



Discussion Outline and Notes

CSE 1101 COMPUTING DISCIPLINES AND CAREERS

FALL 2005

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1. What is Computer Science?

1.1. Computer Science Defined by What Computer Scientist Know

The ACM and IEEE/Computer Society post curriculum guidelines about every 10 years. **Computing Curricula 2001 Computer Science** is the latest set of guidelines. Let's look at the overview of the computer science body of knowledge, Chapter 5 of the report.

1.2. Computer Science Defined by What Computer Scientist Do

We'll go over a (partial) list of job titles that categorize what computer scientist do and give a description of the responsibilities of people in these jobs. Many of the software engineering job listed below are also suitable for computer scientist.

- **Computer scientist**
 - Systems Analyst
 - Database Administrator
 - Computer Researcher
- **Computer and Information Systems Managers**



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- Chief technology officer
- Management information systems (MIS) director
- Project managers
- Local Area Network/Wide Area Network managers
- computer programmers
- Computer Support Specialist and Systems Administrators
 - Technical support specialist
 - Help desk technician
 - Network or computer systems administrator
 - Computer security specialists
- Computer Hardware Engineer
- Info World Compensation Survey
- National Association of Colleges and Employers Average Starting Salary Offers
 - Engineering \$49,636
 - Computer Science \$49,100
 - Business \$41,233

– Health Science	\$39,499
– Science	\$38,121
– Communications	\$31,900
– Humanities	\$31,212
– Education	\$30,646

1.3. Computer Science Definitions

There are many definitions of computer science. A search engine can be used to find **some**. Many famous computer scientist have also defined the subject. We'll discuss what they have to say about the subject.

2. What is Software Engineering?

2.1. Software Engineering Defined by What Software Engineers Know

The ACM and IEEE/Computer Society have started to develop curriculum guidelines in software engineering. **Computing Curricula 2004 Software Engineering** is the latest set of guidelines. Let's



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look at the overview of the software engineering body of knowledge Chapter 4 of the report.

2.2. Software Engineering Defined by What Software Engineers Do

We'll go over a (partial) list of job titles that categorize what software engineers do and give a description of the responsibilities of people in these jobs. Some of the computer science jobs listed above are also suitable for software engineers.

2.3. Software Engineering Definitions

There are many definitions of software engineering. A search engine can be used to find **some**. Many famous software engineers have also defined the subject. We'll discuss what they have to say about the subject.



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3. Careers in Computing

3.1. The Job Outlook in Computing

There has been great hype about jobs in computing: The dot com bust, outsourcing, etc. We'll look at the job market and attempt to present a realistic view of prospects for students entering the field.

3.2. Employers' Perspective on Computing Careers

A **panel** representing many companies will discuss careers in computing.

3.3. Student Interns' Perspective on Computing Careers

A **panel** of students who have interned at computing companies will discuss their experiences.

4. Books on Computing

Great Writings in Computer Science and more



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5. Professional Issues in Computing

People with knowledge of computing have the potential to serve society for good, or for bad. We will look at “Codes of Ethic” for the computing profession:

- ACM Code of Ethics and Professional Conduct



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