Overview

Faculty

Majors

Management courses

Economics courses

For further information, contact:
Graduate School of Management and Economics
Sharif University of Technology
Azadi Avenue, Tehran, I.R. Iran
Tel: +98 21 6602 2755
Fax: +98 21 6602 2759
Email: info@gsme.sharif.edu
https://www.gsme.sharif.edu

International Affairs’ Office
Sharif University of Technology
Azadi Avenue, Tehran, I.R. Iran
P.O. Box: 11155/8639
Tel: +98 21 6616 4780
Fax: +98 21 6602 2724
Email: ia@sharif.ir
www.ia.sharif.edu

Design by: Hamed Amanollahi
2022
Department of management was the first to offer Master of Business Administration (MBA) in Iran, a two-year program which requires 17 compulsory courses. Each year, approximately 60 students enter our MBA program in various majors. Courses are regularly modified to meet the ever-changing needs of business ecosystems, and we learn from the experiences of the best business schools around the world. We offer MBA majors in finance, marketing, operations and supply chain, organizational behavior and human resources, technology, strategy, and information systems. The department also offers a Ph.D. degree in management, with a maximum acceptance of 5 students each year.

Department of economics offers degrees at bachelor’s, master’s, and doctorate levels. At the bachelor’s level, we offer a minor degree in economics. The students are required to pass seven courses. This is offered as a joint degree for current B.Sc. students at Sharif University of Technology. At the master’s level, we offer M.Sc. theoretical economics and M.Sc. energy economics. The M.Sc. economics degrees require passing 10 courses plus a thesis or 2 additional courses. In total, approximately 40 students are admitted to our M.Sc. economics degrees each year. We offer a Ph.D. economics degree as well, with about 4 students admitted each year.

The school runs an executive education certificate programs and has so far provided executive education certificate programs to more than 1000 candidates from a variety of industries in Iran and neighboring countries. Our programs meet international standards, and we always seek to offer joint programs in collaboration with world-class schools. Besides developing individual and group skills in management, participants have the chance to grow their networks which can help them find new business opportunities.

Departments of management and economics have regular research seminars where Ph.D. students and faculties from the school or other institutions present their work. Often, we have speakers from GSME alumni who are researchers around the world. The department also hosts regular seminars where practitioners and policymakers present their perspectives. The list of past and current events are available from the school’s website.

GSME faculty members have extensive collaboration with business and policy makers which are reflected in the long list of consultancy projects carried out by the team. The following list is a sample of past policy/business projects:

- Industrial Development Strategy for Iran
- Optimum Government Size to Achieve Maximum Economic Growth
- Economics and ICT Market of Iran
- Assessing Real Estate Financial Subsidies
- Role and Responsibilities of Industrial Parks
- Technology Development Strategy for the Power Sector
- Supply Chain Management and Logistics for Iran Grain Organization
- Organizational Self-assessment Projects
- Organizational Customer Relationship Management (CRM) Projects

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- Technology Development Strategy for the Power Sector
- Supply Chain Management and Logistics for Iran Grain Organization
- Organizational Self-assessment Projects
- Organizational Customer Relationship Management (CRM) Projects
Faculty

Management

Seyed Babak Alavi
Associate Professor, Ph.D. University of New South Wales, Australia.
Research Interests: Authentic Leadership, Motivation, Teamwork, Team Cognition, Coaching and Mentoring, Performance Management.

Iman Hajizadeh
Assistant Professor, PhD Rotman School of Management, University of Toronto, Canada.
Research Interests: Alternative Investment, Financial Derivatives, Real Options.

MohammadTaghi Isai
Associate Professor, PhD University of Manchester, UK.
Research Interests: Knowledge Management, Decision Making (Behavioral, Data-driven, Organizational), Digital Transformation (E-commerce, Intelligent Transportation Systems).

Shirin Aslani
Assistant Professor, PhD Sharif University of Technology, Iran.
Research Interests: Business Analytics, Revenue Management & Dynamic Pricing, Marketing Research.

Mohammadbahramgiri
Assistant Professor, PhD Massachusetts Institute of Technology, USA.

Naser Karami
Assistant Professor, PhD University of Tokyo, Japan.
Research Interests: Management Information System, Marketing, Customer-relationship Management, Knowledge Management.

Seyed Alireza Mirbagheri
Assistant Professor, Ph.D. Sharif University of Technology, Iran.
Research Interests: Marketing Strategy, Brand Management, Digital Marketing and Social Media, Customer Experience, Online and Offline Retail.

Mehran Sepehri
Associate Professor, PhD Stanford University, USA.

Seyed Iman Miremadi
Assistant Professor, PhD Sharif University of Technology, Iran.

Ali Kermanshah
Emeritus Assistant Professor, PhD University of Science & Technology, UK.
Research Interests: Strategic Management, Technology and Innovation Management.

Arash Khalil Nasr
Assistant Professor, PhD Tarbiat Modares University, Iran.

Mahdi Kiamehr
Assistant Professor, PhD The Centre for Research in Innovation Management, University of Brighton, UK.

Ali Naghi Mashayekhi
Professor, PhD Massachusetts Institute of Technology, USA.
Research Interests: Dynamic Systems, Organizational Learning, Strategic Planning, Strategic Management, Management Control Systems, Organization Theories in Management.

Seyed Iman Miremadi
Assistant Professor, PhD Sharif University of Technology, Iran.

Atieh Mirfakhar
Assistant Professor, Ph.D. ES- ADE Business School Universitat Ramon Llull, Spain.

AbdolHamid Modares
Associate Professor, PhD University of Tokyo, Japan.
Research Interests: Financial Management, Management of Innovation and Business Development.

Manoochehr Najmi
Associate Professor, PhD University of Liverpool, UK.

Sharif University of Technology
HamidReza Arian  
Assistant Professor, PhD  
University of Toronto, Canada.  
Research Interests: Alternative Investments, Hedge Funds, Machine Learning, Fixed Income Investments, Mortgage-Backed Securities, Interest Rate Modeling, Derivatives Products, Credit Risk, Energy Commodities.

Ali Ebrahimnejad  
Assistant Professor, PhD  
Boston College, Carroll School of Management, USA.  

Seyed Farshad Fatemi Ardestani  
Assistant Professor, PhD  
University of London (UCL), UK.  

Seyed Ali Madanizadeh  
Assistant Professor, PhD  
University of Chicago, USA.  
Research Interests: Macroeconomics, International Trade, Industrial Organization.

Seyed Ali Madanizadeh  
Assistant Professor, PhD  
Sharif University of Technology, Iran.  
Research Interests: Macroeconomics, Monetary and Fiscal Policies, Corporate Finance, Economy of Iran.

Masoud Nili  
Associate Professor, PhD  
University of Manchester, UK.  
Research Interests: Macroeconomics, International Macroeconomics, Political Economics, Economy of Iran.

Mohammad Hossein Rahmati  
Assistant Professor, PhD  
University of Texas - Austin, USA.  

Adjunct Faculty
- Asghar Zardkoohi, Adjunct Professor of Business, PhD Economics, Virginia Polytechnic Institute and State University, USA.
- Hossein Abdoh Tabrizi, Lecturer, PhD Finance and Banking, Manchester Business School, UK.
- GholamHossein Davani, Lecturer, M.Sc. Industrial Management Institute, Iran.
- Farhad Nili, Lecturer, PhD Economics, University of York, UK.
Majors

The school offers MBA degrees in 7 majors and 2 M.Sc. degrees in Economics. It also offers Ph.D. degrees in Economics and Management. Department of economics also provides a minor in economics for current B.Sc. students at Sharif University of Technology.

