Introduction to Scientific and Engineering Computation
(BIL 102E)

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http://www.elk.itu.edu.tr/~soylemez/bil102e/c

Text Books:

(Primary)
"SAMS Teach Yourself C" by T Zhang, SAMS Publishing, ISBN: 0-672-31861, 2000

"The C Programming Language", 2nd ed., B W Kernighan, D M Ritchie, Prentice Hall, ISBN: 0-13-110362-8, 1988

"The Indispensable Guide to C", P Davies, Addison-Wesley, ISBN: 0-201-62438-9, 1995

Grading Policy

* %40 Final Exam
* %20 Homework
* %10 Laboratories
* %30 Quizzes+Midterm

No cooperation in homework is tolerated!

(You may help each other on operating system specific matters or compilation problems but **not** on programming.)

Laboratories:

Hours: After class hours (except the first day)

Place: The Computer Lab of Electrical Eng. Dept. Room No: 6307

* Every student should have a computer to use.
* Attendance to labs are essential. (No more than missing 2 labs without an excuse!)
* Quizzes may take place during labs.

Lecture Notes:

* Although the text book will be followed as closely as possible, there will be some differences.
* You are strongly advised to take your own notes.
* Specially, things written on the blackboard should be copied to your notebooks for educational purposes.

Homepage:

* A homepage of the lecture can be reached from

http://www.elk.itu.edu.tr/~soylemez/bil102e/c

* All the announcements, homework, quiz solutions, and examples solved in the lectures can be found in this homepage.

Accessibility of the Instructor:

* An open door policy is followed. That is, you can come and ask questions any time you want. (Room No: 4214)
* You can also use e-mail to ask questions. (This could be helpful in the weekends)

E-Mail: soylemez@elk.itu.edu.tr

Questionnaires

* These will help the instructor to deliver better quality lectures.
* For these to be useful, it is essential that you read them and give sincere answers.

TODAY'S PLAN

1. Motivation
2. Introduction to Computers
   1. Definition
   2. History
   3. Main components
   4. How does a computer work?
3. History of the C language
4. Introduction to Programming in C

WHY ARE YOU HERE?

Because you want to be an engineer!

Not only an engineer, but also

you want to be a **good** engineer!

You are at the correct address!

✳ ITU is one of the best places in the world to become a good engineer.

✳ You may become a world class engineer upon completing ITU successfully.

✳ This of course requires some considerable effort from your side.

Why do you need to learn a programming language?

✳ By knowing how to program a computer you will be able to solve your specific problems in your area of expertise.

✳ There are already numerous engineering programs used widely by the engineering community. By learning programming, you will learn the logic behind computer programs. So, you will be able to learn and use such programs more efficiently.

✳ In the future, you may work for an engineering software development company.

✳ You may even become a programmer yourself.

✳ By learning programming, you will learn developing logical and methodical solutions to problems you face.

WHY LEARN C?

* It does not matter too much. The important point is to learn the logic of programming. Once this is learnt it is very easy to switch to other languages.

* Learning C, however, do have several advantages.

ADVANTAGES OF C

* C is the lowest high level language.
* C is one of the most widely used programming languages.
* Many great programs and operating systems such as Unix are written in C.
* There are many great libraries written in C (CLAPACK etc)