph.D. (University of Virginia)  
Examining the impostor phenomenon (popularly known as the “impostor syndrome”), workforce development in science, technology, engineering, mathematics, and medicine, and understanding the experiences of the underrepresented minority groups based on gender and race/ethnicity.

Dongre, Ambrish  
Ph.D. (University of California)  
Implementation and effectiveness of education policies in India, through quantitative methods. His broader research interests are in development economics

Shukla, Kathan  
Ph.D. (University of Virginia)  
Applications of latent variable modeling, multilevel modeling, survey research, school climate, and peer victimization.

Marketing

Amblee, Naveen  
Ph.D (University of Hawaii)  
Digital Marketing. He also has a keen secondary interest in Researching Management Education.

Aruna Divya T  
Fellow (IIM Bangalore)  
Intersection of Behavioral Economics and Marketing, with focus on consumer decision making in risk, uncertainty and inter-temporal contexts. She worked in broad topics such as Mental Accounting, Behavioral Pricing, Judgment and Decision Making and Service Evaluations among others.

Banerjee, Arindam  
Ph.D. (SUNY at Buffalo)  
Quantitative Modelling of Marketing Problems, Development of Decision Support Systems Based on Market, and Customer Inputs Especially in the Realm of IT Enabled Marketing Services

Sourav B. Borah  
FPM (IIMB)  
International Marketing, Services Marketing and Network Theory
Jaiswal, Anand Kumar
Fellow (XLRI)
Services Management, Customer Satisfaction, Business to Consumer Ecommerce, and Brand Extension Management

Mukhopadhyay Soumya
Ph. D. (NTU, Singapore)
Quantitative Modeling and Bayesia Statistics in Marketing

Roy, Subhadip
Ph.D. (ICFAI, Dehradun)
Celebrity Endorsements, Brand Management and Social Media Advertising

Sahay, Arvind
Ph.D. (Texas University, Austin)

Sharma, Rajat
FPM (IIM Bangalore)
Analysis of the Marketing Consequences of the Internet and Digital Media on Industries and Markets.

Vijayalakshmi, Akshaya
Ph.D. (University of South Dakota, USA)
Understanding the effects of marketing on children and influence of individual differences in response to advertisements.

Organizational Behaviour

D’Cruz, Premilla*
Ph.D. (Tata Institute of Social Sciences, Mumbai)
Emotions in Organizations, ICTs and Organizations, Self and Identity, Organizational Control

Gopakumar, K V
Fellow (IIM Bangalore)
Institutional Theory, Discourse, Social Entrepreneurship and Diversity Management.

Gupta, Parvinder
Ph.D. (IIT, Kanpur)
Management of Change, Societal and Corporate Cultures, Team Development, Management Education, Human Resource Development, and Executive Success

Kandathil, George
Ph.d (Cornell University, USA)
The politics of information systems implementation, particularly in crosscultural contexts. Technology induced institutional change. Politics of sensemaking in the context of organizational change. Organizational theories of power

Khokle, Pradyumana
Fellow (IIMA)
Management of Organizational Change and Transformations, and Organizational Commitment, and Leadership

Sharda, Kirti
Fellow (IIMC)
Individual dynamics, leadership skills, inter-personal and group processes, entrepreneur- ship, and organizational diagnosis.

Nandkeolyar, Amit
Ph.D. (Lowa)
Personality and Individual Differences, Multilevel Modeling, Abusive Supervision and Cross-Cultural Negotiations

Noronha, Ernesto
Ph.D. (TISS)
Current Research is on Work Relations in ITES Organizations, Headload Workers of Kerala, and Management of Change in Cochin Port

Production and Quantitative Methods

Bandyopadhyay, Tathagata
Ph.D. (Calcutta University)
Nonparametric Inference, Generalized Linear Models and Measurement Error Models, Categorical Data Analysis, Reliability Theory, Survey sampling and Statistical Genetics, and discrete data modeling

Bhadra, Dhiman
Ph.D. (University of Florida)
Bayesian Analysis and its Applications, Biostatistics, Longitudinal and Spatial Data Analysis, Small Area Estimation, Environmental and Ecological Statistics.

Dutta, Goutam
Ph.D. (Northwestern University)
Decision Support Systems, Large Scale Optimization in Process Industries, Practice of Management Science, Revenue Management, System Dynamics, Operations Management, and Operational Research in Developing Countries

Guha, Apratim*
Ph.D. (University of California, Berkeley, US)
Time Series Analysis, Categorical Data Analysis, Information Theory and Medical Statistics.

