

Welcome to MKS 537E Class

Introduction to Computer Aided Engineering

Introduction to Computer Aided Engineering



Room No : 224
e-mail: imrak@itu.edu.tr
Office Hours

Tue 11³⁰- 13³⁰
Wed 11³⁰- 13³⁰
Thr 13³⁰- 15³⁰

Course web site :

[http://transport.itu.edu.tr/dersler/lisansustude
rsleri/mks537e](http://transport.itu.edu.tr/dersler/lisansustude
rsleri/mks537e)

Introduction to Computer Aided Engineering

Course description :

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.



Introduction to Computer Aided Engineering

The objectives of this course are to teach you

- 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 tool for engineers.



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Assessment Criteria :

Midterm Exam	30% (2 exams)
Homework	15% (5 Homeworks)
Term project	15 %
Final Exam	40%



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Achievement Grade

A minimum of **70 % attendance** at the classes is mandatory. Students who **cannot fulfill** the attendance requirement and other defined requirements shall **not be allowed** to take the **final examination** at the end of the semester.

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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 practice.

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

FULFILL at least average grade of **50** in **homeworks**

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Homeworks:

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

Term Project:

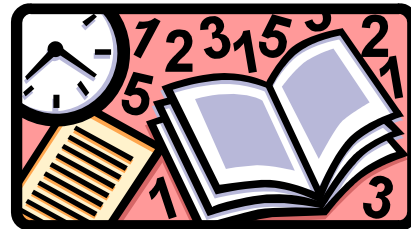
<http://transport.itu.edu.tr/dersler/lisansdersleri/mak537e/termproject>

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Late homework is not evaluated



Homework should be in due time with complete form.



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Weekly plan

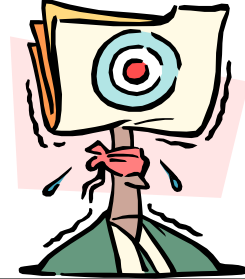
- Week 1** – Engineering design and the design process
- Week 2** – Introduction to computer-aided engineering
- Week 3** – Computer aided engineering hardware : the engineering office *HW # 1 & 2*
- Week 4** – Computer aided engineering hardware : the factory floor
- Week 5** – Computer aided draughting and design
- Week 6** – Geometric modelling for engineering applications *HW # 3 & 4*
- Week 7** – Solid modelling techniques **MIDTERM EXAM #1**
- Week 8** – Numerical methods : the finite element method *HW # 5 & 6*
- Week 9** – Numerical methods : the boundary element method
- Week 10** – Computer aided manufacturing *HW # 7 & 8*
- Week 11** – Computer aided project planning and control *HW # 7 & 8*
- Week 12** – System simulation **MIDTERM EXAM #2**
- Week 13** – Computer integrated manufacturing
- Week 14** – Factory communications *HW # 9 & 10*

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There is a minimum expectation for achievement, a regardless of over-all class performance and curve fitting adjustments

Professional ethics is equally important
(no cheating and unjustifiable excuses ...)

You are expected to
be enthusiastic and involved
actively participate all class
activities work hard and smart



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It is important to :

Read, think and discuss the subject
manner with your colleagues and me



It is possible

in my class' students do get AAs BAs & BBs
but also student fail my class' because
they are not involved and do not work hard.



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Further Information

You may interrupt me any time during the lecture to ask a question.

I will always answer your questions & give you help or hints how to resolve them

You are also expected to be respectful and responsible



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I wish you a productive semester, lots of success and fun (if possible !)

