CSCI 2200
Foundations of Computer Science

Spring 2018 – Syllabus
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Office: Amos Eaton 115
Office hours: Mon/Tue/Thu 1:00-2:50PM
http://www.cs.rpi.edu/~goldsd/csci2200-s18.php

Contact information

- Instructor: David Goldschmidt (goldschmidt@gmail.com)
  - Office: Amos Eaton 115
  - Office hours: Mon/Tue/Thu 1:00-2:50PM

- Graduate TAs:
  - Shruthi Chari
  - Daniel Yaciuk
  - Mengwen Zhou

- Undergraduate mentors:
  - Michael Adams
  - Clarisse Baes
  - Lizhou Cai
  - Owen Goff
  - Xiaoyi Liu
  - Tejas Narayan
  - Peter Wood
  - Chang Xu
  - Boliang Yang
  - Yipeng Zhang

Do not email our TAs or mentors; instead, use Piazza...!
Purpose of this course

- Course description (from the Rensselaer Catalog):
  - This course introduces important mathematical and theoretical tools for computer science, including topics from set theory, combinatorics, and probability theory, and then proceeds to automata theory, the Turing Machine model of computation, and notions of computational complexity. The course will emphasize formal reasoning and proof techniques.

- Prerequisites:
  - CSCI 1200 Data Structures
  - MATH 1010 Calculus I (or MATH 1500)
  - MATH 1020 Calculus II is strongly recommended

Learning objectives

- Define discrete mathematical objects and perform mathematical proofs using logic
- Apply mathematical tools such as induction and recursion
- Recall key definitions relating to discrete mathematical objects
- Formulate combinatorial arguments
- Define and compute the probability of an event
- Develop formal models of computation and reason about what is computable within those models
- Recall key facts regarding finite automata and Turing machines
Textbooks and resources

- The required textbook is:
  - **Discrete Mathematics & Computing** by Malik Magdon-Ismail
  - Textbooks are available from Erica Eberwein in AE 119 during normal business hours
  - Bring $50 cash...

  ![Image of $50 bill]

  ...or send $50 to @magdon via Venmo

- Last semester’s version of the textbook is also okay, though some of the text has been updated and problems/problem numbers have changed

Textbooks and resources

- Other recommended textbooks include:
  - **Discrete Mathematics and its Applications, 7th ed.** by Rosen
  - [ISBN 9780073383095]
  - **Introduction to the Theory of Computation, 3rd ed.** by Sipser
  - [ISBN 9781133187790]
  - **Mathematics for Computer Science** by Lehman, Leighton, and Meyer
  - [ISBN 9789888407064]
Course website and schedule

- The course website is:
- See the course website for the schedule
  - The schedule will likely change as the semester progresses!

Piazza and announcements

- We will use Piazza for course announcements, discussions, and for posting questions (and answers)
  - Piazza URL is: [https://piazza.com/rpi/spring2018/csci2200](https://piazza.com/rpi/spring2018/csci2200)
- Your RPI email addresses have been automatically added to Piazza (feel free to add other email addresses)
- Ask questions via Piazza; also answer questions via Piazza!
- Check your RPI email at least once per day, especially when we have inclement weather...
Attendance/classroom policies

- Attendance is required; please attend class and be prepared to participate in class discussions
- Please remember to turn off cellphones and other non-classroom electronic devices before class begins
- Please shut your laptops unless you are actively using them to take notes or participate in class activities, etc.
- **IMPORTANT:** For prescheduled and unforeseen absences, see [http://studentlife.rpi.edu/student-success/excused-absence](http://studentlife.rpi.edu/student-success/excused-absence)

Assignments

- There will be 10 individual homework assignments
  - Homeworks will be collected via Submitty
  - Due dates are on the course schedule
- There will be three quizzes on Wednesdays 6:00-7:50PM
  - Quiz dates: Quiz 1 is 2/14; Quiz 2 is 4/11; Quiz 3 is 5/2
  - Quiz location: DCC 308
  - Also expect a few in-class pop quizzes...
- There will be a midterm exam on Wednesday 3/7 6:00-7:50PM
  - Midterm exam location: DCC 308
- There will be a final exam in this course (5/7-5/11)
Grading criteria

- Grading breakdown is as follows:
  - Homeworhks (10)  7.5%
  - Quizzes (3)  30%
  - Pop Quizzes (???)  2.5%
  - Midterm Exam  25%
  - Final Exam  35%

- Late days in Submitty:
  - Late days are intended to cover minor illnesses, hardware malfunctions, schedule conflicts with other assignments, and other minor (or absurd) mishaps
  - Each student will initially be given five late days for the semester
  - To use a late day, simply submit the assignment as per usual via Submitty; you do not need to notify the TAs or instructor
  - No more than three late days may be used for any one assignment
  - Late days do not apply to quizzes or exams!

Grading policies

- You may appeal a grade by contacting the TA who graded it within five days of grades being announced
- Quizzes and exams will be handed back and reviewed in class
  - Such assignments will then be available during my office hours
- Final course grades are determined by rounding, then applying the following ranges:
  - 95-100 A; 90-94 A-
  - 85-89 B+; 80-84 B; 75-79 B-
  - 70-74 C+; 65-69 C; 60-64 C-
  - 55-59 D+; 50-54 D
  - 0-49 F
Disability services for students

- From [http://studenthealth.rpi.edu/disabilityservices](http://studenthealth.rpi.edu/disabilityservices):
  - “The Office of Disability Services for Students (DSS) assists Rensselaer students with disabilities in gaining equal access to academic programs, extracurricular activities, and physical facilities on campus. DSS is the designated office at Rensselaer that obtains and files disability-related documentation, assesses for eligibility of services, and determines reasonable accommodations in consultation with students.”

- Contact: [dss@rpi.edu](mailto:dss@rpi.edu) or 518-276-8197 or Academy Hall 4226

- For accommodations, please contact DSS this week!
  - You must renew your accommodations each academic year

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Academic integrity

- Rensselaer Handbook of Student Rights and Responsibilities:
  - “Intellectual integrity and credibility are the foundation of all academic work. A violation of the Academic Integrity policy is, by definition, considered a flagrant offense to the educational process. It is taken seriously by students, faculty, and Rensselaer and will be addressed in an effective manner.”

  - “If found responsible for committing academic dishonesty, a student may be subject to one or both types of penalties: an academic (grade) penalty administered by the professor and/or disciplinary action through the Rensselaer judicial process described in this handbook.”

Academic integrity policy

- Each assignment must be the sole work of each individual student
- Copying from others is not allowed
- Discussion is not allowed on any assignments
- Ask specific questions on Piazza, but do not post solutions
- Further, protect your work from being copied!

If found in violation of the academic dishonesty policy:
- You will receive a grade of zero on the given assignment
- For a second offense, you will receive an F in the course
- Each incident will be reported to the Dean of Students and Department Head
- Cheating may cause you to be ineligible to mentor for the department, participate in departmental organizations, etc.