IE 401 - Production and Service Systems Operations  
Syllabus 2021 Spring

This syllabus is prepared due to the online transformation of our education system because of the COVID-19 Pandemic.

Lectures and Locations

Lectures
Live on Tuesday 08:40-09:30  https://sabanciuniv.zoom.us/j/4489189741
Live on Wednesday 14:40 -16:30  https://sabanciuniv.zoom.us/j/4489189741
Lectures will be recorded and uploaded to Google Shared Drive.

Recitations
Live on Monday 17:40-18:30  Section A2: https://meet.google.com/fgc-axwo-ith
Live on Tuesday 11:40-12:30  Section B1: https://sabanciuniv.zoom.us/j/8975288826
Live on Tuesday 11:40-12:30  Section B2: https://meet.google.com/qdz-heap-kad

Team

Instructor  
Emre Özlü  eozlu@sabanciuniv.edu
Office Hours  Fridays – 12:40-13:30 at here

Teaching Assistants  Office Hours  Zoom Links
Rabia Taspinar  rtaspinar@sabanciuniv.edu  Thursday  14:40-15:10  https://sabanciuniv.zoom.us/j/9171849860
Fatih Habacı  fatih.habaci@sabanciuniv.edu  Wednesday  08:40-09:10  https://sabanciuniv.zoom.us/j/92380332260
Sinan Emre Koşunda  sinankosunda@sabanciuniv.edu  Monday  13:40-14:10  https://sabanciuniv.zoom.us/j/8975288826

Learning Assistants  Responsible For
Tuana Ezgi Mendirek  tuanaezgi@sabanciuniv.edu  Section A1
Ezgi Öztas  ezgioztas@sabanciuniv.edu  Section A2
Serra Akyıldız  serraakyildiz@sabanciuniv.edu  Section B1
Elif Numanbayraktaroğlu  nelif@sabanciuniv.edu  Section B1
Mert Özçelik  özcelikmert@sabanciuniv.edu  Section B2

Learning Outcomes
On completion of the course, students should be able to
- Develop demand-forecasting models using time series methods.
- Apply the fundamental inventory management models (including the EOQ, newsvendor, (Q,R) and (s,S) models) to relevant problems.
- Describe the major steps in the manufacturing planning and control (MPC) hierarchy (including APP, MPS and MRP), and their relationships.
- Formulate and solve production planning problems.
- Use spreadsheets in solving forecasting and inventory management problems.
- Discuss the fundamental MRP and JIT concepts.
• Relate industrial engineering and operations research methods obtained in previous courses to production planning and control domain.

Textbooks
• Nahmias, S., Production and Operations Analysis, 5th or 6th edition, McGraw-Hill.

Reference books
• Vollmann, T. E., Berry, W. L., Jacobs, F. R., Whybark, D. C., Manufacturing Planning and Control for Supply Chain Management.
• Silver, E. A., Pyke, D. F., Peterson, R., Inventory Management and Production Planning and Scheduling.
• Stevenson, W. J., Operations Management.

Course Content
Forecasting
Inventory Control and Management
Aggregate Production Planning (APP)
Master Production Scheduling (MPS)
Material Requirements Planning (MRP)
Lot Sizing Techniques

Grading

<table>
<thead>
<tr>
<th>Exam Type</th>
<th>Date</th>
<th>Content</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop Up Quiz (TopHat)</td>
<td>Each week</td>
<td>Real time lecture content</td>
<td>10.0%</td>
</tr>
<tr>
<td>Midterm#1</td>
<td>01.04.2021 19:40-21:00</td>
<td>Forecasting and EOQ</td>
<td>20.0%</td>
</tr>
<tr>
<td>Midterm#2</td>
<td>07.05.2021 19:40-21:00</td>
<td>Newswendor, Q,R Model and APP</td>
<td>30.0%</td>
</tr>
<tr>
<td>Final</td>
<td>TBA</td>
<td>Comprehensive</td>
<td>40.0%</td>
</tr>
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Pop Up Quiz
Quiz will be held during the online lecture hours. The aim is to have at least 1 quiz each week. Questions will be related to the subject that is just discussed during the lecture and can be answered in a few
seconds. TopHat application will be used for the quiz. Students should install the app to their phones/tablets or they can use their laptop’s web browser to reach the software online. The grades of the quiz are 0 and 1. The worst 2 quizzes will be deleted for each student at the end of the semester. The rest will be considered for the final grade calculations.

**Midterm and Final Exams**
Exam rules and regulations will be announced prior to each exam. The date, contents and weights of each Midterm can be seen above. Exams will be held in real time using TopHat (http://tophat.com) and Zoom (https://zoom.us) together. Students will use cell phones to enter zoom to help TA’s proctoring and they will use their PC to have the exam online by TopHat. **Extra info will be announced before each exam.**

**Make-up Policy (for Pop up Quizzes, Midterms and Final Quiz)**
- There will be a **single comprehensive** Make-up.
- Acceptable reasons for missing an exam are medical illnesses (with medical reports), family emergency incidents and internet/electricity related problems. If you will not be able to take an exam on time, you have to let the instructor know **before the exam**. However, if you have a medical reason documented/approved by any health center, you are not allowed to take the exam and you do not need to inform the instructor beforehand. You can email your report later on.
- There will only be 1 make-up exam for 1 missing exam. So, if a student miss 3 exams the make-up exam will only be counted for one of them. Other 2 exams will not be graded.
- There will be no make-up for quizzes. The worst 2 quizzes will be deleted for each student at the end of the semester for the compensation.

**Other Notes**
- Students are responsible for all announcements made during the lecture hours and recitation hours, on the SUCourse website and through e-mails by the instructor and/or the TAs.
- No “extra” opportunity is provided to increase an individual student’s course grade.
- Students are expected to honor the academic integrity principles according to the SU rules and procedures. Non-compliance to academic integrity principles through plagiarism, using or accomplishing another person’s work, and/or submitting previously used work will be penalized.

This document may be modified during the semester (Spring 2020-2021) due to unforeseen reasons. Students are responsible for such modifications that will be announced during the lectures and at the SUCourse+ website.