

## ECE450 – Software Engineering II *-the sequel-*

~~Winter~~ Spring 2007

Instructor: Jorge Aranda

## Instructor

- **Jorge Aranda** (*that is "Hor-heh Ah-ran-dah"*)
  - *I also respond to "George" if you must*
  - Coordinates:
    - Bahen Centre 5233
    - jaranda@cs.toronto.edu
    - <http://www.cs.toronto.edu/~jaranda/>
  - 4<sup>th</sup> year Ph.D. student in Computer Science, SW Eng. group
  - Graduated in 1999, B.Sc. in Computer Systems Engineering
  - Software developer and project manager until 2003
  - Now researching information flow and requirements engineering
    - Small-medium scale (+10 companies)
    - Large scale (IBM)
  - Movie, book, and boardgame geek

## General Information

- Lectures: Mon 10am, Tues 5pm, Thurs 5pm (BA1200)
- Tutorials: Tues 6pm, when announced (GB248)
  - No tutorial this week
- Lab sessions: Fri 3-6pm, when announced (GB243)
  - No lab session this week
- Office hours: Mon 11am, or by appointment

## General Information (cont)

- Course website:
  - <http://www.cs.toronto.edu/~jaranda/ece450h/>
- Bulletin board on CCNet:
  - <http://ccnet.utoronto.ca/20071/ece450h1s/>

## Textbook?

- **No textbook**
- We'll often (for 4-7 weeks) refer to:
  - Gamma et al., "Design Patterns: Elements of Reusable Object-Oriented Software", Addison-Wesley, 1995.
- Should I buy it?
  - Do you see yourself as having anything to do with software design in your career?
    - If so, get it
    - Otherwise, don't buy it just for this course –there's tons of similar material on the web
    - We'll start referring to it in 3-4 weeks.

## How to reach me

- Your best bet is to talk to me at the end of the lecture
  - Attendance is mandatory!
- Email: Include "[ece450]" in your subject line
  - Do not expect a quick (<24hrs) response!
- Bulletin board: Use for stuff that benefits everyone
- Team blog
  - More about this later

## Course Overview

- **Pragmatic view of Software Engineering**
  - Focus on structuring principles and the design and development of large, complex software systems
  - Mix of practical insights and academic research
  - No parroting!
- **Main goals**
  - Knowing how to elicit requirements for complex systems
  - Identifying proper architectural structures for their design
  - Knowing your way around other essential Software Engineering topics (testing, PMing, etc.)

## List of Topics

- Intro to Software Engineering
- Software Processes
- Software Estimation
- Requirements Engineering
- Architecture and Design
  - Design Patterns
- Tools
  - Essential
  - Advanced (e.g. visualization)
- Testing and QA
- Project Management
- Peopleware

## Marking Scheme

- Assignment 1 10% (Feb 1)
  - Midterm 15% (Mar 8)
  - Assignment 2 15% (Apr 5)
  - Assignment 3 15% (Apr 12)
  - Assignment 4 10% (Apr 12)
  - Participation 5%
  - Final exam 30% (TBD)
- Assigs. 1, 2, 3 are in teams. Assig. 4 is individual

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## About team assignments

- Form teams of 3-4 people
  - Other sizes are not allowed
  - Suggestion: Try to get 4 people
    - If someone drops out you can carry on with 3
- Teams should be formed by next Monday's lecture
- Your ideal team:
  - People that work like you
  - Complementary skill set
  - Common expertise in a programming language

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## Assignment 1

- Groundwork for assignments 2 and 3
- Two elements:
  - Selection and initial exploration of two similar open source systems which you will compare in Assig. 2
  - Selection and initial exploration of an open source project to which you will contribute during the term for Assig. 3
    - (May be one of the projects for assignment 2)
- Due in less than 4 weeks!

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## Assignment 2

- Comparison of the design and architecture of two similar open source systems considering this course's material
  - Why open source?
    - Not easy to get access to the architecture of proprietary software!
- Your team will give a presentation to the rest of the group in the last week of lectures

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## Assignment 3

- Contributing to an open source project
  - Nature and size of contribution must be approved by me
- Valid projects:
  - Older than 3 years (younger projects *might* be OK –ask me first)
  - At least 3 active developers contributing to it (not you guys)
  - Active mailing list
- Either **full** or **zero** marks in this assignment!!
  - Start early: patch approval processes take time
  - Don't overreach
- But why?
  - Unfortunately, course projects never convey software complexity appropriately!

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## Assignment 4

- Software Engineering essay
- Only individual assignment of the course
- Essay may be about:
  - A discussion on an issue in Software Engineering
  - A critique on a software development book

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## Late Policy

- Due dates are **firm**
- Assignments are due before 5pm on their corresponding dates
- Any submission between 5pm and midnight has 20% penalty
- Zero marks after midnight.

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## Participation

- Participation is encouraged and expected
  - Ask questions, answer questions, offer a different viewpoint, tell me I'm wrong, tell others they're wrong
- Make yourself memorable (in a good way!)
  - If I can't put a face to your name in the end of term, you'll probably get zero participation marks
- Ground rules
  - Be respectful
  - Be open to other ideas
  - Don't hog the mike

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## Your first task

- 1% of your final grade (10% of Assignment 1):
- Send me a short bio and a picture of yourself
  - Bio should be a text file about a paragraph long
  - Make sure to add "[ece450]" to your subject line
- Don't have a photo of yourself?
  - Send me your bio anyway
  - I'll bring a camera tomorrow
- **DUE TOMORROW BEFORE 5 P.M.!**

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## Your second task

- Form teams!
  - Reminder: teams of 3-4 people
    - Need to be comfortable working with them
- Fill out the Team Formation sheet that will be available on the course website
  - <http://www.cs.toronto.edu/~jaranda/ece450h/>
- Create a team blog and include its URL in your sheet
- **DUE NEXT MONDAY**
  - no penalty for being late, but you'll be making your life harder

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## Recap: Software Engineering I

- What was CSC444 about?
- How was CSC444 like?
- Lessons learned?

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## Take the survey!

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