MBA in Finance

Admissions

Admission to MBA in Finance is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 students for each year.

Requirements

Students must complete 8 core courses, 5 finance specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their thesis during the fourth semester and defend it in the fifth semester.

### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting &amp; Data Analysis</td>
<td>44029</td>
<td>44155</td>
</tr>
<tr>
<td>Organization Behavior</td>
<td>44168</td>
<td>44311</td>
</tr>
<tr>
<td>Organization Theory &amp; Design</td>
<td>44173</td>
<td>44281</td>
</tr>
<tr>
<td>Marketing Management</td>
<td>44224</td>
<td>44161</td>
</tr>
</tbody>
</table>

### Specialization Courses

Students must choose 5 courses from the following specialization courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Institution and Markets</td>
<td>44317</td>
</tr>
<tr>
<td>Econometrics of Financial Time Series</td>
<td>44311</td>
</tr>
<tr>
<td>Risk Management and Evaluation</td>
<td>44177</td>
</tr>
<tr>
<td>Cases in Corporate Finance</td>
<td>44177</td>
</tr>
<tr>
<td>Banking</td>
<td>44135</td>
</tr>
<tr>
<td>Financial Engineering</td>
<td>44166</td>
</tr>
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### Suggested Study Program

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</thead>
<tbody>
<tr>
<td></td>
<td>Accounting &amp; Data Analysis (44029)</td>
<td>Corporate Finance (44311)</td>
<td></td>
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<tr>
<td></td>
<td>Organization Behavior (44168)</td>
<td>Operations Management (44281)</td>
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<tr>
<td></td>
<td>Organization Theory &amp; Design (44173)</td>
<td>Strategic Management (44161)</td>
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<tr>
<td></td>
<td>Managerial Economics (44155)</td>
<td>Marketing Management (44224)</td>
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</tbody>
</table>

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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Taking one course of the Finance basket</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Taking two courses from the offered ones</td>
</tr>
</tbody>
</table>

The thesis is taken in the fourth and fifth semesters.
MBA in Marketing

Admissions

Admission to MBA in Marketing is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 for each year.

Requirements

Students must complete 8 core courses, 5 marketing specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take a M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of a M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.

### Core Courses

Students must complete the following 8 courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>44029</td>
<td>Accounting &amp; Data Analysis</td>
</tr>
<tr>
<td>44168</td>
<td>Organization Behavior</td>
</tr>
<tr>
<td>44173</td>
<td>Organization Theory &amp; Design</td>
</tr>
<tr>
<td>44224</td>
<td>Marketing Management</td>
</tr>
<tr>
<td>44155</td>
<td>Managerial Economics</td>
</tr>
<tr>
<td>44311</td>
<td>Corporate Finance</td>
</tr>
<tr>
<td>44281</td>
<td>Operations Management</td>
</tr>
<tr>
<td>44161</td>
<td>Strategic Management</td>
</tr>
</tbody>
</table>

Students must choose 5 courses from the following specialization courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>44131</td>
<td>Business Analytics</td>
</tr>
<tr>
<td>44232</td>
<td>Marketing Strategy</td>
</tr>
<tr>
<td>44233</td>
<td>Marketing Research</td>
</tr>
<tr>
<td>44225</td>
<td>Brand Management</td>
</tr>
<tr>
<td>44226</td>
<td>Game Theory for Managers</td>
</tr>
<tr>
<td>44431</td>
<td>International Marketing</td>
</tr>
<tr>
<td>44333</td>
<td>Marketing Communication</td>
</tr>
<tr>
<td>44125</td>
<td>Marketing Channels Management</td>
</tr>
<tr>
<td>44487</td>
<td>Pricing &amp; Revenue Management</td>
</tr>
<tr>
<td>44476</td>
<td>Customer Relationship Management</td>
</tr>
<tr>
<td>44929</td>
<td>Consumer Behavior</td>
</tr>
<tr>
<td>44315</td>
<td>International Business</td>
</tr>
<tr>
<td>44126</td>
<td>E-commerce</td>
</tr>
<tr>
<td>44487</td>
<td>Platform Business Models</td>
</tr>
</tbody>
</table>

Students have an option to choose 2 courses from other areas of specialization.

Students should take a thesis or replace it with 2 courses in their area of specialization.

### Suggested Study Program

<table>
<thead>
<tr>
<th>Semester</th>
<th>Core Courses</th>
<th>Specialized Courses</th>
<th>General Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Accounting &amp; Data Analysis (44029)</td>
<td>Corporate Finance (44311)</td>
<td>Taking four courses of the Marketing basket</td>
</tr>
<tr>
<td>Second</td>
<td>Organization Behavior (44168)</td>
<td>Operations Management (44281)</td>
<td>Taking one course of the Marketing basket</td>
</tr>
<tr>
<td>Third</td>
<td>Organization Theory &amp; Design (44173)</td>
<td>Strategic Management (44161)</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>Managerial Economics (44155)</td>
<td>Marketing Management (44224)</td>
<td>Taking two courses from the offered ones</td>
</tr>
</tbody>
</table>

The thesis is taken in the fourth and fifth semesters.

MBA in Operation and Supply Chain

Admissions

Admission to MBA in Operation and Supply Chain is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is 12 for each year.

Requirements

Students must complete 8 core courses, 5 operation and supply chain special courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take a M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of a M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.
Core Courses

Students must complete the following 8 courses:

- 44029 Accounting & Data Analysis
- 44168 Organization Behavior
- 44173 Organization Theory & Design
- 44224 Marketing Management

Students must choose 5 courses from the following specialization courses:

- 44131 Business Analytics
- 44243 Supply Chain Management
- 44233 Marketing Research
- 44276 Operations Strategy
- 44476 Customer Relationship Management

Students have an option to choose 2 courses from other areas of specialization.

Students should take a thesis or replace it with 2 courses in their area of specialization.

Suggested Study Program

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Accounting &amp; Data Analysis (44029)</td>
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<tr>
<td>Managerial Economics (44155)</td>
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</tr>
</tbody>
</table>

Specialized Courses

Taking four courses of the Operation basket

Taking one course of the Operation basket

General Courses

Taking two courses from the offered ones

The thesis is taken in the fourth and fifth semesters.

MBA in Organizational Behavior and Human Resources

Admissions

Admission to MBA in Organizational Behavior and Human Resources is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 for each year.

Requirements

Students must complete 8 core courses, 5 organizational behavior and human resources specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take a M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of a M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.

Core Courses

Students must complete the following 8 courses:

- 44029 Accounting & Data Analysis
- 44168 Organization Behavior
- 44173 Organization Theory & Design
- 44224 Marketing Management

Students must choose 5 courses from the following specialization courses:

- 44169 Human Resource Management
- 44933 Advanced Organization Behavior
- 44909 Advanced Human Resource Management

Students have an option to choose 2 courses from other areas of specialization.

Students should take a thesis or replace it with 2 courses in their area of specialization.
MBA in Technology

Admissions

Admission to MBA in Technology is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 for each year.

Requirements

Students must complete 8 core courses, 5 technology specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take a M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of a M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.

