CSC302: Engineering Large Software Systems

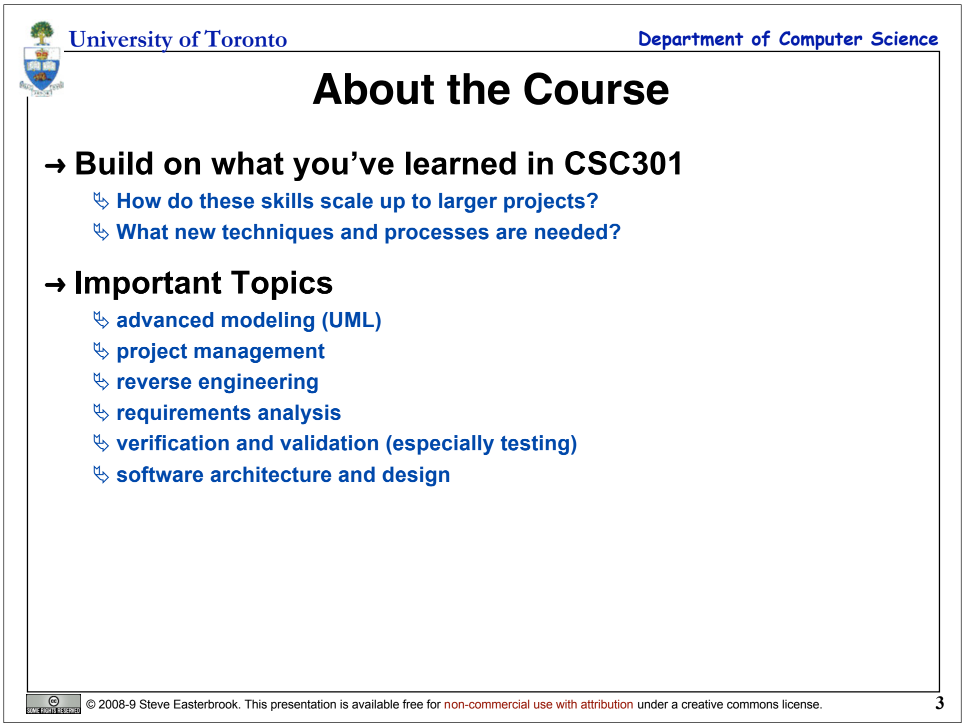
Prof Steve Easterbrook

sme@cs.toronto.edu

http://www.cs.toronto.edu/~sme/CSC302

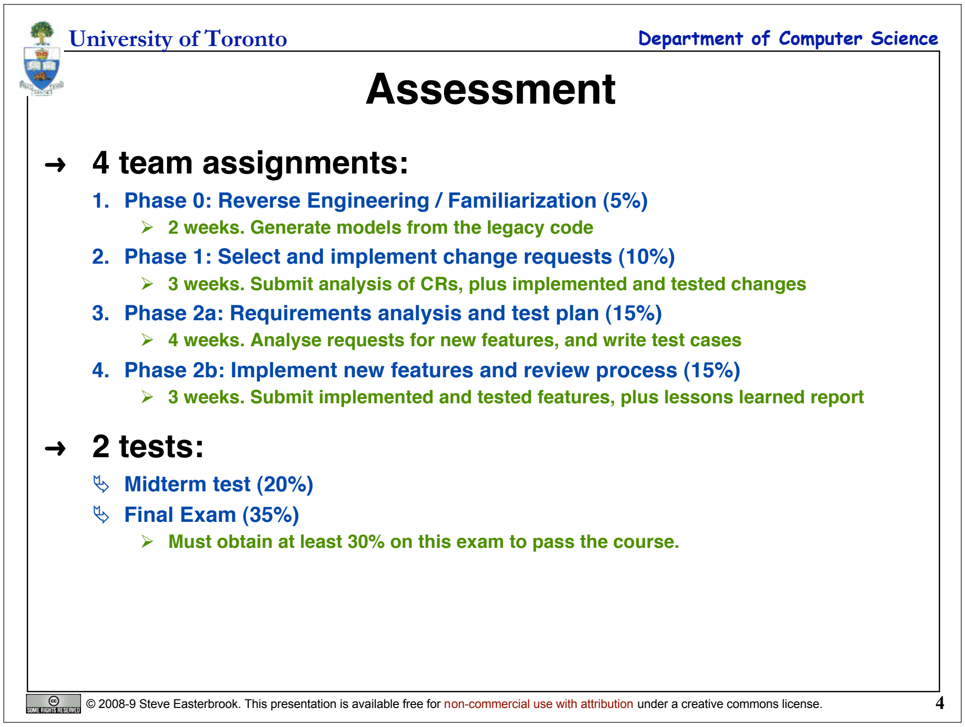
About the Course

- Course website
  - www.cs.toronto.edu/~sme/CSC302/
- Textbooks
  - Fowler: UML Distilled (3rd Edition)
- Lecture Notes
  - Available on the course website prior to each lecture
- Coursework
  - Involves an ongoing open source project, using legacy code
  - Carried out in teams of 6 (±1)
  - Each team submits one report (per assignment)
  - Each team member also submits a peer-assessment form
    - Use these to tell us how much your team mates contributed to the project
    - If some members are contributing significantly more than others, we will adjust the grades



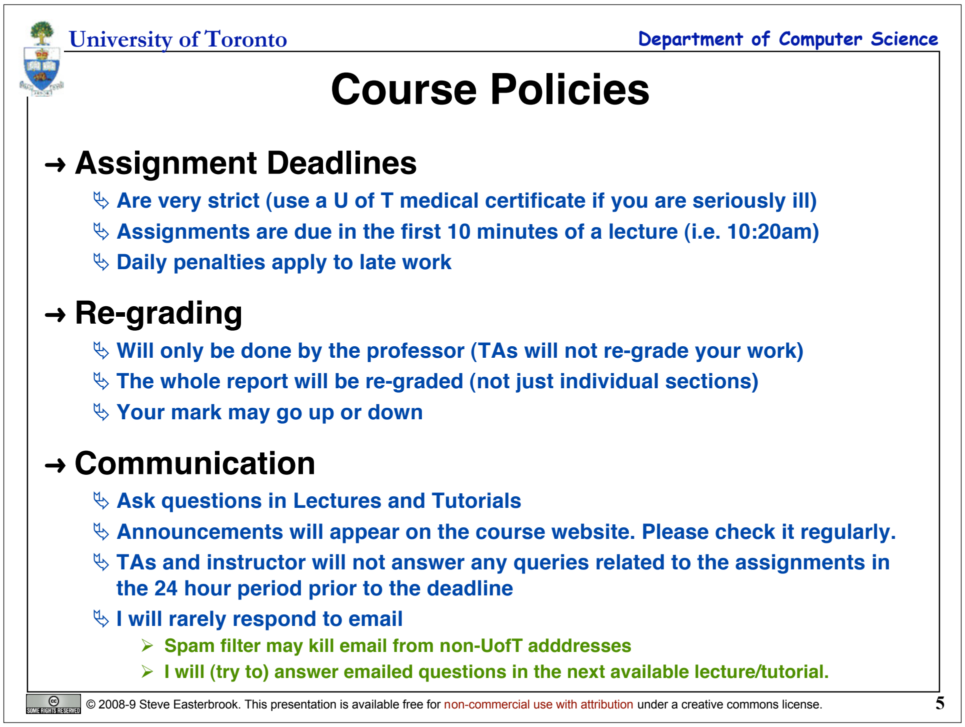
About the Course

- Build on what you've learned in CSC301
  - How do these skills scale up to larger projects?
  - What new techniques and processes are needed?
- Important Topics
  - advanced modeling (UML)
  - project management
  - reverse engineering
  - requirements analysis
  - verification and validation (especially testing)
  - software architecture and design



Assessment

- 4 team assignments:
  1. Phase 0: Reverse Engineering / Familiarization (5%)
     - 2 weeks. Generate models from the legacy code
  2. Phase 1: Select and implement change requests (10%)
     - 3 weeks. Submit analysis of CRs, plus implemented and tested changes
  3. Phase 2a: Requirements analysis and test plan (15%)
     - 4 weeks. Analyse requests for new features, and write test cases
  4. Phase 2b: Implement new features and review process (15%)
     - 3 weeks. Submit implemented and tested features, plus lessons learned report
- 2 tests:
  - Midterm test (20%)
  - Final Exam (35%)
    - Must obtain at least 30% on this exam to pass the course.



