
Week 1

BBM 105- Introduction to Computer
Engineering

Today's Schedule

- Course outline and logistics
- An overview of Introduction to Computer Engineering

Course Logistics

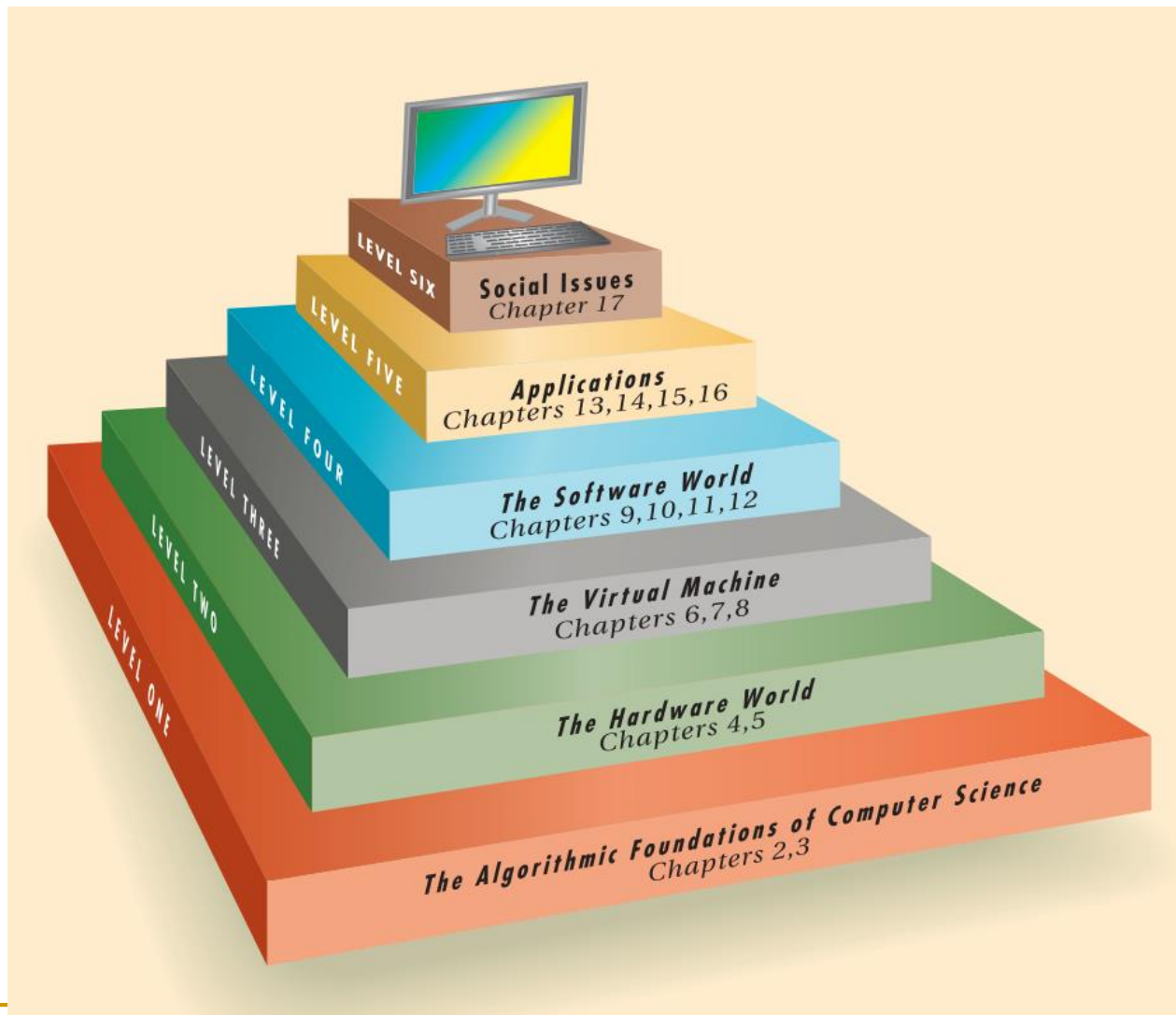
■ Instructors:

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About this course

- An introductory course in computer science
- Presents a breadth-first overview of the discipline
- Covers core issues such as algorithms, hardware design, computer organization, system software, language models, and socialðical issues of computing

Course Outline



Level 1: Algorithmic foundations of CS

- Presents important ideas such as design of algorithms, algorithmic problem solving, abstraction, pseudocode, iteration and efficiency.
- Illustrates these ideas using well-known examples such as searching a list, finding minima, maxima, sorting a list
- Also algorithmic efficiency

Level 2: Hardware world

- Algorithms will be executed by real computers to produce real output
- Logic design, and computer organization
 - Binary numbers, boolean logic, gates and circuits
- Von neuman architecture: how the algorithm can be represented in machine language

Level 3: Virtual Machine

- Describes how system software abstracts the hardware complexity
- Virtual environments are services provided by virtual machine
- operation systems, computer networks, database systems
- Show how much easier the algorithm in virtual environment containing editors, translators, and loaders

Level 4: Software World

- Overview of the features found in modern programming languages
- Software Engineering, Artificial Intelligence

Communication

- Course webpage
 - The course webpage will be updated regularly throughout the semester with lecture notes
- We will be using Piazza for course related discussions and announcements.
- Please enroll the class on Piazza by the following link:
<https://piazza.com/class/jmzzpnxenwb660>

Reference Books

- ❑ Schneider, G. Michael, and Judith Gersting. *Invitation to computer science*. Cengage Learning, 2018.
- ❑ Brookshear, J. Glenn. *Computer science: an overview*. Addison-Wesley Publishing Company, 2008.

Grading Policy

- Grading this course will be based on
 - Midterm (50%)
 - Final exam (50%)

Summary

- Computer science is a young and exciting discipline
- By presenting the field in all its richness, to give a deeper appreciation for the many diverse and interesting areas of the field.