### Core Courses

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<td>Marketing Management (44224)</td>
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</tbody>
</table>

### Specialized Courses

- Taking four courses of the OB/HR basket
- Taking two courses from the offered ones

### General Courses

- The thesis is taken in the fourth and fifth semesters.

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### Core Courses

- Students must complete the following 8 courses:
  - Accounting & Data Analysis (44029)
  - Corporate Finance (44311)
  - Organization Behavior (44168)
  - Operations Management (44281)
  - Organization Theory & Design (44173)
  - Strategic Management (44161)
  - Marketing Management (44224)
  - Managerial Economics (44155)

- Students must choose 5 courses from the following specialization courses:
  - Technology Transfer (44246)
  - Change Management (44252)
  - Strategic Management of Technology (44244)
  - National Innovation System (44444)
  - Product Development (44284)
  - Platform Business Models (44444)
  - Business of Block chain Technology (44444)
  - Technology Forecasting (44509)

- Students have an option to choose 2 courses from other areas of specialization.
- Students should take a thesis or replace it with 2 courses in their area of specialization.

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### Suggested Study Program

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<td>Strategic Management (44161)</td>
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<tr>
<td>Managerial Economics (44155)</td>
<td>Marketing Management (44224)</td>
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</tbody>
</table>

### Specialized Courses

- Taking four courses of the Technology basket

### General Courses

- Taking two courses from the offered ones

The thesis is taken in the fourth and fifth semesters.
MBA in Strategy

Admissions
Admission to MBA in Strategy is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 for each year.

Requirements
Students must complete 8 core courses, 5 strategy specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Specialized Courses</th>
<th>General Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>44029 Accounting &amp; Data Analysis</td>
<td></td>
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</tr>
<tr>
<td>44168 Organization Behavior</td>
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</tr>
<tr>
<td>44173 Organization Theory &amp; Design</td>
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<td>44224 Marketing Management</td>
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<td>44155 Managerial Economics</td>
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<tr>
<td>44311 Corporate Finance</td>
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<tr>
<td>44281 Operations Management</td>
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<tr>
<td>44161 Strategic Management</td>
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</tbody>
</table>

The thesis is taken in the fourth and fifth semesters.

MBA in Information Systems

Admissions
Admission to MBA in Information Systems is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 12 for each year.

Requirements
Students must complete 8 core courses, 5 information systems specialization courses, and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take M.Sc. thesis as a substantive piece of research work. However, students can choose to take two additional optional courses instead of M.Sc. thesis. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters. Students often start working on their M.Sc. thesis during the fourth semester and defend it in the fifth semester.
## Minor in Economics

### Admissions

Admission to Minor in Economics is open to all second-year B.Sc. students with GPA above 15 at Sharif University of Technology. Entry into the program requires successful completion of the principles of economics course. Approximately, 30 students enter minor in economics.

### Requirements

Students must complete 5 core courses and 2 optional courses according to the lists in the following table.

#### Core Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Economics</td>
<td>44713</td>
</tr>
<tr>
<td>Introduction to Microeconomics</td>
<td>44719</td>
</tr>
<tr>
<td>Introduction to Macroeconomics</td>
<td>44720</td>
</tr>
<tr>
<td>Probability and Statistics</td>
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#### Optional Courses

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#### Suggested Study Program

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### Core Courses

- **Accounting & Data Analysis** (44029)
- **Organization Behavior** (44168)
- **Organization Theory & Design** (44173)
- **Marketing Management** (44224)
- **Managerial Economics** (44155)
- **Corporate Finance** (44311)
- **Operations Management** (44281)
- **Strategic Management** (44161)

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Admissions

Admission to M.Sc. in Theoretical Economics is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 18 students for each year.

Requirements

Students must complete 7 core and 3 optional courses according to the lists in the following tables. It is strongly recommended that students take a M.Sc. thesis as a substantive piece of research. However, students can choose to take two additional optional courses instead. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters but students with a solid background can finish the major in 4 semesters. Students often start working on their M.Sc. thesis during the third semester and defend it in the fifth semester. There are two strands with different sets of core and optional courses. A theory strand is focusing on theoretical courses, and the financial economics strand providing specialized courses in finance. The requirements for these two strands are similar and there would be no distinction between the awarded degrees.

M.Sc. in Theoretical Economics, the Theory Strand

Pre-requisite Courses

Students without undergraduate background in economics must take the following course as a pre-requisite:

- 44714 Principles of Economics

Core Courses

Students must complete the following courses:

- 44715 Microeconomics I
- 44706 Microeconomics II
- 44716 Econometrics I

Students must at least choose one of the following courses:

- 44709 Econometrics II
- 44731 Applied Econometrics

Optional Courses

- 44710 Macroeconomics I
- 44622 Macroeconomics II
- 44712 Mathematical Economics

Suggested Program of Study

Students must complete a minimum of 3 courses from the following list:

- 44423 Development Economics
- 44721 Financial Economics I
- 44722 Financial Economics II
- 44621 Research Method
- 44616 Financial Engineering
- 44626 Quantitative Economics
- 44734 Islamic Banking
- 44623 Contract Theory
- 44746 Energy Economics

Core Courses

- Microeconomics I (44715)
- Econometrics I (44716)
- Mathematical Economics (44712)

One of the Three Courses

- Microeconomics II (44706)
- Macroeconomics I (44622)

Optional Courses

- Microeconomics of Financial Time Series (44726)
- Financial Economics I (44721)
- Industrial Organization (44772)
- Financial Economics II (44722)
- Selected Topics in Public Choice and Political Economics (44771)

Students must complete a minimum of 3 courses from the following list:

- 44742 Market Design
- 44772 Industrial Organization
- 44713 Economy of Iran
- 44711 Political Economics
- 44625 Game Theory
- 44747 Public Economics
- 44729 Islamic Economics
- 44735 Economics of Banking
- 44745 Energy Finance

Suggested Program of Study

First Sem.

- Microeconomics I (44715)
- Econometrics I (44716)
- Mathematical Economics (44712)

Second Sem.

- Microeconomics II (44706)
- Macroeconomics I (44622)

Third Sem.

- Macroeconomics II (44622)
- Econometrics II (44709)

Fourth Sem.

- Thesis
- Applied Econometrics (44731)
- Game Theory (44625)
- Financial Engineering (44616)
- Development Economics (44423)
- Research Method (44621)
**MSc in Theoretical Economics, the Financial Economics Strand**

**Core Courses**

Students must complete the following courses:

- 44715 Microeconomics I
- 44721 Financial Economics I
- 44716 Econometrics I

Students must at least choose one of the following courses:

- 44709 Econometrics II
- 44726 Econometrics of Financial Time Series

**Pre-requisite Courses**

Students without undergraduate background in economics must take the following course as a pre-requisite:

- 44714 Principles of Economics

**Optional Courses**

Students must complete a minimum of 3 courses from the following list:

- 44617 Risk Management and Evaluation
- 44706 Microeconomics II
- 44622 Macroeconomics II
- 44621 Research Method
- 44734 Islamic Banking
- 4472 Industrial Organization
- 44747 Public Economics
- 44423 Development Economics
- 44710 Macroeconomics I
- 44722 Financial Economics II
- 44712 Mathematical Economics
- 44721 Financial Economics I
- 44722 Financial Economics II
- 44712 Mathematical Economics

**Suggested Program**

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**M.Sc. in Energy Economics**

**Admissions**

Admission to M.Sc. in Energy Economics is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. The number of students admitted to this major from concour is around 9 students for each year.

