

**Antalya Bilim University**  
**School of Business and Social Sciences**  
**Business Administration Department**  
**Introduction to Management Science Course Syllabus, BUSI 252**

**Course Description & Objectives:** The objective of management science course is to solve the decision-making problems that confront and confound managers in both the public and the private sector by developing mathematical models of those problems. The Textbook goal is to provide undergraduate students with a genuine foundation in business analytics, quantitative methods, and management science. The course concentrate on Prescriptive analytics involves the use of optimization methods to solve deterministic models. Software for solving Problems: QM for windows, Excel QM and Excel Spreadsheets (solver Add-Ins)

**Textbook:**

- Render Barry, Ralph M. Stair Jr., Michael E. Hanna and T. S. Hale, *Quantitative Analysis for management*, 12th ed., Pearson Education 2015.

**Reference:**

- Taylor B. W., *Introduction to Management Science*, 12<sup>th</sup>.ed., Pearson Education, 2016.

**Developing Graduate Attributes**

Students will be encouraged to develop the following graduate attributes by undertaking the course activities and mastering the course contents. These attributes will be assessed within the assessment tasks:

- skills involved in scholarly enquiry;
- an in-depth engagement with the relevant disciplinary knowledge;
- the capacity for analytical and critical thinking;
- the ability to engage in independent and reflective learning.

**Academic Honesty**

Any form of cheating or academic dishonesty is strictly forbidden in this class. If I find out that an exam turned into me is not the work of the sole person that has his/her name at the top of the page, I will issue a zero grade for the course, and the student may be subject to further disciplinary action.

**Assessment Criteria:**

- **Participation (20%):** attendance on time; cases presentations; homeworks.  
Students are required to exhibit proper discipline, behavior, and responsibility.
- **Midterm (30%):** Students are responsible for all class material covered until the midterm exam.
- **Quiz (10%):** 2 Quizzes each 5%
- **Final exam (40%):** The exam is cumulative and will focus on all units and topics studied throughout the course, but emphasis will be after midterm.

<b>Course outlines</b>	
<b>Week</b>	<b>Topic</b>
<b>1</b>	<i>Introduction to Management Science/Quantitative Analysis.</i>
<b>2</b>	<i>How to develop a Quantitative Analysis Model; Ms. Excel.</i>
<b>3</b>	<i>Linear Programming Models: Graphical and Computer Methods: Formulating LP Problems; Graphical Solution to an LP Problem.</i>
<b>4</b>	<i>Graphical Solution to an LP Problem QM for Windows; Excel Solver.</i>
<b>5</b>	<i>Solving Minimization Problems; Special case in LP</i>
<b>6</b>	<i>Linear Programming Applications: Marketing, Manufacturing, Employee Scheduling. QM for Windows; Excel Solver.</i>

7	<i>Linear Programming Applications: Financial, Blending, and other LP Applications. QM for Windows; Excel Solver.</i>
8	<b>Midterm Exam</b>
9	<i>Transportation, Assignment, and, and Network Models. Linear Program for the Transportation Problem Solving Transportation Problems using Computer Software.</i>
10	<i>Facility Location Analysis; The Assignment Problem. QM for Windows; Excel Solver.</i>
11	<i>The Transshipment Problem</i>
12	<i>The Network Flow Models Shortest-Route Problem Software: QM for Windows</i>
13	<i>Minimal-Spanning Tree Problem; QM for Windows</i>
14	<i>Maximal-Flow Problem; QM for Windows</i>
<b>Usefull Websites</b>	<ul style="list-style-type: none"> <li>• <b>The Companion Website, at <a href="http://www.pearsonglobaleditions.com/taylor">www.pearsonglobaleditions.com/taylor</a></b></li> <li>• <b>The Companion Website, at <a href="http://www.pearsonglobaleditions.com/render">www.pearsonglobaleditions.com/render</a></b></li> <li>• <b><a href="http://qm-for-windows.software.informer.com/5.2/">http://qm-for-windows.software.informer.com/5.2/</a> Free software download.</b></li> <li>• <b><a href="http://www.scienceofbetter.org">www.scienceofbetter.org</a></b></li> </ul>
<b>Calculators:</b>	<i>Students will need a photo ID on test days. Students may only use standard/basic, scientific, or graphing calculators. Cell phones and all other WiFi enabled devices are prohibited during exams. They are not allowed out of your bag during exams.</i>
<b>Tech Usage:</b>	<i>Laptops, tablets, phones, and other digital devices are distracting to you and also distract others sitting nearby. As a result, I ask that you choose to occupy a seat in the last two rows of class if you plan to use one of these devices during lecture. Please do not record our lectures, photos are forbidden too. Also, try to remember to keep phones on silent during class.</i>

**Notes:**

1. **I reserve the right to make changes to the syllabus.**
2. **a score below 50 → letter F**
3. **The condition to enter the exam → min 70% attendance**