

Mathematics 4885: Theory of Computation Fall 2011

Time and Place

12:00–12:50 MWF

Old Main 2230

Instructor

Dr. Bill Slough

Old Main 3212

581–7529

E-mail: waslough@eiu.edu

Office hours: 10:00 – 11:00 MW, 9:00 – 11:00 F; other times by appointment.

Textbook

Rich, *Automata, Computability, and Complexity: Theory and Applications*, Prentice Hall, 2008.

Overview

This course provides an introduction to the theoretical foundations of computer science. In a few words, this includes:

- techniques of proving theorems about computation,
- models of computation including finite automata, pushdown automata and Turing machines,
- properties of formal languages, and
- methods of generating and recognizing formal languages.

Textbook Exercises

Exercises from the textbook will be assigned at regular intervals throughout the semester. Given the mathematical nature of the course, you will be required to typeset your solutions using L^AT_EX. If you are not already familiar with this software, learning how to use it will be a useful side-benefit of this course.

Hands-on Exercises

We will be using a novel system, JFLAP, to gain practice with various automata. JFLAP allows for an interactive approach to the study of automata theory, allowing for immediate feedback.

Evaluation

Your grade for the course will be determined from the following components, using the relative weights shown. Exam dates are tentative, but will not be sooner than shown below.

Exam 1	Friday, September 30	25%
Exam 2	Friday, November 11	25%
Exercises		20%
Final	Wednesday, December 14, 12:30–2:30	30%

Miscellaneous

- By pointing your web browser to

<http://www.eiu.edu/~mathcs/mat4885/>

you can find late-breaking news of interest related to this course, download class hand-outs, obtain descriptions of exercises, and find links to the JFLAP software and related files. This web site will evolve over time; check back frequently to stay informed.

- If you have a legitimate reason which prevents you from taking an exam at the regularly scheduled time, be sure to notify me before the exam is given. If you cannot reach me, call the department office (581-2028) and leave a message for me.
- Attendance and participation will contribute to your success in this class. Points will not be deducted for absences; however, you are responsible for any material you might miss.
- Due dates are important and will be strictly observed.
- Silence your phones during class.
- If you have a documented disability and wish to receive academic accommodations, please contact the Coordinator of the Office of Disability Services (581-6583) as soon as possible.

Academic Integrity

All work you turn should be your own. Although you are encouraged to talk to classmates about concepts and ideas, academic dishonesty comes into play when a solution is simply copied from another student, web site, etc. The Office of Student Standards (formerly, Judicial Affairs Office) will be used to deal with instances of academic dishonesty.