**Requirements**

Students must complete 8 core and 2 optional courses according to the lists in the following tables. It is strongly recommended that students take M.Sc. Thesis as a substantive piece of research. However, students can choose to take two additional optional courses instead. Please note that not all optional courses are offered during each semester. The usual length of study for this major is 5 semesters but students with a solid background can finish the major in 4 semesters. Students often start working on their M.Sc. thesis during the third semester and defend it in the fifth semester.
Pre-requisite Courses

Students without undergraduate background in economics must take the following course as a pre-requisite.

- 44714  Principles of Economics

Core Courses

Students must complete the following courses:

- 44715  Microeconomics I
- 44746  Energy Economics
- 44716  Econometrics I
- 46362  Energy Engineering

Students must at least choose one of the following courses:

- 44709  Econometrics II
- 44731  Applied Econometrics

Students must at least choose two of the following courses:

- 44713  Economy of Iran
- 44772  Industrial Organization
- 44745  Energy Finance
- 46312  Energy Systems Analysis

Optional Courses

Students must complete a minimum of 2 courses from the following list:

- 44423  Development Economics
- 44706  Microeconomics II
- 44725  International Trade
- 44772  Industrial Organization
- 44745  Energy Finance
- 46312  Energy Systems Analysis

Suggested Program of Study

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<th>Core Courses</th>
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<td>Two of four</td>
<td>Applied Econometrics (44731)</td>
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<td>Industrial Organization (44772)</td>
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<td>Economy of Iran (44713)</td>
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<td>Energy Systems Analysis (?)</td>
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<td>Optional Courses</td>
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<td>Macroeconomics II (44622)</td>
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<td>Development Economics (44423)</td>
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<td>Research Method (44621)</td>
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PhD in Management

Admissions

Admission to Ph.D. in Management is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. After initial screening, applicants are invited for an academic interview, which is crucial for Ph.D. admission. The number of students admitted to the Ph.D. is around 4 each year.

Requirements

Students may be required to take a maximum of 2 remedial pre-requisite specialized courses depending on their previous academic background. In our Ph.D. Program, students must complete 4 core courses in the first year. At the end of the first year, students will take comprehensive exams on the topics of the first-year core modules. After passing the comprehensive exams, students progress to the research part of the degree, where they need to conduct research and publish at least one paper in a good quality English journal.
Ph.D. Economics

Admissions

Admission to Ph.D in Economics is either through talents admission route or national university entrance exam (concour) for Iranian nationals. For international students, please seek advice from the international affairs office. After initial screening, applicants are invited for an academic interview, which is crucial for Ph.D. admission. The number of students admitted to the Ph.D. is around 4 each year.

Requirements

Students must complete remedial pre-requisite courses depending on their background as well as the economics department’s assessment. Students must also complete 3 core and 2 optional courses. The optional courses are approved by the supervisor based on the thesis topic. At the end of the first year, students sit through the comprehensive exam on the first-year core courses and econometrics topics. After passing the comprehensive exam, students progress to the research part of the program, where they need to defend their Ph.D. proposal and complete three research papers. One of these papers must be accepted by accredited English journals before the candidate can hold the viva session. The current majors offered under the Ph.D. Economics degree are Monetary Economics, Financial Economics, Public Economics, and Macroeconomics.
44119: Communication & Negotiation

Negotiation is part of our daily life. We negotiate with our friends, colleagues, supervisor, customer, client, etc. Despite its presence in our life, we mostly do not know enough about how to negotiate and what to consider in our interactions. What separates those who come out of negotiations with what they want without harming their long-term relationships with those who do not? How can we know what to offer, when to concede, and when to leave the negotiation? This course aims to train students for successful negotiations through cases and role-play exercises. In a low-risk, stress-free environment, students will negotiate with one another in order to learn about basic and advanced issues in negotiations such as reservation price, package deal, when to use agents, cultural differences, dispute resolution, etc. The key textbook for this course is the following:


44122: Management Decision Models

This course deals with the organizational decision-making and covers three aspects of human decision-making, context-dependence, and data-driven decision-making. First, a descriptive behavioral approach is adopted to shed light on “how decisions are made in the real world”. We discuss the pros and cons of different systems of thinking to uncover the roots of common decision-making mistakes. This paves the way for proposals to overcome drawbacks of human decisions to improve the well-being of the decision-maker as well as the organization and society. The second part of the course deals with “how decisions should be made” and elaborates on organizational contexts. This part shows how crucial challenges and leadership requirements for effective decision-making vary with context. We then discuss the essentials of the administration process that affect the quality of decisions. The last part of the course focuses on data-driven decision-making to solve organizational problems. Here we present selected quantitative techniques and discuss key issues in IoT, big data, and artificial intelligence with an influence on the roles of humans and machines in the organizational decision-making process. The main references for this course are as follows:


44129: Venture Capital Investment

This course covers venture capital investment primarily from a VC perspective. Our focus will be on how VC firms enter and exit deals, how they source and evaluate investments, key characteristics of typical VC deals, and the way VC firms try to make their investments smart by providing their portfolio companies with a range of legal, financial, HR, and recruitment assistance. While the course uses a VC lens, the content and discussions are also relevant for entrepreneurs interested in understanding the VC investment process and learning how to better leverage VC investments to grow their start-ups. By the end of the course, students will have a good knowledge of how VC firms operate, how deals are evaluated, and how VC firms create and distribute value. The main references for this course are as follows:

44131: Business Analytics

Business analytics refers to the ways in which enterprises can use data effectively to derive good managerial decisions. In this course, we discuss basic analytic methods and analyze case studies that successfully deployed these techniques. In the first part of the course, we focus on key statistical concepts and how to use data to develop insights and predictive capabilities using regression, logistic regression, trees, etc. In the second part, we focus on the use of optimization methods to support decision-making in the presence of a large number of alternatives and business constraints. The main references for this course are as follows:


44155: Managerial Economics

This course is designed for MBA students who are interested in learning about the essential concepts in economics and how they can be applied to real-world issues in the context of business. The course emphasizes the application of key concepts from microeconomics over mathematical proofs. Students can expect to leave this course with a solid understanding of key concepts in economics and a rigorous framework to analyze novel issues faced by businesses. The topics are consumer demand, production, competition and market structure, game theory, market failures and the role of government, growth, inflation, unemployment, monetary and fiscal policies, and international economics. The main references for this course are as follows:


44161: Strategic Management

Strategy is about key issues for the future of organizations. Naturally, these issues concern entrepreneurs and senior managers at the top of the organization. However, middle managers need to understand the strategic direction of the organizations, both to know how to get top management support for their initiatives and to explain their organization’s strategy to the people, whom they are responsible. Anybody looking for a management-track job needs to be ready to discuss strategy with their potential employer. This course takes a broad approach to strategy, looking at different schools of thought as well as lots of interesting practices. We equip managers and students of management with the concepts, frameworks, and techniques needed to make better strategic decisions. We use the ideas of prominent scholars to shape the discussion of what strategic management is. Also, we describe the practices of prominent executives and practitioners to discuss how strategic management is used in many types of organizations. The main references for this course are as follows:


