CS 130 **Computational Models** **Spring 2004**

`http://www.soe.ucsc.edu/classes/cmps130/`

- **Course:** Computational Models
- **Time & Place:** Monday, Wednesday and Friday 3:30-4:40 p.m., Social Science 2, Room 71.
- **Discussion Sections:**
  - tbd
  - tbd
- **Instructor:** Delbert D. Bailey; office: BE 364; phone: x9-5277, e-mail: dbailey@cse.ucsc.edu
- **Teaching Assistant:** Daniel Ford, email: ford@cse.ucsc.edu
- **Office Hours:**
  - Bailey: Wednesday 5:00-6:15pm, Friday 5:00-6:15pm, BE 364.
  - Ford: tbd
- **Textbook:** *Introduction to the Theory of Computation*, by Michael Sipser, 1st Edition, PWS/Thompson, 1997.
- **Goal:** To cover most of the material contained in Chapters 0, 1, 2 and 3.
- **Syllabus:** The following is a tentative syllabus for the course:

  Overview
  Tools: Mathematical Objects and Proof Techniques
  Deterministic Finite Automata
  Non-deterministic Finite Automata
  Rabin-Scott Theorem
  Regular Languages and Regular Expressions
  Kleene's Theorem
  Non-regular Languages
  Pumping Lemma
  Myhill Nerode Theorem
  Minimizing States
  Push Down Automata
  Context-free Grammars and Languages
  Normal forms
  Non-context-free languages
  Pumping Lemma for context-free languages
  Turing Machines and Recursively Enumerable Languages
  Church-Turing Thesis

- **Evaluation:** The course work will be weighted as follows:

Final Examination	40%
One Midterm Examination	30%
Four in-class Quizzes (20 minute each)	20%
Seven Homework Assignments	10%

- **Examination and Quiz Schedule:**
  1. Final Examination, Tuesday, June 8, 2004, 8:00-11:00 a.m.
  2. Midterm Examination on Monday, May 3, 2004, 3:30-4:40 p.m.
  3. Quizzes:

- Quiz 1: Friday, April 9, 2004, 3:30-3:50 p.m.
- Quiz 2: Friday, April 23, 2004, 3:30-3:50 p.m.
- Quiz 3: Friday, May 14, 2004, 3:30-3:50 p.m.
- Quiz 4: Friday, May 28, 2004, 3:30-3:50 p.m.

The examination and quiz schedule is fixed. In particular, requests for changes in the schedule will not be accommodated; if you have conflicts with this schedule, please do not enroll in the class. Also, *no* time extension will be given for late arrivals on quiz day or examination day.

- **Academic Integrity:** No form of academic dishonesty will be tolerated. Incidents of academic dishonesty will be reported according to UCSC's policy on academic integrity, the full text of which can be found at `http://oasas.ucsc.edu/avcue/integrity`

- **Miscellanea**

  - All homework assignments are to be handed in at the beginning of Class on Mondays.
  - Solutions to homework problems will be presented in the discussion sections. They will not be posted.
  - Attendance at discussion sections is required.
  - We will distribute solutions to the problems in the quizzes and in the midterm examination, after the grading has been completed.
  - We will *not* distribute or post "sample" examination problems or "sample" quiz problems.
  - The class has a newsgroup, which is accessible from the class webpages. We will occasionally post announcements and reminders there, but we will *not* answer questions to homework problems on the newsgroup. The time and place to ask such questions and have them answered are the discussion sections and the office hours.