

IE 375 PRODUCTION PLANNING Spring Semester, 2019-2020

Instructor	Sections	Office	E-mail	Ext.	Office Hours
Dr. Nesim K. Erkip	01	EA320	nesim@bilkent.edu.tr	1032	By e-mail appointment

Lectures:	Tues 8:40–10:30, Thurs 10:40–12:30			Location: EE03
Course Assistants	Office	E-mail		Office Hours
Emin Özyörük	EA325	emin.ozyoruk@bilkent.edu.tr		To be announced

Text: *Production and Operations Analysis* by S. Nahmias and T. Olsen, 7th Edition (available at the Reserve Library) – A reading list is available at the WEB site of the course.

Communication and Course Web Page:

It is your responsibility to follow the course web page for updates and additional information. Most changes or alerts will be sent to your e-mail account available in the STARS system throughout the semester.

The address for the WEB page is: <https://courses.ie.bilkent.edu.tr/ie375/>

Course Description:

The course concentrates on the analysis of production planning systems using mathematical programming and other analytical techniques. Areas investigated will include forecasting; integrated production-inventory systems; inventory and lot-sizing models; machine scheduling, capacity planning, and supply networks. *Credit units: 3, Prerequisite: IE 202.*

Course Objectives:

- Introduce basic conceptualization of planning problems for production systems.
- Teach students fundamental problem areas of “Production Planning” and, to introduce the relation between planning and control activities, as well as issues related to system design.
- Teach approaches that utilize mathematical modeling and optimization to solve problems and emphasize the importance of solving a planning problem analytically.
- Introduce and emphasize the role of using performance measures.
- Build appreciation of complexity for more detailed and up-to-date “Production Planning” related problems; build appreciation of limitations of analytical approaches.
- Maintain mutual respect and effective interaction between students and instructor/assistants.

Outline:

- Introduction (2 hours)
- Forecasting (6 hours)
- Aggregate Production Planning (APP) (8 hours)
- Inventory Planning, Deterministic and Stochastic Inventory Problems (14 hours)
- Machine Scheduling: Introduction, classification, simple problems (6 hours)
- Problems in Supply Chains and wrap-up (4 hours)

Conduct of the Course:

Lecture Schedule: Each week number of hours of teaching may vary. The tentative program of lecture times planned is available in the beginning of the semester. However, there might be changes and hence, please, follow the WEB page of the course to make sure that you do not miss your class.

Recitation/Review Schedule: The tentative program of Recitation/Review times planned is available in the beginning of the semester. However, there might be changes and hence, please, follow the WEB page of the course to make sure that you do not miss your class. Additionally, check the WEB page before each such session – there might be additional information on what is to be covered during the session. Important Note: Recitation/Review sessions are planned to be held after during lecture hours.

Grading:

- Homework (5) – 10%
- Exam I - 30% - March 12, 2020 – Location and Time: In class
- Exam II - 30% - April 21, 2020 – Location and Time: In class
- Final Exam - 30% - Date, Time and Location: TBA

Grade FZ

Case 1) If last homework is not graded until the due date for submission of FZ grade: You have to collect at least 23 points out of 68 points to be eligible for the final exam (or 25 if you do not submit your last homework). 68 points can be collected satisfying all requirements except *Final Exam* (30 %) and Homework #5 (2%).

Case 2) If last homework is graded until the due date for submission of FZ grade: You have to collect at least 25 points out of 70 points to be eligible for the final exam 70 points can be collected satisfying all requirements except *Final Exam* (30 %).

Academic Dishonesty: Academic misconduct is not tolerated, and violations will be treated in accordance with the University policy.

- For assignments: Discussion of the course material and working in groups are effective ways of learning. However, this does not mean that you can copy the assignment from one of your friends. You can discuss with your friends, but you should be alone, without any written solution in front of you, when you actually prepare your assignment. It is extremely important to understand the value of this exercise in the process of learning. Any violation of the above understanding will result measures outlined in the student rules and regulations.
- For exams: You are expected to act in accordance with the following statement that you will be asked to sign. *Academic integrity is expected of all students of Bilkent University at all times, whether in the presence or absence of members of the faculty. Understanding this, I declare that I shall not give, use or receive unauthorized aid in the examination.* Any violation of the above understanding will result measures outlined in the student rules and regulations.

Homework Submission Policy: Five homework assignments will be given. For all these assignments due-dates are fixed; no late assignment will be accepted. An assignment submission box will be placed in front of the office EA325 about two days before submission date and will be removed at the time of the deadline. You need to place your assignment in the designated box before the submission deadline.

Homework Grading Policy: The homework grades will not be only based on the correctness of the answers provided, but on the perceived degree of effort on the returned assignment. This will hopefully leave no motivation to students to use other solutions, as even without obtaining any correct answers one can obtain full credit. The detailed grading scale will be announced for each assignment separately. Late submissions will not be accepted.

Make-up policy:

- (1) There is no make-up for the homework assignments. In some rare cases your grading percentages may be modified by the course instructor.
- (2) For exams, if you have a legitimate health reason:
 - a. To satisfy university requirements, you should follow the administrative path and submit your health report officially.
 - b. You should contact the instructor immediately (same day) after the expiration date of your health report. If you do not contact, you may lose your right to get a make-up. The make-up exam can be at any time (oral or written) after the expiration date of the health report.

Solutions to exams, homework and claims for grade change:

- (1) No solutions will be distributed for the exams, or any of the assignments. However, for each of the homework and exams a detailed “Comments” document will be prepared. This document will be on the questions asked and will discuss several issues related to the question, including the way that grading was performed, as well as the sketch of the solution and possible extensions. It will also contain information on your performance, your successes, common mistakes, etc.
- (2) For any of the assessment activities, you are expected to pick up your assignment (except the exams). If you have any concerns about the way that your work has been graded, please write your claim, and ask for re-grading. The outcome will be mailed to your e-mail account. Note that office hours of the teaching assistant should be used to pick up your assignment or to check your exam. In some cases additional hours may be announced and you are expected to come within those hours. If you will not be able to make at those hours, you can write an e-mail to the teaching assistant asking for an appointment.

Privacy policy: Grade information and other personal information available to us will not be disclosed publicly. Please, do not demand to learn somebody else’s grade or other pertinent personal information. Also phone inquiries are not accepted.