44168: Organizational Behavior

The most rewarding, stressful, and probably an important aspect of organizational life is working with other people. Working with others is an “art” that requires several skills such as knowledge of influence tactics, effective communication, ability to motivate and lead, resolving conflict, being a team player and making wise decisions. This course provides an overview of the theory and research on organizational behavior concepts at the individual and group level. Through class discussions, cases, exercises and presentations this course aims to help students learn about how to “understand,” “explain,” “predict,” and ultimately “improve” attitudes and behaviors of individuals and groups. The main references for this course are as follows:

**44169: Human Resource Management**

Recruitment, development, and retention of talents are key processes in modern organizations. Most strategies may fail due to shortcomings in human resource management (HRM) practices. This course is designed for MBA students to develop their knowledge and skills for considering HRM processes in plans and management practices. The main topics are HR strategy, staffing, training, and development, performance management, career management and compensation systems. This course considers complementary relationships between HR roles of HR practitioners and general managers. From this perspective, general managers are mainly responsible for HRM while working with HRK departments. Some main HR activities of general managers, including interviewing, coaching, and rewarding are emphasized in this course. Different approaches and techniques are presented in this course in order to enable students to use HR systems effectively and participate in the development of HR systems in their future roles. A strategic view is also considered in all topics for aligning HRM with strategic directions of organizations. The main reference for this course is as follows:


**44178: Strategy Implementation**

A study of 275 portfolio managers reported that the ability to execute strategy was more important than the quality of the strategy itself. Most managers cited strategy implementation as the most important factor shaping management and corporate valuations. This finding seems surprising, as for the past two decades management theorists, consultants, and the business press have focused on how to devise strategies that will generate superior performance. In this class, we focus on how companies can establish strong linkages from strategy to operations so that employees’ everyday operational activities will support strategic objectives. We will introduce various models of strategy execution from different scholars and compare lessons learn from them. The main focus of this class is on Kaplan Norton works of strategy execution, XPP, and we will solve different examples of strategy execution. The main references for this course are as follows:

- **Kaplan, Robert S., and David P. Norton. Alinhamento. Elsevier Brasil, 20**

**44224: Marketing Management**

Marketing is a dynamic and an exciting field. People often confuse marketing with advertising and sales. In this course, we discuss the “real” nature and scope of marketing in which advertising and sales are simply two facets. We introduce other aspects of marketing such as marketing strategy and planning, consumer behavior, market segmentation, targeting and positioning, product and brand strategy, integrated marketing communication, marketing channels and pricing strategies. Hence, the course focuses on marketing and its role in organizations. It introduces the marketing concept and looks at techniques and frameworks used to examine marketing environments, understand consumer buying behavior, segment markets, and position products, branding, manage and promote existing products, price and place products. The main reference for this course is as follows:


**44225: Brand Management**

Brand management is a fundamental element of competitive strategy and the discipline that links strategic business objectives, marketing, and operations. High-performance companies understand the importance of their brand and they actively manage brand equity. We discuss the importance of branding, what brands represent to customers, and what should be done by organizations to manage them properly in this course. We use cases and a project to expose students to the everyday challenges in brand management. Topics include assessing brand meaning, brand positioning, brand analytics, brand extensions, assessing brand strength, and building brands via media. The main references for this course are as follows:

- **Keller, Kevin Lane, M. G. Parameswaran, and Isaac Jacob. Strategic brand management: Building, measuring, and managing brand equity. Pearson Education India, 2011.**
**44226: Game Theory for Managers**

Game Theory for Managers is an optional MBA course for students interested in strategy, supply chain, pricing management, corporate finance, negotiation, and policy. In many business environments, the decisions of corporations with different incentives affect each other. Game theory provides a framework for analyzing these decisions and the resulting equilibrium. In addition, game theory is an effective method to design mechanisms and desirable policies. We aim to introduce game theory concepts and diverse managerial applications in this course. The main references for this course are as follows:


**44233: Marketing Research**

Students gain an understanding of marketing research and its value in analyzing consumers, markets, and the environment in order to support better decisions throughout the company. Topics include an overview of marketing research, research process, research design (exploratory, descriptive and causal research), questionnaire design, field operation, and data analysis. In order to gain a deeper understanding of what is involved in marketing research, specific marketing research problems such as pricing, new product development, segmentation and customer loyalty analysis are covered in this course, as different marketing research problems in the company. The main references for this course are as follows:


**44246: Technology Transfer**

This course aims to introduce students to theoretical and practical aspects of technology transfer. We start with exploring the theoretical building blocks of why firms engage in partnerships in general and in technology arrangements in particular. The course then moves on to the more specific issues of technological capability building through technology transfer and learning. The practical aspects are covered by inviting guest speakers to share their academic knowledge in technology agreements and practical expertise in specific cases of technology transfer. This course would widely use academic papers. A selection of references used in this course are as follows:


**44252: Change Management**

This course deals with planned organizational change, defined as a set of activities and processes designed to change individuals, groups, and organizational processes, systems, and structures. The focus of the course is on HOW to change (not WHAT to change). On the successful completion of the course, students will develop capabilities required for ongoing, long-run strategic change, become familiar with the activities and processes necessary for planned organizational change, learn how to anticipate, influence & generate change at individual, group & organizational levels, refine skills in recognizing change opportunities in organizations, and develop change agent competencies by requiring that they establish and execute plans to achieve meaningful and useful change initiatives. The main reference for this course is as follows:

44284: Product Development

This course aims to develop an understanding of managerial issues in developing new products. Students join forces in small product development teams to go through a new product development process in detail, to learn about the available tools and techniques, and to execute each step along the way. After finishing the course, the students should develop an understanding of new product development processes as well as useful tools, techniques and organizational structures that facilitate new product development practice. Although the course focuses on the application of these principles to new product development, they are more broadly applicable to innovation in general (of products, services, and organizations). The main references for this course are as follows:


44311: Financial Management

Corporate finance is a core module in management programs. This course aims to introduce students to what financial managers should do as well as what they actually do in practice. In general, financial managers deal with two types of decisions: 1) Where the should company invest and 2) How should the selected investments be financed. The criteria for making these two decisions will be discussed along with real-world examples. The main reference for this course is as follows:


44454: Organization Leadership

Leadership is the key to the success of modern organizations. The impacts of changing environment on organizations and the necessity of regular changes and transformation have enhanced the role of leadership in today organizations. This course is designed to introduce topics of leadership to MBA students by looking at several theories and applications. In addition, different case studies are discussed to help students gain the ability to analyze real organizational problems. Key topics are self-leadership for leaders, participative leadership, contingency theories of leadership, active followership, principles of delegation, authentic and transformational leadership, and change leadership. The role of authenticity is emphasized in all leadership roles and practices and students are encouraged to develop attitudes and commitment with respect to creating values for others. Students are expected to develop their analytical skills as well as fundamental attitudes regarding leadership by participating in different class activities such as individual and team activities. Such skills and attitudes can help them in their leadership journeys as well as their role as management experts or professionals to consider leadership as their organizational analysis and practices. The main references for this course are as follows:

- O’Toole, James, Jay Galbraith, and Edward E. Lawler III. “When two (or more) heads are better than one: The promise and pitfalls of shared leadership.” California Management Review 44.4 (2002): 65-83.
44464: National Innovation System

