

Dear all,

This message concerns you if you are eligible to take IE477 in the Fall Semester of 2019.

Course descriptions for IE477 and IE478 are given below.

IE 477 Production Systems Design-Synthesis

Project team-work dealing with open-ended, interdisciplinary real-world problems. Analysis of real-world problems; design, implementation and testing procedures. Project skills, including problem definition, functional design specifications, conceptualization, analysis, and solution methods. Team dynamics, communication skills, time-management issues. *Credit units: 3 ECTS Credit units: 6.5, Prerequisite: IE 303 and IE 325 and IE 375.*

IE 478 Production Systems Design-Practice

Continuation of the IE 477 course. Validation, verification and implementation of the developed methodologies. *Credit units: 3 ECTS Credit units: 6.5, Prerequisite: IE 477.*

These courses (IE477-IE478 sequence) make-up the capstone design project, a final requirement of the IE curriculum (GE401-402 serves the same purpose for a limited number of IE students). This is why we emphasize more on a number of issues to prepare you for the course.

Here are some of the important issues:

- 1) The project course requires a lot of team-work and hence time you are expected to spend together as a group is the most valuable resource. The requirement is beyond a standard course, as you need to focus on a real-problem and try to solve it using the knowledge you gathered over the years from your courses in the curriculum. So, we strongly recommend the following:
 - a. Do not overload yourself with additional courses (this is why the last two semesters of the curriculum your load is 15 credit units per semester) to respect your group members.
 - b. Make sure that the required departmental courses are reviewed before you actually start dealing with the team work for refreshing your knowledge. We believe that your text-books have a considerable proportion of the results you are looking for.
 - c. The prerequisite courses make up the minimum required knowledge you are expected to have to be eligible to work for the capstone project as a part of the team.
- 2) The main purpose of forming teams to solve problems is the synergy effect. Of course, there is price to pay – the organization of the team may not be simple. You have to realize that each individual will be useful within the team by satisfying several of the roles (see the references below) at different times of the project work, each role taken hopefully complementing the other group members for specific tasks. There are many references that you may read, one such popular reference can be reached <https://www.artsfwd.org/chicago-chronicles-workshop-3-team-selection-and-dynamics/>
A more formal reference is E. Salas, J.A. Cannon-Bowers, “Teamwork and Team Training”, in International Encyclopedia of the Social & Behavioral Sciences, Editor(s): Neil J. Smelser, Paul B. Baltes, Pergamon, 2001, Pages 15487-15492,

<https://doi.org/10.1016/B0-08-043076-7/01436-4>.

(<http://www.sciencedirect.com/science/article/pii/B0080430767014364>)

- 3) The prerequisite course list for IE477 is IE 303 and IE 325 and IE 375 and will be enforced. However, if you think you have a special case, you can apply to the course coordinators to be considered in the course by August 20, 2019 until 17:00, if you satisfy ALL of the following conditions:
- The student may be allowed if s/he has passed from two of the prerequisite courses (IE 303 and IE 325 and IE 375), and failed from the third one with a grade F (not FZ or FX).
 - The student should have a CGPA in the beginning of the Fall 2019 Semester above 2.00.
 - The remaining course work of the student in the beginning of the Fall 2019 Semester should be at most 37 credit units including project courses.

Only one student accepted with an unsatisfied prerequisite will be allowed per group. Please, forward your application by August 20, 2019 until 17:00 as a letter explaining your reasoning to the e-mail of course coordinators:

Savas Dayanik – sdayanik@bilkent.edu.tr

Nesim Erkip – nesim@bilkent.edu.tr

Emre Uzun – emreu@bilkent.edu.tr

Note that, if you are accepted to be an eligible student for IE477, we would ask the consent of your team regarding your membership during course registration period.

IE477-478 Course coordinators: Savas Dayanik, Nesim Erkip and Emre Uzun