Course Policies

→ Assignment Deadlines

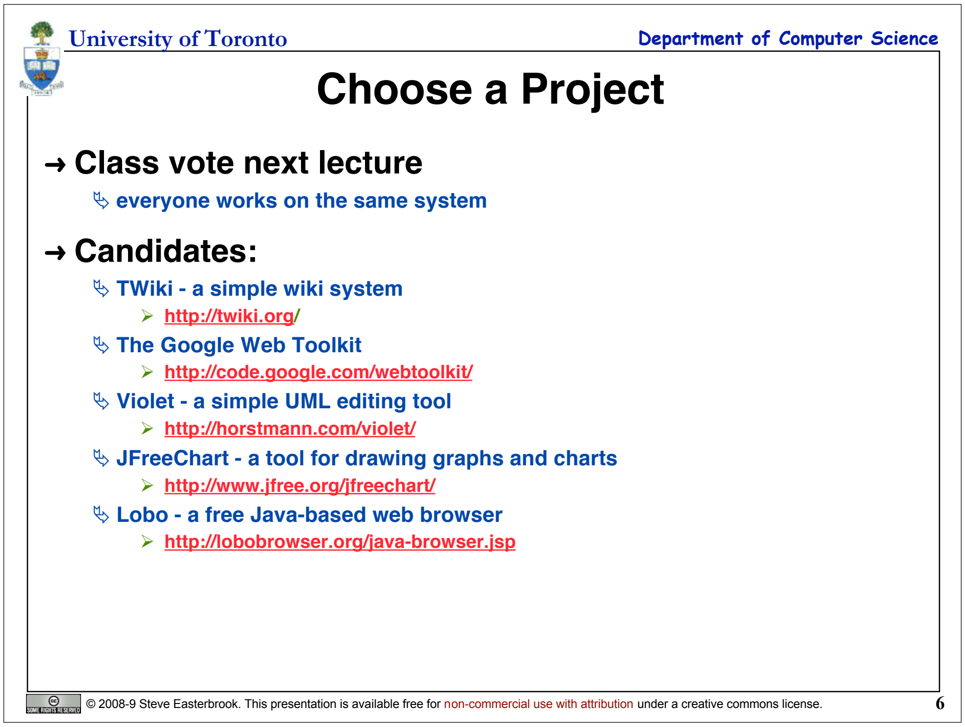
- Are very strict (use a U of T medical certificate if you are seriously ill)
- Assignments are due in the first 10 minutes of a lecture (i.e. 10:20am)
- Daily penalties apply to late work

→ Re-grading

- Will only be done by the professor (TAs will not re-grade your work)
- The whole report will be re-graded (not just individual sections)
- Your mark may go up or down

→ Communication

- Ask questions in Lectures and Tutorials
- Announcements will appear on the course website. Please check it regularly.
- TAs and instructor will not answer any queries related to the assignments in the 24 hour period prior to the deadline
- I will rarely respond to email
  - Spam filter may kill email from non-UofT adddresses
  - I will (try to) answer emailed questions in the next available lecture/tutorial.



Choose a Project

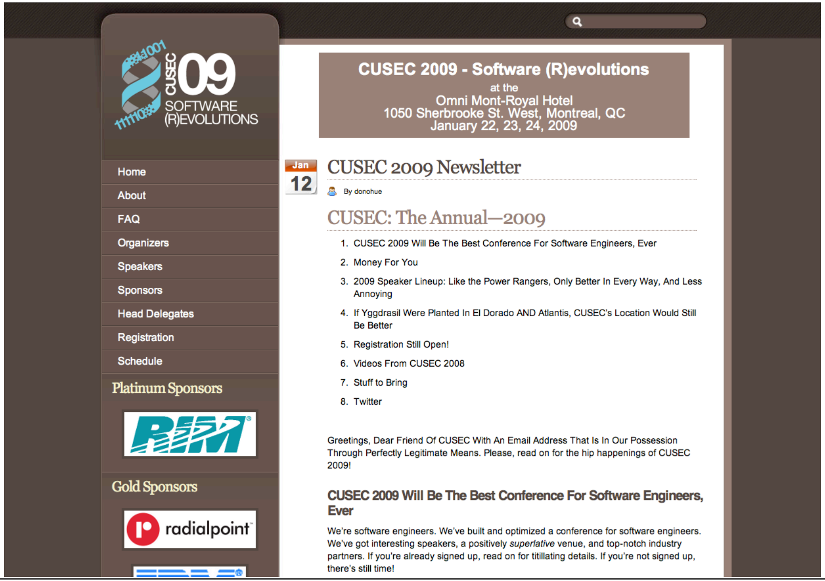
→ Class vote next lecture

- everyone works on the same system

→ Candidates:

- TWiki - a simple wiki system
  - http://twiki.org/
- The Google Web Toolkit
  - http://code.google.com/webtoolkit/
- Violet - a simple UML editing tool
  - http://horstmann.com/violet/
- JFreeChart - a tool for drawing graphs and charts
  - http://www.jfree.org/jfreechart/
- Lobo - a free Java-based web browser
  - http://lobobrowser.org/java-browser.jsp

http://2009.cusec.net/



CUSEC 2009 - Software (R)evolutions
at the
Omni Mont-Royal Hotel
1050 Sherbrooke St. West, Montreal, QC
January 22, 23, 24, 2009

