Ceng 111 – Fall 2021
Week 1a

Course Overview

Credit: Some slides are from the “Invitation to Computer Science” book by G. M. Schneider, J. L. Gersting and some from the “Digital Design” book by M. M. Mano and M. D. Ciletti.

Today

- Course Overview
  - Syllabus
  - What the course is about
  - Homeworks, Labs
  - The book
- Introduction to Computer Science
  - What CS is and what it is not
  - Computing, computation, algorithm

COURSE OVERVIEW

Syllabus

https://user.ceng.metu.edu.tr/~skalkan/ceng111_syllabus.pdf

CENG 111
Introduction to Computer Engineering Concepts
2021-2022 Fall

Instructors:

Sinan Kalkan (sections 1, 2), Göktürk Üçoluk (section 3)

Teaching Assistants:

Fatih Acun, Hüseyin Aydın, Orhun Buğra Baran, Anıl Çetinkaya, Burak Eren Dere, Mehmet Dinç, Hazal Moğultay, Furkan Murat, Saim Sünel.

Course Schedule:

Section 1	Section 2	Section 3
Mon: 9:40 (BMB-1)	Tue: 9:40 (BMB-1)	Tue: 10:40 (BMB-1)
Tue: 13:40, 14:40 (BMB-1)	Thu: 9:40, 10:40 (BMB-1)	Thu: 13:40, 14:40 (BMB-1)

Contact

- Office hours: By appointment.
- Göktürk Üçoluk:
  - Office: A-408
  - Email: ucoluk@ceng.metu.edu.tr
  - Web: http://user.ceng.metu.edu.tr/~ucoluk/
- Sinan Kalkan:
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  - Email: skalkan@ceng.metu.edu.tr
  - Web: www.ceng.metu.edu.tr/~sinan
  - Twitter: www.twitter.com/kalkansinan

Labs

- There will be labs almost every week
- Labs are complementary to the lectures
  - Lectures are mostly theoretical
  - Labs give you the practical knowledge/abilities
  - Attendance is mandatory: Skipping two lab sessions will result in NA grade.
- Take them extremely seriously!

Content

Catalog Description:

Introduction to the fundamentals of computer systems, including computer organization, operating systems, language processors and user interfaces.Introduction to algorithms and programming. Reasoning informally about the correctness and efficiency of programs. A functional programming language will be used for practical work.

- First part of the course:
  - What is CS, computing, computation, algorithm?
  - Inside of a Computer: CPU, Memory, Gates, Boolean Logic.
  - Von Neumann architecture
  - Etc.
- Second part of the course:
  - Programming concepts with Python.

Text Books

- *For the 1. part:* "Invitation to Computer Science", by G. Schneider and J. Gersting, West.

- *For the 2. part:* "Introduction to Programming Concepts with Case Studies in Python", by G. Üçoluk and S. Kalkan, Springer.
  - *https://link.springer.com/book/10.1007/978-3-7091-1343-1*
  - *Downloadable from METU*

The textbook

IF YOU WANT THE BOOK IN PRINT, GIVE YOUR NAMES TO THE PHOTOCOPY ROOM AT THE BASEMENT OF BUILDING-A (DEREAGZI FOTOKOPI)

Göktürk Üçoluk

Göktürk Üçoluk received his B.Sc. and M.Sc. degrees in Physics from the Bosphorus University, İstanbul, Turkey, and his Ph.D. degree from the Middle East Technical University, Ankara, Turkey, in 1980, 1982, and 1989, respectively. He is the developer of several symbolic computation software, among which are the first freeware Standard Lisp interpreter and the cross compiler.

He is currently a full professor at the Department of Computer Engineering at the Middle East Technical University. His recent interests are in evolutionary computing, modeling and simulation. His other research interests include symbolic algebraic computing, language processors, and natural language processing. Along with lectures in his subject field, he also has taught over 20 years the departmental freshman CS courses.

Sinan Kalkan

Sinan Kalkan graduated from the Middle East Technical University with a B.Sc. degree and a M.Sc. degree in Computer Engineering in 2001 and 2003, respectively. He received his Ph.D. degree in Informatics from one of the 5 elite universities of Germany, the University of Göttingen, in 2008.

He is currently an assistant professor at the Department of Computer Engineering at the Middle East Technical University, teaching freshman and sophomore courses as well as graduate level advanced courses. His research interests include Pattern Recognition, Image Processing, Computer Vision and Cognitive and Swarm Robotics. He is one of the main contributors of an open source computer vision library, CoVIS (http://www.covig.org).

Üçoluk
Kalkan
INTRODUCTION TO PROGRAMMING CONCEPTS

INTRODUCTION TO PROGRAMMING CONCEPTS

with case STUDIES in Python

Göktürk Üçoluk Sinan Kalkan

Home page

- http://ceng.metu.edu.tr/cengIII

CENG account

- user name/passwd has been mailed to your METU account (the one **used for registration**).
- **use**

webmail.metu.edu.tr

to view mails there.

Grading

Grading:

Midterm	%18
Take-home Exams (4)	%25
Labs	%32
Participation	%3
Final	%22

- Most assignments will be programming assignments (some could be exercises to be written up).
- Laboratory schedule will be announced later. Keep watching.
- Starting from week 4-5 the laboratory sessions will go in parallel with the lectures. You will be asked to solve problems by using the ideas introduced in the lectures of that week. Earlier lab sessions will build your computing/communicating literacy.

