• **Course:** Computational Models

• **Time & Place:** Monday, Wednesday and Friday 11:00am-12:10pm, E2 194.

• **Instructor:** Dean Bailey; office: E2 249B; phone: 831-459-1339, e-mail: dbailey@soe.ucsc.edu

• **Reader/Tutor:** Jeff Brizzolara, jbrizzol@ucsc.edu

• **Office Hours:**
  – Bailey: Tuesdays and Thursdays, 2:00pm-4:00pm, E2 249B.

• **Prerequisites:** CMPS 101 or approval of instructor


• **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%  
  Homework Assignments 10%  
  N.B. Passing grades in all four parts are required to pass the course.
• **Examination and Quiz Schedule:**
  1. Final Examination, Thursday, March 20, 8:00am-11:00am
  2. Midterm Examination on Friday, February 15
  3. Quizzes:
     – Quiz 1: Monday, January 23
     – Quiz 2: Monday, February 4
     – Quiz 3: Friday, February 29
     – Quiz 4: Friday, March 14
   
   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/avcu/integrity](http://oasas.ucsc.edu/avcu/integrity). Specifically for this class, if you are caught turning in work as your own, that is not solely your own, or assisting others in doing so, a formal written report will be sent to your Department, the School of Engineering, and to your Provost and academic preceptor. Furthermore you will get a failing grade for the course and the incident will be noted in your evaluation.

• **Miscellanea**
  – All homework assignments are to be handed in at the beginning of Class on due date.
  – Solutions to homework problems will be presented in the discussion sections or class. They will not be posted.
  – We will provide 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.

• **CMPS 132, Computability and Computational Complexity:** CMPS 130 is a prerequisite for CMPS 132; however, you may take it concurrently this term, if you can show you have the background and expertise needed to do it successfully. Contact Allen Van Gelder, avg@soe.ucsc.edu