CUSEC 2009 Newsletter

By donohue

CUSEC: The Annual—2009

1. CUSEC 2009 Will Be The Best Conference For Software Engineers, Ever
2. Money For You
3. 2009 Speaker Lineup: Like the Power Rangers, Only Better In Every Way, And Less Annoying
4. If Yggdrasil Were Planted In El Dorado AND Atlantis, CUSEC's Location Would Still Be Better
5. Registration Still Open!
6. Videos From CUSEC 2008
7. Stuff to Bring
8. Twitter

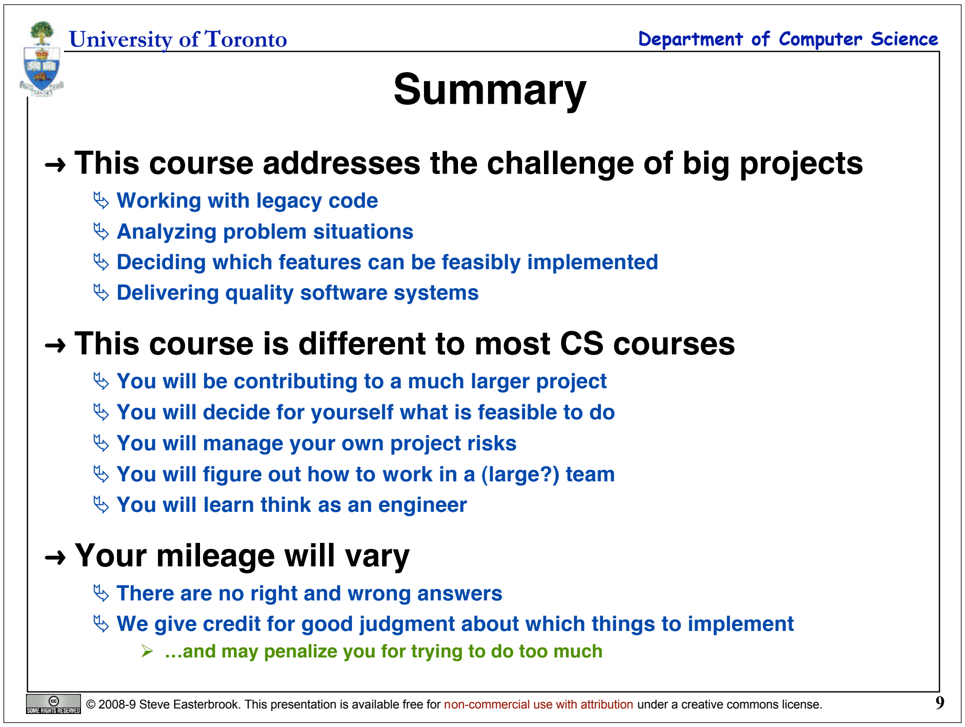
Greetings, Dear Friend Of CUSEC With An Email Address That Is In Our Possession Through Perfectly Legitimate Means. Please, read on for the hip happenings of CUSEC 2009!

CUSEC 2009 Will Be The Best Conference For Software Engineers, Ever

We're software engineers. We've built and optimized a conference for software engineers. We've got interesting speakers, a positively *superlative* venue, and top-notch industry partners. If you're already signed up, read on for titillating details. If you're not signed up, there's still time!

Discussion

1. **Review of CSC301**
2. **Your goals for this course**
3. **Options:**
   - ➜ **Bonus for changes accepted back into project base?**
   - ➜ **Trade projects at end of phase 1: bonus for popular projects?**
   - ➜ **Shorter iterations?**
   - ➜ **TA's as "on-site users"?**
   - ➜ **TA's as management consultants?**
   - ➜ **Extra material on project management & Risk assessment?**
   - ➜ **NASA Case studies?**
   - ➜ **…**



Summary

- → This course addresses the challenge of big projects
  - ↳ Working with legacy code
  - ↳ Analyzing problem situations
  - ↳ Deciding which features can be feasibly implemented
  - ↳ Delivering quality software systems
- → This course is different to most CS courses
  - ↳ You will be contributing to a much larger project
  - ↳ You will decide for yourself what is feasible to do
  - ↳ You will manage your own project risks
  - ↳ You will figure out how to work in a (large?) team
  - ↳ You will learn think as an engineer
- → Your mileage will vary
  - ↳ There are no right and wrong answers
  - ↳ We give credit for good judgment about which things to implement
    - ➢ …and may penalize you for trying to do too much