Jayaswal, Sachin
Ph.D. (University of Waterloo, Canada)
Operations Marketing Interface: pricing, lead-time and capacity decisions; product differentiation; competition in service industries; revenue management; large-scale optimization
Karthik Sriram  
FPM (IIMB)  
Bayesian Methods, Mis-specification

Laha, A K  
Ph.D. (ISI)  
Quantile, Regression Model, Statistical Process Control, Change Point Problems, Outlier Problems, Analysis of Directional Data, Analysis of Rank Data, Monte-Carlo Methods, Applications of Statistics to Finance, Marketing, Computer Science, and Medicine

Mukherjee, Saral  
Fellow (IIMC)  
Inventory Policies, Project Management, Operations Strategy, Process Analysis, Supply Chain redesign, Resource Scheduling, and Sequencing and Metaheuristics

Roy, Debjit  
Ph.D. (University of Wisconsin-Madison)  
Logistics and distribution systems, container terminal operations, humanitarian and non-profit supply chains, manufacturing systems and supply chain operations, continuous improvement strategies (Lean, Six Sigma, Quick Response Manufacturing), Stochastic processes, Queuing theory, Simulation modeling

Sinha Ankur  
Ph.D. (Aalto University, Finland)  
Food Supply Chains, Advanced Planning and Scheduling in Process Industries, and Application of Simulation for Decision Making

Sundaravalli, Narayanaswami  
Ph.D. (IITB)  

Public Systems Group

Venkateshan, Prahalad  
Ph.D. (Case Western Reserve University)  
Large-Scale Optimization, Combinatorial Optimization, Network Design, Facility Location, Vehicle Routing

Public Systems Group

Chakrabarti, Sandip  
Ph.D. (University of Southern California, Los Angeles)  
Transportation economics and policy, environmental and health impacts of transportation policies and projects, and the application of new and emerging data sources for improving urban policy-making.

Garg, Amit  
Fellow (IIMA)  
Carbon finance, energy policy, corporate accounting of greenhouse gases, energy and environment modeling, water-energy-agriculture nexus, and aligning climate change with sustainable development.

Mathur, Navdeep  
Ph.D. (Rutgers University)  
Interpretive Research Methodology, Qualitative Methods, Public Policy Analysis, Public Management Reform with a Focus on Public Participation, Design of Collaborative Governance Institutions, Democratic Performance of Governance and Policymaking Institutions, Affirmative Action, and Urban Human Displacements and Rehabilitation

Communications

Kaul, Asha  
Ph.D. (IITK)  
Communication Patterns in Ordinary and Theater Talk, and ‘Genderlect’

Kulkarni, Vaibhavi  
Ph.D. (Rutgers)  
Discourse of institutional change within organizational fields.

Sharma, Meenakshi  
Ph.D. (Queensland)  
Ethical Communication, and Organizational Change, Communication and Corporate Culture, English in India, Postcolonialism, Indian Writing in English

Turaga, Rama Mohana  
Ph.D. (Georgia Institute of Technology)  
Environmental Policy and Management, Public Policy Analysis, Environmental Risk Assessment and Communication, Quantitative Research Methods, Environmentally Responsible Behavior

* on leave
I considered three important aspects before selecting where to go for my doctoral programme. First, I looked at the research interest of faculty members and whether I would have enough support in terms of guidance and direction. Second, I looked at the ecosystem in the institution. For me, it meant resources available, scope of doing multidisciplinary research, flexibility in choosing the courses and support of faculty members. Third factor of consideration was exposure which meant the tie-ups and the connections the institution has and whether one would get enough opportunity to get plugged into international ecosystem.

Having spent three months here, I would not hesitate to assert that IIM A is one of the best places to do research. The design of the programme gives you ample opportunities to dig deeper into your interest areas. Faculty and staff members are always there to listen to your concerns. It feels good to be surrounded by the brightest minds who help you in making your learning curve steeper.

I also believe the research ecosystem should be such that you don’t have to worry about anything other than your studies. And believe me, IIM A has it all. Whether it is state-of-the-art library facilities, housing, food, recreation, medical facilities or dedicated doctoral lab, you wouldn’t be disappointed.

My assessment is IIM A is well suited for conducting research. If you get an opportunity and decide to join, you won’t regret your decision.
DHRUVEN,
Information Systems, Ph.D.-I

The more difficulties you face earlier on, the better it will be at a later stage. First few months are very daunting, you may get really frustrated by the curriculum and all the dense jargon you encounter in some of the courses, but over some time, you will get the hang of this. Trusting yourself and not giving up is the key.

People from non-engineering background usually find quantitative courses to be a real mind-bender, but your peers who know this will always be ready to help, also the faculty is very approachable and will be happy to guide you. While someone coming from an engineering background will indeed find qualitative courses very intimidating, but the only way through this is to get in this. At IIMA, help is always given to those who deserve!

But it is not all work and no play, IIMA has a happening sports and extra-curricular activities culture. You will always find time to do something that you are passionate about apart from studies. Keeping yourself active and moving will really help bring new ideas.

IIMA has tons of resources to help a budding researcher embark on this journey. The library is spectacular, and it is well equipped with all the modern accessories needed to enjoy studying. There is a dedicated Lab facility available exclusively to the doctoral students, where you can have your personalized space to explore. But the most significant resource at offer are the people in here. Best minds from all over the country gather at this place, may it be the highly intellectual faculties or well-connected business professionals, or a bunch of the sharpest students of the country, there’s a lot one can learn from everyone.

Experience at IIMA is like gravity, you just need a push to get going!

