

Middle East Technical University
Graduate School of Social Sciences
Doctor of Philosophy in Business Administration
In the Field of Quantitative Methods

Aim of the PhD Program: Quantitative Methods is an interdisciplinary field that aims to give students the quantitative tools and models of judgment and decision making that is necessary to support managerial decisions in a wide variety of areas. The PhD candidates of this program will be able to use several techniques to improve their quantitative decision analysis and to design their original research.

Admission Criteria for the PhD Program:

Students with a graduate degree can apply to the normal PhD program directly whereas those who have an undergraduate degree from a four year university should apply to the integrated PhD program. Student admission to the program is based on methods determined by METU Department of Business Administration and the related legislation.

Total Duration:

The time allowed to complete the PhD program is **8 semesters** for students with a master's degree and **10 semesters** for the students who enter the integrated program with an undergraduate degree.

Total Credits:

32 credits are required for master's program graduates and **53** credits for undergraduate program.

Scientific Preparatory Program

Students who have a graduate or undergraduate degree may apply to the program. However, they need to take scientific preparation courses before starting the courses in the program. They may be exempted from these courses if they have taken the courses previously. Upon request, the Academic Committee reviews the student's records, conducts exams when necessary and decides whether the student can be exempted from the courses listed below:

- Statistics
- Microeconomics
- Macroeconomics
- Calculus / Differential Equations (for METU MATH 119, 120, 219)

PhD Program

- 5 must PhD courses (15 credits in total)
- 2 must research method courses with application (2 credits)
- 5 elective courses (15 credits in total)
- Ph.D. thesis

Note: Applicants who successfully complete the scientific preparatory program should follow this schedule.

Integrated Ph.D. Program

- 4 Integrated Program courses (12 credits in total)
- 5 must PhD courses (15 credits in total)
- 2 must research method courses with application (2 credits)
- 8 elective courses (24 credits in total)
- Ph.D. thesis

Curriculum of PhD in Business Administration in the Field of Quantitative Methods for Managerial Decisions

First Year	
<i>Fall Semester</i>	
<i>Courses</i>	<i>Credits</i>
BA 6xxx Theories in Decision Sciences	(3-0)3
BA 6505 Applied Regression Analysis	(3-0)3
Elective (Restricted)*	(3-0)3
<i>Spring Semester</i>	
BA 6xxx Experimental Design and Analysis for Managerial Decisions	(3-0)3
BA 6506 Applied Multivariate Analysis	(3-0)3
Elective (Restricted)*	(3-0)3
<i>Summer Semester</i>	
BA 6021 Research Paper I (Seminar)	(1-0)1
Second Year	
<i>Fall Semester</i>	
BA 6507 Applied Time Series and Panel Data Analysis	(3-0)3
Elective (Restricted)*	(3-0)3
Elective (Restricted)*	(3-0)3
<i>Spring Semester</i>	
Elective (Restricted)*	(3-0)3
<i>Summer Semester</i>	
BA 6022 Research Paper II (Seminar)	(1-0)1
Third and Fourth Years	
<i>Fall Semester</i>	
BA 6099 Ph.D. Dissertation	NC
BA 80xx Special Studies	NC
BA 90xx Special Topics	NC
<i>Spring Semester</i>	
BA 6099 Ph.D. Dissertation	NC
BA 80xx Special Studies	NC
BA 90xx Special Topics	NC
<i>Summer Semester</i>	
BA 6099 Ph.D. Dissertation	NC
BA 80xx Special Studies	NC
BA 90xx Special Topics	NC

* Elective courses must be approved by the advisor and the department.

Additional courses that must be taken within the scope of Integrated PhD Program

First Year	
<i>Fall Semester</i>	
<i>Courses</i>	<i>Credits</i>
BA 5505 Research Methods in Business	(3-0)3
BA 5503 Management Science	(3-0)3
BA 5501 Business Statistics	(3-0)3
Elective Course (Restricted)	(3-0)3
<i>Spring Semester</i>	
BA 5506 Introduction to Quantitative Methods for Managerial Decisions	(3-0)3
Elective Course (Restricted)	(3-0)3
Elective Course (Restricted)	(3-0)3

MUST COURSES

PhD Program

BA 6xxx Theories in Decision Sciences (3-0)3

BA 6505 Applied Regression Analysis (3-0)3

BA 6xxx Experimental Design and Analysis for Managerial Decisions (3-0)3

BA 6506 Applied Multivariate Analysis (3-0)3

BA 6507 Applied Time Series and Panel Data Analysis (3-0)3

Integrated program

BA 5505 Research Methods in Business (3-0)3

BA 5503 Management Science (3-0)3

BA 5501 Business Statistics (3-0)3

BA 5506 Introduction to Quantitative Methods for Managerial Decisions (3-0)3

ELECTIVE COURSES*

BA 6811 Microeconomic Theory for Business (3-0)3

BA 5129 Strategic Games for Managers (3-0)3

BA 5140 Strategic Behavior and Experiments (3-0)3

BA 5518 Decision Analysis: Behavioral & Psychological Perspectives (3-0)3

BA 5826 Industrial Organization (3-0)3

BA 5517 Decision Analysis: Tools and Methods (3-0)3

BA 5115 Business Ethics (3-0)3

BA 5510 Introductory Econometrics for Finance (3-0)3

BA 5511 Business Forecasting (3-0)3

BA 5618 Project Management (3-0)3

BA 5135 Leadership Theory and Application (3-0)3

BA 5137 Entrepreneurship (3-0)3

BA 5511 Business Forecasting (3-0)3

BA 5514 Risk Management (3-0)3

BA 5714 Consumer Behavior (3-0)3

BA 5725 Brand Management (3-0)3

PYSCHOLOGY DEPARTMENT*

PSY 652 Attitude Measurement and Scale Development (3-0)3

PSY 656 Inter-group Relations (3-0)3

PSY 552 Groups (3-0)3

PSY 655 Intra-group Processes (3-0)3

PSY 556 Applied Social Psychology (3-0)3

PSY 519 Human Factors and Performance (3-0)3

PSY 500 Research Methods (3-0)3

**PSY 510 Advanced Design and Statistical Procedures in Assessment of Psychology
Change (3-0)3**

PSY 504 Leadership and Motivation (3-0)3

INDUSTRIAL ENGINEERING DEPARTMENT*

IE 553 Linear Optimization (3-0)3

IE 562 Stochastic Processes in Decision Models I (3-0)3

IE 558 Multiobjective Decision Making (3-0)3

IE 566 The Design and Analysis of Experiments (3-0)3

IE 583 Qualitative Methods for Engineers (3-0)3

IE 554 Discrete Optimization (3-0)3

IE 555 Nonlinear Optimization (3-0)3

*** Elective courses should be must be approved by the advisor and the department**