CSC407F (not cross listed this semester)

Software Architecture & Design

Mathew Zaleski Bahen 3234 matz@cs.toronto.edu Office hours: M10-11 (??) (or by appointment)

Mathew Zaleski

- BASc. / MASc. / ??
 - Undergrad UofT Engineering Science Computer Option (1983)
 - MA UofT Industrial Engineering Human Factors Engineering (1984)
 - Doctorate in progress (started 2000)
 - Trace oriented Java Virtual Machine (add into IBM VAJ JVM)
- Industry Experience
 - 5 years compiler development at IBM Toronto Labs.
 - Helped write register allocator for TOBEY optimizer.
 - 3 years building interactive C++ apps at Alias/SGI.
 - Tried to create OO graphical apps that were portable, fast.
 - 5 years running own company.
 - Emphasis on OO server side Java driven websites for finance companies.
 - Team >30. About 20 software engineers writing OO code.
 - Sold out 1999 and returned to fall school 2000.

01 - Course Intro.

Learning to Design/Architect Software

- Formal (book) knowledge (20%)
- Experience (80%)
 - Characteristics:
 - Large system (> 300 KLoc)
 - Arms-length folk trying to get work done using it
 - Associated revenue stream
 - Maintenance of multiple releases over several years
 - Understand the mistakes that are made and try to fix them

Grades

- Term (60%)
 - Assignment 1 (20%)
 - program from existing UML design
 - Assignment 2 (20%)
 - OOD + OOP (Java) w/ patterns
 - Assignment 3 (20%)
 - Systems architecture
 - Diagrams and written English
- Final Exam (40%)
 - open book (but it won't help)

Texts

- Design Patterns
 - Gamma, Helm, Johnson, & Vlissides
- Acquire some book on
 - Object Oriented Analysis
 - UML for OOA and OOD
 - See recommendations on course info sheet
- I like Rosenberg's books.

Exam grade

- Final Grade
 - rawGrade = exam * 0.4 + term * 0.6;
 - return (exam < 40% ? min(49%,rawGrade):rawGrade);
- ie. if you fail the exam badly your course grade is capped at 49%.

Resources

- Home page
 - http://www.cs.toronto.edu/~matz/instruct/csc407
 - Handouts, lecture notes, links
- Newsgroup
 - ut.cdf.csc407h
 - Do you (collectively) prefer announce webpage?
 I do!
- Office hours
 - How does Monday 10-11 strike you
 - (apart from rather early)

Tutorials

- Each Tuesday, starting Sept 16
 - Assignments to rooms/groups will be posted
- Worked-out examples
- Group discussion
- Discussion of assignments
- Individual TAs will mark your assignments

Computing

- Assignments require
 - Written documentation
 - Printed Java code
 - UML diagrams
 - Other diagrams
- Any computer w/ Java (any jdk)
 - David Penny used Microsoft Visio for UML and other diagrams, and Word for docs. Use what you want.
 - Poseidon?
 - Enterprise architect?
 - Rose?

Topics

week	topics
1-2	Overview and crash course in UML.
3	OOA/D/P overview, UML for OOA, example
4	OOP, UML for OOD
5-10	Design Patterns
10-13	Systems Architecture

.

•