

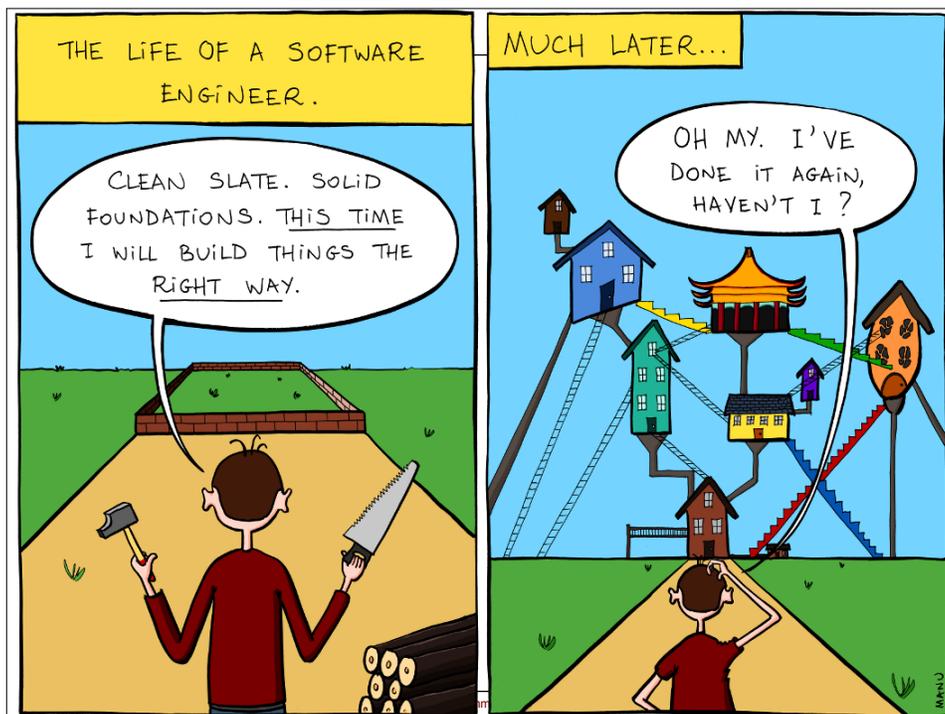


CSC302: Engineering **Large** Software Systems

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





About the Course

→ Course website

↳ www.cs.toronto.edu/~sme/CSC302/

→ Textbooks

↳ Fowler: UML Distilled (3rd Edition)

↳ (or equivalent)

→ 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 - 7

↳ 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%)**
 - 3 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 addresses
 - 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:**
 - ↳ See course website:
 - ↳ <http://www.cs.toronto.edu/~sme/CSC302/>



Canadian University Software Engineering Conference



<http://2012.cusec.net/>





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?
 - Climate Science 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 to 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