Take-home Exams

- We will have four take-home exams:
  - Heavy programming!
- They are extremely important:
  - You get the chance to practice what you learn
  - You can get your hands “dirty”
  - Well, they are your first “few walking steps” towards programming

- In this department, we teach you a new occupation!
  - In this sense, if you cheat, you fool yourselves; not us!
- Cheating is not acceptable in this department or any other departments or teaching institutions.

- Rent-a-coder 
- Asking help in forums 
- Violation => disciplinary action!!

What is cheating in programming?

- You can talk about how to solve Take-home Exams but DO NOT PROGRAM TOGETHER!
- We have sophisticated software for finding the cheaters!
  - Trust me: It finds everything!

- The following are not accepted as excuses for cheating (in fact, nothing is acceptable for cheating):
  - “Ama hocam, ödev metninde yazmamışsınız kopya çekemeyeceğimizi”
  - “Ama hocam, üst sınıflar «çekin çekin, bi şey olmuyo, ben geçtim» demişti”
  - “Ama hocam, arkadaşın kodunu değiştirdim, aynını göndermedim ki!”
  - “Ama hocam, bir tek ben çekmedim, herkes birbirine mail atıyor kodunu”

Nature of 111

- How does it feel?
- How to study?

Common questions about CENG

- Will we write code in professional life?
- How will we find a job?
- An academic vs. professional path? Which one?
- How shall I improve myself in my free time?
- Do CENG people have a “Chamber”?

Common questions about 111

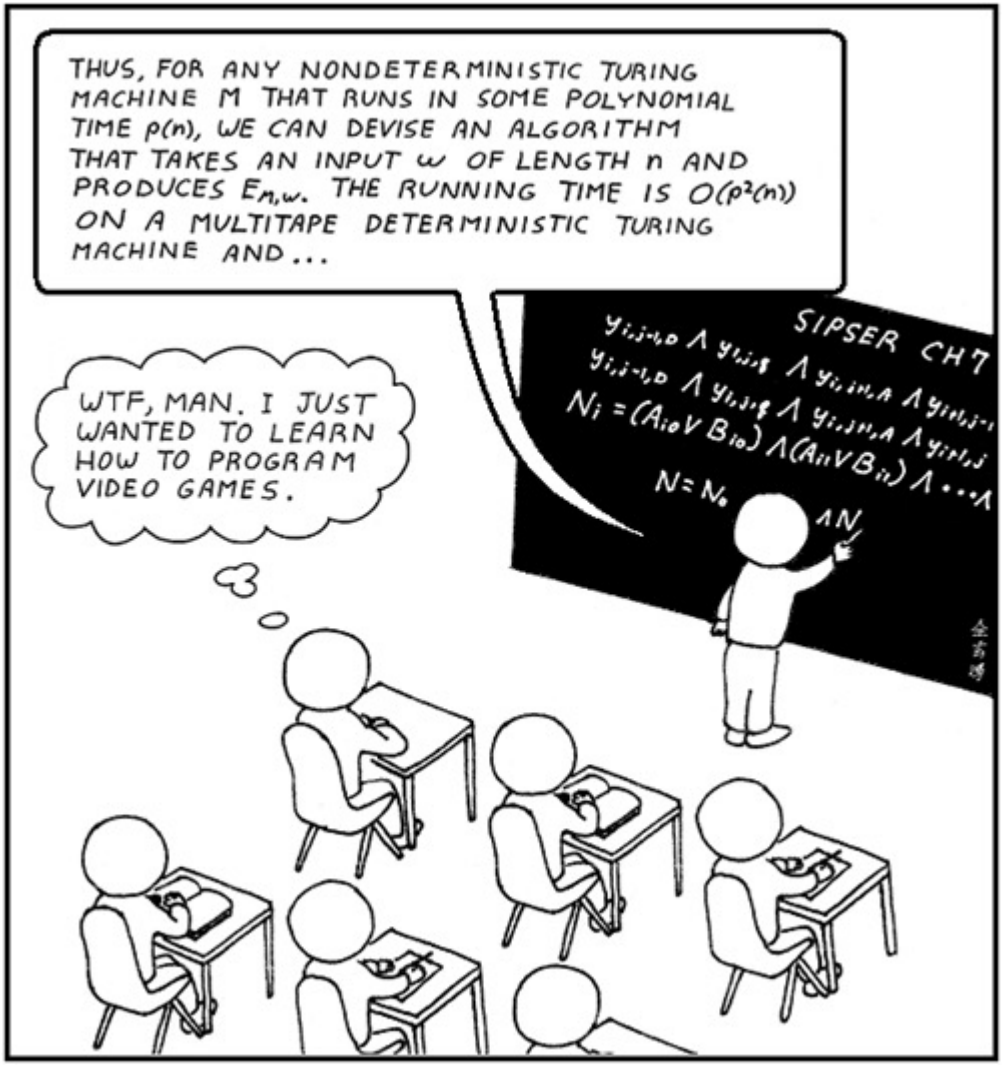
- Why do we “start” with Python
- Is Python the best/ultimate programming language?
- Will we learn Python to its full extent?
- Is it an advantage to “know programming” prior to 111?
- Shall I buy a desktop or a laptop? If yes, which brand and where to buy it?
- Shall I install Linux? Why are you so “UNIX” biased?

Common questions about 111

- Can I take CENG 111 again next year?
  - No, unless you fail the course (FF/FD) or you are in probation

So, at the end

- CS is about mostly analysis, design, implementation, interpretation and usage of algorithms.
- If you have come here for a different purpose, it is not too late ☺



But, at the end

- Although you might have some difficulties at the beginning, you will love it after 1-2 years ☺
  - (I don't guarantee it though ☺)