

MKS 537E – Introduction to Computer Aided Engineering

Fall Semester 2017-18

(3+0) 3 credits (3 ECTS credits)

CRN 14338

Lecturer Prof.Dr. C.Erdem İMRAK, Mech. Eng. Building (ITU) Room: 224,
Tel: 293 1300 - 2576, e-mail: imrak@itu.edu.tr

Assistant

Office Hours Tue 11³⁰- 13³⁰; Wed 15³⁰- 17³⁰; Thr 13³⁰- 15³⁰

Course Hours Mondays 09³⁰- 12³⁰ (D360)

Prerequisite N/A

Web site <http://transport.itu.edu.tr/dersler/lisansustudersleri/mks537e>

Recommended [1] A. Tizzard, **An Introduction to Computer-Aided Engineering**, McGraw Hill Book, London, 1994

Texts [2] İ. Zeid, **CAD/CAM Theory and Practice**, McGraw Hill Book, New York, 1991

[3] C.Dym, P. Little, **Engineering Design**, John Wiley & Sons Inc, New York 2000

[4] K. Lee, **Principles of CAD/CAM/CAE Systems**, Addison-Wesley, 1999

[5] D.G. Ullman, **The Mechanical Design Process**, McGraw Hill, 1997

[6] G.E. Dieter, **Engineering Design**, McGraw Hill, New York, New York, 2000

Course description In this course, engineering design and the design process; computer aided engineering hardware; computer aided draughting and design; geometric modelling for engineering applications; solid modelling techniques; numerical methods (FEM & BEM) ; computer aided project planning and control; system simulation; computer integrated manufacturing, and factory communications.

Objectives The objectives of this course is to teach the students;
1. providing with a foundation in computer aided design.
2. developing a critical awareness of numerical methods in engineering analysis
3. making aware of the capabilities and limitations of computer design tools for engineers

Learning Outcomes The student will demonstrate their ability to
1. give a critical view of a foundation in computer aided design.
2. give a critical view of solid modeling techniques
3. discuss the scope and the purpose of numerical methods.
4. discuss the implementation and operation of CIM
5. awareness of concurrent engineering

Assessment This course is very time consuming. This is a 3 credit hour course, so expect to work at least 3 hours outside of class for every one hour in class. The student should spend at least 6 hours per week on the computer outside of class. To successfully progress through the course, students must understand each of the topics in the order it is presented. Students missing class are still responsible for the material covered in class. Students are expected to comply with all requirements for the class. Homework will be graded based on content and neatness. **Grades are not given, they are earned.** You are expected to accept all responsibility for your performance in the class.

Midterm Exams (2 exam)	30 %
Homeworks	15 %
Term Project	15 %
Final Exam (Exam Week)	40 %

(VF) Nonattendance is the grade given to students who have failed to regularly attend courses or have not fulfilled the requirements of course practices. These requirements are:

ATTEND at least **70%** of the course.

FULFILL at least average grade of **50/100** in midterm exams

FULFILL at least average grade of **50/100** in homework.

Evaluation and overall grading scale Final grade will be awarded as following. However, the instructor may adjust the scale according to the class performance. The following grading scale is the suggested grading scale.

Marking System			
AA	93 - 100	CC	51 - 60
BA	92 - 85	DC	47 - 50
BB	71 - 84	DD	45 - 47
CB	61 - 70	FF	< 45

Coordinator Prof.Dr. C.Erdem İMRAK

Date September 2017