CSCI 2200: Foundations of Computer Science – Spring 2015

General Information
Instructor: Stacy Patterson  sep@cs.rpi.edu  518-276-2054
Teaching Assistants
Ashwin Bahulkar   bahula@rpi.edu
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Md. Ridwan Al Iqbal   iqbalm@rpi.edu
Jai Wadhwani   wadhwj@rpi.edu
Web site: http://www.cs.rpi.edu/~sep/csci2200
Lectures: MR 10:00am – 11:50 pm, Russell Sage Laboratory 3303
Recitations:

<table>
<thead>
<tr>
<th>Section</th>
<th>Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>01</td>
<td>W 10:00am – 10:50am</td>
<td>Troy Building 2012</td>
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<tr>
<td>02</td>
<td>W 11:00am – 11:50am</td>
<td>Troy Building 2012</td>
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<tr>
<td>03</td>
<td>W 12:00pm – 12:50pm</td>
<td>Troy Building 2018</td>
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<tr>
<td>04</td>
<td>W 4:00pm – 4:50pm</td>
<td>Walker Laboratory 5113</td>
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Course Description
This course introduces important mathematical and theoretical tools for computer science, including topics from logic, number theory, set theory, combinatorics, and probability theory. The course 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.

Upon successful completion of this course, each student:

• is able to formulate mathematical proofs using logic
• is able to apply mathematical tools such as induction and recursion
• can recall key definitions from set theory
• is able to formulate combinatorial arguments
• is able to distinguish between various computational models
• is able to think critically on the difficulties of key questions in foundations of computer science
• can recall key facts regarding finite automata and Turing machines.

Pre-requisites: Intro to Calculus (MATH-1010 or MATH-1500); CSCI-1100 (CS I) or CSCI-1200 (Data Structures)

Recitation
Attendance at recitation is not required. Attendance will be taken at recitation, and students who attend regularly will get priority in office hours.

Schedule
An up-to-date schedule will be maintained on the course web site

Homework
There will be 9 homework assignments. The lowest homework grade will be dropped. Homework is due at the beginning of class on the date indicated on the homework assignment. You may turn in an assignment at the beginning of following class for a 50% penalty. No homework will be accepted after that time without a letter from the Student Experience office.
Homework assignments must be typed and stapled. There will be a 50% penalty for handwritten homework and a 10% penalty for no staple. Homework will be returned in recitation.

**Grading**
- 30% Homework
- 20% Exam 1 - Thursday, February 26, 2015 in class
- 20% Exam 2 - Thursday, April 9, 2015 in class
- 30% Final Exam - Date TBD

There will be NO make-up exams (unless the absence is excused by the Student Experience office).

Grades will be made available to students throughout the semester (via RPI LMS). Grades for all assignments will be determined by the professor and the TAs. You may appeal a homework or exam grade by first contacting the responsible TA. If you are not satisfied with the outcome of this appeal, you may then appeal to the professor. Grades must be appealed within 7 days of the assignment or exam being returned in class.

The following chart will be used to convert the year-end average to a letter grade (percentages will be rounded to the nearest integer).

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>≥ 93</td>
<td>A</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
</tr>
<tr>
<td>87-89</td>
<td>B+</td>
</tr>
<tr>
<td>83-86</td>
<td>B</td>
</tr>
<tr>
<td>80-82</td>
<td>B-</td>
</tr>
<tr>
<td>77-79</td>
<td>C+</td>
</tr>
<tr>
<td>73-76</td>
<td>C</td>
</tr>
<tr>
<td>70-72</td>
<td>C-</td>
</tr>
<tr>
<td>67-69</td>
<td>D+</td>
</tr>
<tr>
<td>60-66</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
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</tbody>
</table>

Exams and homeworks will not be curved. The final grade may be curved but only to raise the course grades.

**Students with Special Needs**
Federal law requires all colleges and universities to provide specified types of assistance to students with disabilities. If you have such special assistance, please obtain an authorizing memo from Disability Services for Students by contacting Mark Smith, Dean of Students, in the Dean of Students Office (x6266). Information about a student's special needs will be treated as confidential. Please submit a copy of your authorizing memo to your professor well in advance of any affected exam or assignment. Failure to do so may result in a lack of special accommodations.

**Academic Integrity**
Every student must formulate and write up his or her homework assignments independently. You are not allowed to show your homework to other students before it is graded. You are responsible for protecting your own homework from being copied. If multiple students turn in problem solutions that are identical, this is cheating, and all students involved will be held accountable.

No collaboration is allowed during exams.

Violation of these policies will be considered a breach of academic integrity. The minimum penalty for any violation is a grade of F. In addition, the student may subject to other penalties outlined in The Rensselaer Handbook of Student Rights and Responsibilities.