Innovation has become the main source of competitive advantage for corporations and nations. After the Second World War, a large corpus of studies emerged to decipher the secrets of innovation, either in process (such as technologies) or products. Scholars incrementally realized that the works of Joseph Schumpeter during the first half of the 20th century could provide an underlying ground, as he has constantly been emphasizing on capitalism as an engine of progress. Studies in the 1980s realized that firms do not innovate in isolation. Their innovative pattern is different, and they largely confront with uncertainty in their innovative decisions. As a result, a new multidisciplinary framework, coined “innovation system,” emerged to analyze innovation in different contexts. National Innovation System is developed to delineate the differences between countries. At a lower level Sectoral Innovation Systems try to explain the innovative behavior in each sector of the economy. Regional Innovation System is a framework for understanding the role of local factors in boosting innovation. Finally, Technological Innovation System highlights the factors that shape innovation in specific technological fields. This course aims to provide a historical background and overview of innovation studies and innovation systems. We also highlight how innovation systems apply in different contexts with particular attention to three distinct national situations: advanced countries, emerging economies, and developing countries. A good deal of the course discusses the problems of Iran as a developing country. The main references for this course are as follows:


44474: Electronic Commerce

Electronic Commerce (EC) which emerged twenty-five years ago is making great impacts on our lifestyle as well as social and economic structures. Numerous virtual companies formed, and enormous traditional organizations faced digital transformation challenges. Therefore, studying EC, from business, technology and society perspectives is crucial for students interested in business administration in the contemporary world. The topics covered in this course are categorized into foundations, infrastructure and applications of EC. First, we discuss the origins of the digital revolution, electronic business models, platforms, marketing and advertising in the digital world. Then, we deal with information security and protection, payment systems, internet of things and intelligent (smart) commerce. Finally, we bring in applications of EC, mainly from the retail sector, supply chain management, online content and media, social commerce, shared economy, and social enterprise. Case studies are used to facilitate learning from experiences obtained at local and international levels. Group projects provide students with an opportunity to focus and deepen their knowledge and understanding in their field of interest. The main references for this course are as follows:

44726: Financial Econometrics for MBA

The main objective of the course is to provide students with the necessary statistical and econometric tools of financial data analysis. This course is useful for MBA students who plan to conduct empirical studies in finance for their dissertation, as well as those who would like to pursue a professional career in quantitative trading and portfolio management. The course begins with the basic concepts in econometrics and introduces the most widely used econometric technique, namely the classical linear regression. Time series models as a common tool for modeling financial data is introduced as well. The first part of the course ends with an introduction to panel data. The second part of the course focuses on the applications of these techniques in a wide range of topics in empirical corporate finance and investment. The main references for this course are as follows:


44933: Advanced Organizational Behavior

An important aspect of management is how to manage organizational behavior. Organizations are not just technical systems, and their human and social aspects have considerable impacts on their processes and performance. Thus, understanding how individuals behave in their organizations and how their behaviors can be more productive for themselves and their organization is essential. In addition to introducing basic concepts, theories and applications of organizational behavior in another fundamental course (OB), this course is designed to cover selected advanced topics in organizational behavior of modern organizations. These topics are crucial issues in managing people in terms of both their performance and well-being. The key topics of this course are organizational commitment, advanced motivational theories including social cognitive theory, self-determination theory and goal-setting theory, organizational citizenship behavior, team dynamics and managing organizational culture. Theories and practical implications of these subjects are covered in the course. This course is specifically designed for those students who intend to pursue their profession or future studies in the fields of organizational development, human resource management or organizational behavior. The course draws on academic papers such as the following:

**Economics**

**44423: Development Economics**

Economic development is the process of gradual improvement in material well-being of individuals. This course aims to discuss key issues in the process of economic development, enhance students' ability in applying economic models to study development problems, and discuss the relevant empirical literature with an eye toward forming policy recommendations. The course is divided into three parts: macro development, markets in developing countries, and the role of government. In the first part, we first review basic development facts and discuss various models that try to explain cross country income gaps including Solow, endogenous growth models and poverty traps. We then discuss the relation between inequality and growth and discuss the role of institutions in shaping development outcomes. In the second part, we take a micro approach and look into the function of various markets in developing countries. These include education, health and nutrition, land and agriculture, and credit markets. In the final part of the course, we discuss the role of government in the process of development by looking into the relation between infrastructure and development, environment and development, taxation, and development, corruption, and international aid. The course relies extensively on recent empirical papers in each topic but for the explanation of theoretical concepts Ray (1998) textbook is also useful. A selection of the references for this course are as follows:


**44616: Financial Engineering**

This course covers forward contracts, futures, options, and Greeks. By the end of this course, the students will have a good knowledge of how the referred contracts work, how they are used, how they are priced by binomial and Black-Scholes-Merton model, and how they could be hedged. We start the course by an introduction to forward, futures and options and discussing their mechanics. We then discuss hedging strategies and pricing of futures and options. We discuss trading strategies with options, binomial trees, stock indices, and currencies. The main reference for this course is the following textbook:


**44617: Risk Management and Evaluation**

This course focuses on financial risks, value at risk (VaR) and expected shortfall as the most popular risk measures, various kinds of risks, their special characteristics, and the methods for estimating, and aggregating these risks. Topics covered include interest rate risk, value at risk and expected shortfall, volatility, correlations and copulas, market risk VaR (historical simulation, model building), credit risk, and estimating default probabilities, credit VaR, scenario analysis and stress testing, operational risk, liquidity risk, model risk, and economic capital and RAROC. The main reference for this course is the following textbook:


**44621: Research Method**

In this course, students learn how to choose their research topic, find related papers, categorize them, make their research topic precise, review the literature, find their model, and verify the existence, availability, and quality of data. They will also practice writing papers and presenting talks. The main references for this course are as follows:

44622: Macroeconomics II

The course is the second master level course in macroeconomics. It is centered on seven main topics: representative agent models, real business cycles, fiscal policy, monetary policy, open macroeconomics, unemployment, and advanced economic growth. By successfully finishing this course, students would be able to analyze long-run and short-run macroeconomic problems, use simple models to analyze daily macroeconomic phenomenon, write and present your macroeconomic perspective, solve standard macroeconomic mathematical problems. The main topics covered include representative agent model, calibration and estimation and log-linearization of real business cycle models, role of government, taxes, public debt (Ricardian equivalence and optimal fiscal policy), social security, monetary policy and inflation, equilibrium with money and the Cagan equations, cash in advance model and the Friedman rule, MIU model, new Keynesian models, discretion vs. rule and central bank independence, new central banking (Taylor rule and inflation targeting), international trade and open economy, unemployment, search and match, growth models (neoclassical and endogenous growth models), political economy of growth. The main references for this course are as follows:


44625: Game Theory

Game Theory is the name for a collection of analytic tools which economists use to understand strategic interactions. The aim of this course is to analyze strategic behavior of rational decision-makers. We say that decision making is strategic if it involves taking into account what other agents want, know, believe, and do. Strategic behavior is an important component in interactions such as market competition between firms, bilateral bargaining, auctions, voting, and information transmission. In this course we cover strategic-form games with complete information, strategic-form games with incomplete information, dynamic games, and equilibrium concepts for analyzing these games. The focus of the course is on three equally important fronts: First, the students should get a good understanding (and some experience) of how to model a strategic environment as a game. Second, the students learn how to solve a game-theoretic model. Third, the course contains an overview of some classic applications of game theory, mostly in economics. The applications are put forward to explain economic phenomena, to illustrate theories, and in some cases to add fun to a theoretical course. In addition to the above topics we also provide introductory coverage of coalitional games and the core, evolutionary games, and mechanism design. The main references for this course are as follows:

