introduction

Daniel Jackson and Rob Miller

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welcome!

lecturers
  - Daniel Jackson and Rob Miller

teaching assistants
  - Vikki Chou
  - Max Goldman
  - Scott Ostler
place in new curriculum

New 6-3: SB in Computer Science and Engineering

Subjects

1/2 + 1/2

2

1

3

Header

3

Foundation

2

Introductory

(= 1 Institute Lab)

2

Math

(= 2 REST)

6.UAT 6 units

6.UAP 6 units

Advanced Undergraduate Subjects

(from approved list)

6.033 comp sys

6.034 AI

6.046 adv algorithms

6.004 comp architecture

6.005* software

6.006* algorithms

6.01* intro EECS I

6.02* intro EECS II

8.02

18.06 or 18.03

18.06 linear algebra

18.03 diff eqs

6.042 discrete math

Elementary exposure to programming (high school, IAP, or 6.00)

*new subject

All subjects are 12 units
objectives

what you should expect to get out of this course

fundamental programming skills

‣ how to specify, design, implement and test a program
‣ proficiency in Java and use of Java APIs
‣ use of standard development tools (Eclipse, SVN, JUnit)

engineering sensibilities

‣ capturing the essence of a problem
‣ inventing powerful abstractions
‣ appreciating the value of simplicity
‣ awareness of risks and fallibilities

cultural literacy

‣ familiarity with a variety of technologies (http, postscript, sockets, etc)
‣ awareness of systems issues (fault tolerance, security, usability)
intellectual structure

three paradigms
- state machine programming
- symbolic programming
- object-based programming

pervasive themes
- models and abstractions
- interfaces and decoupling
- analysis, static and dynamic

incremental approach
- concepts introduced as needed
- deepening sophistication as ideas revisited
administrative structure

your responsibility

• two participatory lectures each week (in 32-141)
  lecture notes will be posted in advance for you to print

• six projects, each over two weeks

• one lab session at start of each project + 2 Java labs (in 34-501)
  look over in advance to use lab time well

• grading meeting with TA after each project

• mid-term and end-of-term quizzes

IAP add-on

• team project in IAP for 6.170 credit
grading policy

collaboration policy

- projects in pairs: we assign or you choose, but no repetitions
- lab work individual: can discuss with friends, but write all code yourself

using available resources

- can use publicly available code, designs, specs
- cannot reuse work done in 6.005 by another student
- cannot make your work available to other 6.005 students

grade breakdown

- projects 72%, quizzes 18%, participation 10%
what you should do

today
• complete the online survey

every lecture and lab
• bring your name card

before Friday
• read over lab assignment