PARTH SONI
INNOVATION AND MANAGEMENT IN EDUCATION, Ph.D.-I

As a Ph.D. student at IIMA, I firmly believe that I am currently having the best experience of my academic career. IIMA is the only B-school offering doctoral program that focuses on innovation in Education sector. Being interested in research in education and policy, this was undoubtedly my first choice to pursue a doctoral degree.

Professors at IIMA are highly skilled and experienced, in both teaching as well as research activities and are easily approachable for any kind queries. The teaching methodologies are so designed that exposes us to research papers and case studies from the top journals in respective disciplines, and give opportunities to present our ideas through presentations and paper writing. Moreover, the knowledge gained in various seminars and guest lectures from faculties around the world enriches one’s experience as a research scholar. IIMA has undoubtedly the best library of the country where students get access to almost all the databases and journals one can ever think off. Here I got an opportunity to engage in group work and exchange ideas with few of the most brilliant minds of the country. IIMA provides substantial support to Ph.D. students in the forms of research grants, special reading and interacting space for doctoral students, supportive staff, fully furnished dorms, separate housing for married students, medical facilities and many others, that ensure a comfortable environment to students.

If you are passionate for research, searching for the learning environment that is academically and culturally rich, an opportunity that can strengthen your research skills and transform you into someone whom you always aspired for; IIMA’s doctoral program is the best option.
**KASHIKA SUD**  
( OB), Ph.D.-III

The PhD program at IIM A is a unique world in its own right. The two-year rigorous course work not only enriches you academically but also adds value to every facet of life. The overall facilities are supportive for a scholar to focus and passionately work towards their ideas. Regular interaction and knowledge sharing by professors and researchers of international repute provide many opportunities for one to hone their skills. From the eminent professors to the equipped library and the helping administrative staff, everything works to make your journey conducive and fruitful. If exploration and learning in the field of management is your calling, there can be no better place than this.

**SUKRITI SEKHRI**  
( Marketing), Ph.D.-III

The PhD programme at IIM Ahmedabad is a blend of several aspects: the curriculum-based readings and classroom discussions that encourage application-based thinking, the extremely competent Professors who ensure that their students imbibe the craft of good research, the interactions with peers from diverse backgrounds that enrich one’s outlook towards the world, the amiable staff members who provide support throughout the PhD journey, the infrastructure and resources that out one’s productive best.

I am grateful and blessed to be experiencing this Ph.D. journey (or life in general), as it unfolds in this beautiful, green campus—now, home—and to be learning every day!

**NIKITA GUPTA,**  
FABM, Ph.D.-I

This institute has great facilities, both academically and with personal care as well. Utmost value is given to the time that students have in their hands so that it can be fully utilized for productive activities. This is done by ensuring that minimal time is wasted due to day-to-day problems in our living spaces. Single room is provided with provision for A.Cs(our own expense) so that comfortable environment is created for studying. There is a huge library with great sitting space and variety of books on shelves. The office staff is very co-operative and listens to students. The discussion method is followed by teachers such that a student learns through participation and interaction which results in more enhanced learning outcomes. The pedagogy and coursework have been well designed with exposure to all fields and emerging topics for research in them. Many courses are offered of which we can select courses of our interest. It aids in going beyond our specialized area of interest and developing linkages across different fields, thus aiding in the interdisciplinary research. Term papers submission on different topics develops our writing skills with proper feedback given by teachers which helps in our overall improvement. This place is a heavenly abode for any researcher. The plethora of opportunities it provides through various conferences and key note speaker address or various research seminars and the kind of environment that is created amongst students where ideas are discussed day in and out, makes this institution one of the best for researchers to learn, grow and contribute towards knowledge creation and dissemination.

**GOVIND LAL KUMAWAT,**  
P&QM, Ph.D.-V

Ph.D. programme at IIMA can be summarized as two years of rigorous course-work across management disciplines followed by in-depth research in the chosen area under the mentorship of experts. The institute provides all the essential ingredients that are required for world-class researchers, from journals, databases, computing facilities to well-furnished workspace and accommodation. Being part of the programme gave me an opportunity to present my research at various conferences in India as well as abroad. It provided me the platform to work and collaborate with top-notch researchers.
Pursuing a Ph.D. program is one of those life decisions where it really is all about the journey and barely about the destination, and while the 5 year long program might appear a bit daunting on the surface, the way the program is structured and the support extended by the institute all through makes this challenging journey a highly rewarding experience every day.

The first two years dedicated to coursework are structured in a manner that allows for great flexibility for the students in creating a coursework tailored to their interests. The eminent faculty is extremely approachable and generous with their time and guidance. The Vikram Sarabhai Library is a world class repository of resources and the library staff are very patient and helpful with the smallest of requests.

Accommodations are generous with special provisions for married students and for students with dependents. The campus is serene and beautiful and engenders a sense of attachment and belonging fairly early in your stay. The IIMA community promotes engaging activities and you can find your tribe across the different programs running in the institution.

To summarise, IIM Ahmedabad is one of the best institutions to be considered for undertaking your academic journey.
For further information/clarifications, please contact:
In-charge
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