44626: Quantitative Economics

This advanced course is designed to familiarize second-year Ph.D. students with quantitative, computational and numerical methods used in both micro and macroeconomics. The course aims to ultimately help students develop their own research idea along this course. The topics covered are an introduction to Python programming, introduction to structural estimation, including behavioral models of binary choice, simulation and numerical maximization, simulation-assisted estimation, and economic models with heterogeneous agents (dynamic programming, calibration and estimation). The main references for this course are as follows:


44706: Microeconomics II

Microeconomics intends to analyze the behavior of individual economic agents and their interactions under different institutional arrangements. In Microeconomics II, we first introduce decision making under uncertainty. We then introduce game theory as a way of modeling strategic interactions between economic agents. This will pave the way for the departures from competitive market that we discuss in the rest of the course. These include externalities, public goods, models with non-price taker producers, and absence of asymmetric information (adverse selection, signaling, and screening and the principles-agent problem). The emphasis of this course is theoretical, but we discuss real-life examples when necessary. The main references for this course are as follows:


44710: Macroeconomics I

The course is the first course in Intermediate Macroeconomics. It is centered on five main topics: general equilibrium, economic growth, monetary economics, short-term macroeconomic analysis and open economy. Topics covered include general equilibrium and the Edgeworth box, the real economy, Robinson Crusoe economy, intertemporal decisions, consumption theory, Solow model, neoclassical growth model, monetary economics and short term macroeconomic analysis, quantity theory of money, Baumol-Tobin money demand model, review of IS/LM and AD/AS Models, adaptive expectations and the Fisher model, rational expectations and the Lucas islands, Lucas critique, Cagan equation and the equilibrium model, cash-in-advance model, and the Friedman Rule, open economy and exchange rates, PPP and Interest-rate-parity, Mundell-Fleming, international finance trilemma, and the Ricardian trade model. The main references for this course are as follows:


44712: Mathematical Economics

In this course, students learn the mathematics needed in Micro and Macro Economics. They will learn about different kinds of static optimization problems, existence, and uniqueness results for their solutions, and Kuhn-Tucker and Lagrange conditions. They will also work with systems of linear differential equations, their phase diagrams, and their equilibria. The final section of this course is devoted to dynamic optimization. The main references for this course are as follows:

**44714: Principles of Economics**

This is an introductory course in economics covering both macro and microeconomics concepts. The course is divided into four parts. The first part covers an introduction by looking at what is Economics, how economists think, gains from trade. The second part covers basic concepts in microeconomics such as demand, supply, market equilibrium, market failures and the role of government. The third part covers the foundation of macroeconomics by looking at growth models, macroeconomic models, money, inflation, and unemployment, and open economy issues. The final part looks at the economic analysis of social systems. The main textbooks used in this course are as follows:


**44715: Microeconomics I**

Microeconomics analyzes the behavior of individual economic agents and their interactions under different institutional arrangements. Microeconomics I aims to develop an understanding of how rational individuals choose their consumption and how profit-maximizing firms decide their production plans. Having studied the single-agent decision problem, Microeconomics I moves to the anonymous interaction of economic agents in the competitive markets. The general equilibrium model and the special but important case of partial equilibrium model serve this purpose. Microeconomics I discusses the foundations of market equilibria and its welfare properties. The main references for this course are the following textbooks:


**44709: Econometrics II**

This course is designed to provide students with the recently developed methods in time series econometrics, theoretical tools and practical experience necessary to do applied econometric research. Econometrics I is the prerequisite for the course. However, it is assumed that students are familiar with a basic knowledge of calculus and matrix algebra. A reasonable proficiency in econometric software is needed and students will be actively involved with computer exercises in the classes using an econometrics program. The topics covered are univariate stationary processes, Granger causality, vector autoregressive processes, nonstationary processes, cointegration, and autoregressive conditional heteroskedasticity. The main references for this course are as follows:


**44713: Economy of Iran**

This course reviews the capacities of the Iranian economy and assesses its performance based on common economic indicators. We examine the observed gap between capacity and performance and discuss potential explanations. These provide an explanation for the persistence of major failures, such as low and volatile economic growth, two-digit unemployment rate, and high inflation rate. We review the microeconomic foundations of macroeconomic performance of Iran, based on the behavior of the main economic actors, including households, enterprises, banks, government and central bank, and the foreign sector of the Iranian economy. After analyzing the behavior of economic actors, once again, the problems of the economy will be reconsidered, and this time, based on this analysis, we will understand the reasons for the existing gaps and persistence of major failures. At the final stage of the course, we will pursue the root causes of the problems in the political economy of Iran, and we will show that the existing imbalances are all a reflection of an equilibrium in the political economy of Iran. The following Farsi textbooks are used for this course along with an up-to-date analysis of Iran's Economy.
Econometrics is the art of interpreting the data with the aim of testing economic theories and hypotheses. In this course, we introduce the basics of statistical reasoning and provide an in-depth analysis of linear regression model. We discuss the difficulties of establishing causality and other problems with regression methods. The course will introduce students to the basics of empirical modeling and methods of estimation. The topics covered in this course are a review of probability and statistics, simple and multiple regression models (estimation and inference), specification problems and heteroskedasticity, instrumental variables approach, difference-in-differences estimation, and an introduction to times series and panel data models. The main references for this course are as follows:


This course reviews time-series techniques and their application to the analysis and forecasting of financial time-series data. Emphasis is given to methods applied to financial data. Topics covered include ARIMA models, GARCH models, analysis of random walks, stochastic trends, and volatility models. We also cover the concept of stationarity, unit root tests, and cointegration and error correction models. The main references for this course are as follows:


This course provides a rigorous treatment of the core concepts of investments. It broadly covers major asset theories, tools, and results in portfolio choice and asset pricing. Specifically, we cover risk aversion and capital allocation to risky assets, optimal risky portfolios, index models, the capital asset pricing model, arbitrage pricing theory and multifactor models of risk and return, the efficient market hypothesis, behavioral finance and technical analysis, and the empirical evidence on security returns. The main references for this course are as follows:


This course focuses on Corporate Finance. Upon completion of this course, students will understand what finance is, how financial system works, and become familiar with the various aspects of the financial structure of firms. Topics covered include an introduction to finance, financial markets and institutions, allocating resources over time, the analysis of investment projects, principles of market valuation, valuation of common stocks, risk and risk management techniques, financial structure of a firm, and financing and valuation. The main references for this course are as follows:

44731: Applied Econometrics

This course provides a comprehensive treatment of topics in microeconometrics, the analysis of individual-level data on the economic behavior of individuals or firms using regression methods for cross-sectional and panel data. The course has a practical flavor. A basic understanding of the linear regression model with matrix algebra is assumed. The course makes frequent use of numerical examples based on generated data to illustrate the key models and methods. The topics covered are descriptive statistics and linear regression, endogeneity, linear regression with panel data, quantile regression and bootstrapping, Bayesian analysis, nonlinear models, sample selection in nonlinear models, random parameter and hierarchical linear models, latent class models, censoring and truncation, duration models. The main references for this course are as follows:


44733: An Introduction to Economic Growth

This course intends to discuss growth facts and introduce models of economic growth that try to explain those facts. The topics covered in this course are growth facts, physical capital, population, human capital, measuring productivity, technology, efficiency, open economy, government, culture, and growth in Iran. The main reference for this course is the following textbook:


44742: Market Design

This course studies topics in market design (auctions and two-sided matching) focusing on the incentives created by market rules and the efficiency of outcomes. Graduate students in Economics, Mathematics, Computer Science, Computer Engineering and related areas are welcomed. Advanced undergraduate students may take the course with permission from the instructors. Topics covered are an overview of market design, classic market failures in market design, Bayesian games, auctions (theory and practice), double auction, basic theory of two-sided matching, mechanism design aspects of matching, random assignment problems, and applications of market design. The main references for this course are as follows:

- Roth, Alvin E. and Marilda A. O. Sotomayor (1990), Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis, Cambridge University Press.

