

# CSC 307 Intro to Software Engineering

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# Why You Should *Not* Take This Course

- Most? computer scientists become software engineers
- The two course sequence 308/309 provides a much more thorough treatment of SE
  - SE concepts and practices are best learned through hands-on practice in a team project

# Why You *Should* Take This Course

- You are sure you don't plan to become a professional software engineer, you just want to learn a bit about the field
- You like a challenge
  - We will be packing two quarters into one
- You are graduating this year and it is 307 or no SE at all
- Dr. Janzen is cool and the project will be fun

# Review Syllabus

- Syllabus
- Schedule on line

# Define Software Engineering

- How would you define software engineering?
- IEEE definition:
  - (1) The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software; that is, the application of engineering to software.
  - (2) The study of approaches as in (1).

# Does Practice Match Definition?

- Do you develop software in “a systematic, disciplined, quantifiable approach”?
- Do you expect software engineers to use such an approach if they are building:
  - Facebook
  - Google Earth
  - Avionics for commercial airliners
  - Laser surgery control software

# Define Systematic

- characterized by order and planning

# Define Disciplined

- obeying the rules



# Define Quantifiable

- capable of being quantified

# Define Development

- “A process in which something passes by degrees to a different stage (especially a more advanced or mature stage)”
- Construction
  - Requirements elicitation and analysis
  - Software architecture and design
  - Software construction
  - Software testing
- Process
- Management
- Tools and Methods

# Define Operation

- “A process or series of acts especially of a practical or mechanical nature involved in a particular form of work”
- Build/Compile
- Installation
- Configuration
- Training

# Define Maintenance

- “Care: activity involved in maintaining something in good working order”
- Defect tracking
- Defect fixes
- Adding features
- Refactoring software

# Complete Survey

# Introduce Course Project

- We will form teams of four or five students
- Each team will have a wiki
- Each team will develop the same project in parallel
- Project description at <http://wiki.csc.calpoly.edu/brackets>

# Lab Activity 1: Cocktail Party

- People on left half of room will go to person in similar seat on right half of room
  - Introduce yourself (write each other's name down)
  - Ask and answer the following:
    - Where did you go to high school?
    - What part of programming do you like the most/least?
    - What are your first and second preferences in project roles out of the following:
      - Team lead, requirements analyst, architect, developer, quality assurance, build/environment/tool master
  - When I raise my hand, rotate three people to the left and repeat

# Lab Activity 2: Team Formation

- On a 3x5 card,
  - write your name
  - Write your first and second preferences in project roles out of the following:
    - Team lead, requirements analyst, architect, developer, quality assurance, build/environment/tool master
  - Write three others whom you think you would like to work with on the course project, and what role(s) you think they would do well



# Lab Activity 3: Intro to Wiki

- Read about the Trac Wiki at  
<http://trac.edgewall.org/wiki/TracWiki>
- Try it out at  
<http://trac.edgewall.org/wiki/SandBox>