Syllabus for COMP314, Theoretical Foundations of Computer Science

Spring 2010
Dickinson College
Instructor: John MacCormick

Goals

- Understand what types of computations can be performed by certain types of abstract computers
- Acquire practical skills for working with regular expressions and finite state machines, which are both important in computer-related professions
- Increase mathematical maturity by making rigorous mathematical arguments about computations
- Acquire an elementary understanding of how compilers parse computer programs

Teaching methods

- required reading in advance of most lectures
- lectures and class discussions covering textbook contents and other material
- in-class mini-labs using computers to experiment with concepts covered in lectures
- programming projects (both homework and in-class)
- homework, exams, and quizzes to reinforce understanding of concepts

When and where

- Classes: Tuesday and Friday 1:30–2:45pm, Tome 231
- Office hours: see the instructor's webpage

Book

An Introduction to Formal Languages and Automata, by Peter Linz
Publisher: Jones & Bartlett
4th edition
ISBN: 0763737984

Assessment and grading

- Final grade will comprise:

Homework assignments (5 x 5% each)	25%
Programming assignments (3 x 3.33% each)	10%
EZquizzes (6 x 3.33% each)	20%
Midterm exam	15%
Final exam	30%

- **Homework assignments:** There will be 5 homework assignments, due at the start of class on 2/12, 3/5, 4/2, 4/16 and 5/7. Homework assignments must be submitted in hard copy; they may not be submitted electronically. Neatly handwritten solutions are acceptable.
- **Programming assignments:** There will be 3 programming assignments, due at the start of class on 2/19, 3/26, and 4/23. Programming assignments must be submitted electronically to Moodle as a single ZIP file of the relevant source code.
- **EZquizzes:** An EZquiz is a brief in-class quiz, typically 15 minutes or less. The quiz is "EZ" (i.e. easy) because a list of possible questions, together with the solutions, is provided in advance. EZquizzes are closed book: no materials of any kind may be consulted. There will be six EZquizzes, administered at the start of class on 2/9, 2/23, 3/9, 3/30, 4/13 and 5/4.
- **Midterm exam:** There will be a 75-minute midterm exam in class on 3/12.
- **Final exam:** The final exam will take place 9am-12noon on Monday, May 17.
- Both the midterm and final exams are open book. Students may consult any printed or handwritten materials brought into the exam. However, no electronic device or electronic materials may be used without the prior permission of the instructor.

Amount of work

College policy recommends approximately 3 hours of independent work for every hour of class time. Our class meets for 2.5 hours per week. Therefore, you should expect to spend 7-9 hours per week (outside of class time) on this course.

Plagiarism, copying, and collaborating

The College's standard policy on plagiarism applies and you should be familiar with it, but here are some key points that apply particularly to this course:
- All work must be your own.
- Never copy work from someone else or allow your own work to be copied.
- You may not copy or consult assignment solutions from any source, including online repositories or solutions provided for previous instances of the course.
- If you use exact words taken from any source, you must use quotation marks and cite the source. Exception: in this course, you may quote freely from the textbook, and from EZquiz solutions, without using quotation marks or a citation.

- Students are encouraged to help each other understand concepts, including concepts that apply to homework and programming assignments. However, all work must still be your own. So if you discuss a problem with someone, you must destroy any written or electronic material that results from the discussion, and re-create it later on your own.
- Be especially careful not to copy computer code from another student, or from the Internet (excluding the exceptions given in the next bullet point). Sharing or copying acomputer code is easy and often tempting, but it is not permitted and will suffer the same penalties as any other form of cheating.
- In this course, you are permitted to copy snippets of code from two sources: (i) the Java tutorials and documentation on sun.com, and (ii) the course webpages, and any additional sources specifically permitted for a given assignment as listed on those webpages. However, you must clearly attribute any code copied from any source, whether or not you subsequently alter it.

Accommodations

The instructor will follow college policy on accommodations for students who need them.

Late Work Policy

Each student is permitted a total of three no-penalty days of lateness over the entire semester; every subsequent day of lateness incurs up to a 25% penalty for the late assignment. Late days can be used only in whole day units.