44722: Financial Economics II

Energy economics is a growing field in economics. The availability of new data sources and the interest of policy makers make this field an interesting topic for research. Moreover, many serious challenges in Iran are rooted in energy policies. The country wastes about 20% of its GDP every year for energy subsidies and, at the same time, lacks enough resources to spend on infrastructure, health and education. Additionally, about half of government income is funded by oil revenues in which it seems that the government has no strategic plan for its development. Recently, the dominance of the petrochemical industry has changed the manufacturing sector and political lobbies. This course has an empirical focus relying on advanced econometrics methods. The assignments are based on real data and replication of recent papers in top journals. The topics covered are the Hotelling model, ordering of extraction, drilling economy, natural gas, electricity market and competition, gasoline market, pollution and health, environment, regulation, welfare, water, health and regulation, and agriculture and climate change. The course relies extensively on academic papers. A selection of these papers is as follows:

44747: Public Economics

Public economics studies the public sector in its broadest sense. The aims of this course are to: discuss key issues in public economics, provide an overview of the theoretical tools and empirical strategies used in the study of the public sector, and develop a coherent understanding of practical issues in the implementation of public sector policies. Students successfully completing this course should be able to critically discuss key issues in public economics, understand the basic economic modeling of the public sector, and engage critically with the empirical public economics literature. The topics covered are split into three parts. In the first part, the theoretical and empirical works in the literature of optimal tax and redistribution are reviewed. In the second part we cover social insurance by looking at unemployment insurance, health insurance, and social security and pensions. In the final part of the course, we discuss externalities and public goods. The course relies heavily on academic papers. A selection of the references used are as follows:


44772: Industrial Organization

This course introduces students to essential topics in industrial organization. Students should acquire a thorough understanding of topics such as oligopoly, collusion, product differentiation, entry and exit, vertical relationships, price discrimination, bundling, innovation, networks, and regulation and competition policy. The list is rather long; however, some topics will be discussed in detail while others are treated more briefly. Students are expected to know some of the basic ideas, e.g., the core concepts from game theory and static models for oligopoly. The course covers both theoretical and empirical issues. The main references for this course are as follows:


44771: Selected Topics in Public Choice and Political Economics

The purpose of this course is to familiarize students with the main topics in public choice and political economics. The course also covers topics in the political economy of oil-exporting countries and sanctions. In the beginning, students learn the fundamentals of public choice and political economics. The main theories in voting rules, politicians’ and voters’ decisions, and election outcomes are discussed next. After that, the course reviews the main characteristics of specific political regimes, interest groups, lobbying, campaigning, and bureaucracy. In the end, the political economy of the oil-exporting countries and political economy of sanctions are discussed. The main references for this course are as follows:


44736: Oil and gas finance

This course commences with an industry overview and group work on qualitative and quantitative risk analysis. This is designed to ensure that all participants have a good working understanding of the basic structure of the international petroleum industry, qualitative risk “template” applied by lenders (what risks are “bankable”), different risk/reward objectives of sponsors and lenders, and ratios and other tools used to determine loan values and balance equity and debt. The course will then progress to a study of a project financing challenges in different branches of the industry, including upstream field development, refineries, oil and gas transportation pipelines and gas gathering systems, liquefied natural gas (LNG) liquefaction and regasification petrochemical plants, gas-to-liquids, and gas storage. A collection Farsi and English references are used in this course. A selection of these references are as follows:

**44622: Special Topics in Macroeconomics**

The course is the third course in Macroeconomics at master level. It is centered on three main topics: monetary economic, international trade and unemployment. We discuss theories about money the relation between real and nominal economy, central banking, open economy issues, and models of the labor market. The main references for this course are as follows:


**44622: Advanced Macroeconomics II**

The course is the Second PhD-Level course in Macroeconomics. It is centered on four main topics: dynamic macroeconomic analysis, monetary economics, optimal taxation, and financial macroeconomics. This course is more technical rather than conceptual. You learn classic papers and typical techniques used in macroeconomic modeling. We start with a review of real business cycle models. We discuss models of money, optimal taxation, and financial macro (investment, incomplete financial markets, and overlapping generations model). The main references for this course are as follows:


**44725: International Trade**

By the end of this course, students should be able to understand why international trade has welfare gains, what are its distributional effects, how it affects labor markets, what optimal trade policies are, and finally, what is the political economy behind international trade. Specifically, we cover the gravity model, comparative advantage (Ricardian, DFS & EK models), endowments comparative advantage (Heckscher Ohlin), tastes (Armington model), increasing returns (Krugman model), firm heterogeneity (Melitz and Chaney Models), growth and trade, trade policy and political economy of trade, inequality and trade, and unemployment and trade. The main references for this course are as follows:


**44773: Advanced Microeconomics I**

The aim of this course is to familiarize students with some of the core concepts of microeconomics that are needed to pursue graduate research in economics. The topics covered include general equilibrium and welfare, equilibrium and time, equilibrium under uncertainty, and social choice theory. The main reference for this course is as follows:

**44774: Advanced Macroeconomics I**

This course provides a Ph.D. level training in macroeconomics by covering key tools of analysis and models in macroeconomics. Topics covered include dynamic optimization, overlapping generations model, real business cycles, asset market, labor market, money search, recursive commitment problem, international macroeconomics. The main references for this course are as follows:


**44772: Advanced Microeconomics II**

Microeconomics intends to analyze the behavior of individual economic agents and their interactions under different institutional arrangements. In this course we discuss a few topics in game theory, contract theory, and market design. First, we give a quick overview of basic game theory definitions and equilibrium concepts. Games of complete information might be a start to modeling strategic interactions, but in order to make our models more realistic, we need to step into the world of incomplete information games (Bayesian games). Here we first consider auctions. Then we consider the more general problem of designing mechanisms that could convince agents to do what the designer wants. Our exploration into mechanism design is not very deep, and we only discuss the key concepts such as the revelation principle and VCG mechanisms. An important category of incomplete information games is the signaling games. We review a few examples of signaling games and discuss solution concepts and refinements. For the last part of this course, we cover a few topics in contract theory, such as the basic principal-agent model and its extensions to multi-party contracting environments like menu auctions. The main references for this course are as follows:

Graduate School of Management and Economics
Sharif University of Technology
Azadi Street, Tehran, Iran / P.O. Box: 11155-8639
Telephone: +98 21 66022755 / Fax: +98 21 66022759
Web site: http://gsme.sharif.edu/