

## **IE 409 PROJECT SCHEDULING AND MANAGEMENT Spring 2021**

**Instructor:** Gündüz Ulusoy

**E-mail:** gunduz@sabanciuniv.edu

**Office Hours:** Tuesday 17:40-18:30 & Thursday 16:40-17:30 and by appointment

### **Teaching Assistants:**

Ece Naz Duman (**Office Hour:** Tuesday 13:40-14:40 and by appointment.)

Soner Aydın (**Office Hour:** Wednesday 16:40-17:30 and by appointment.)

### **Objective of the Course**

The objective of this course is to introduce the student to the quantitative aspects of the body of knowledge in project management. Emphasis is given to implement quantitative techniques already acquired in other courses.

### **Course Outline**

Overview of project management process; project and portfolio selection; project idea generation, formulation, financing, bidding, budgeting and cash flow analysis; team formation and building; deterministic and stochastic unconstrained project scheduling; resource leveling; resource constrained project scheduling algorithms; progress and cost control of projects; agile and hybrid project management; examples of management of projects from various sectors.

### **Learning Outcomes**

Upon successful completion of IE 409 Project Scheduling and Management course, students are expected:

- to grasp the project management process and be able to use quantitative tools of project management;
- to be able to identify, analyze and model management problems suitable for formulation as projects;
- to be capable to participate in practice in the formulation, description, planning, scheduling, control, and proper termination of the project;
- to be able to transform project descriptions into mathematical programming models by employing project networks and solve them using appropriate solution techniques;
- to grasp the essentials of project selection and financial aspects of project management such as financing, bidding, budgeting and cash flow analysis;
- to learn the use of one major project management software tool (MS Project) in detail.

### **Topics To Be Covered**

An introduction to project management

Modeling of projects

Deterministic unconstrained project scheduling process

Time-cost trade-off

Resource leveling

Resource constrained project scheduling problem

Stochastic unconstrained project scheduling

Project contract types and payment scheduling

Progress and cost control of projects

Uncertainty and risk issues

Agile and hybrid project management

Management of recurrent projects – Line of balance

Project and portfolio selection models

### **Grading**

Group Project	30
Midterm Exam I	20 (Tuesday, March 30, 2021)
Midterm Exam II	20 (Tuesday, April 27, 2021)
Final Exam	30

### **Make-up Policy**

Make-up is given only for official excuses, i.e., a medical report given or approved by the SU Health Center. Those missing the midterm and have a valid medical report given or approved by the SU Health Center will be given a make-up exam covering the scope of both exams in the last week of classes.

### **Exams**

For proctored exams, your webcam and microphone should be on during the exam. In the case of non-compliance with this and other declared exam procedures, your exam will be void. Make sure to check that your webcam and microphone function properly before the exam.

### **Group Project**

In Group Project you will be solving project scheduling problems as a team. MS Project software will be employed. MS Project Assignment will be included as 10% of the Group Project grade.

Group Project #1: March 31 – April 8 (23:59)

Group Project #2: April 14 – April 22 (23:59)

Group Project #3: May 5 – May 12 (23:59)

Project #4: May 20 – May 27 (23:59) [To be submitted on **individual** basis. Will be **part of the final exam.**]

**Homework** is assigned but not graded.

### **Disclaimer:**

The instructor reserves the right, when necessary; to alter the grading policy, change examination dates, and modify the syllabus and course content. Modifications will be announced on SUCourse+. Students are responsible for the announced changes.

### **Attendance:**

Attendance is not compulsory but highly recommended.

You must attend the synchronous Zoom lectures, recitations, etc. and real-time online exams with your SU email account.

### **Academic Integrity:**

Each student in this course is expected to abide by the Sabanci University Academic Integrity Statement (available at <https://www.sabanciuniv.edu/en/academic-integrity-statement>).

Cheating is absolutely subject to a disciplinary action and a null grade.

### **Reading Material from:**

The Powerpoint presentations, handouts and journal paper assignments.

**Book on Reserve:** A. Shtub, J. F. Bard, S. Globerson, *Project Management: Processes, Methodologies, and Economics*, Pearson Prentice Hall, Upper Saddle River, 2005. (TA190.S58 2005)

**Recommended Reading:**

H. Kerzner, *Project Management: A Systems Approach to Planning, Scheduling and Controlling*, e-book.

H. Kerzner, *Project Management Best Practices: Achieving Global Excellence*, e-book.

H. Kerzner, *Project Management Case Studies*, e-book.

H. Kerzner, *Project Management Metrics, KPIs, and Dashboards*, e-book.