Syllabus

Instructor: Dr. Abdol-Hossein Esfahanian
Office: 3115 Engineering Building
Email: esfahanian@cse.msu.edu
Office Hours: Tuesdays, 1-3pm, or by appointment

Teaching Assistant: James Daly
Office: 3203 EB
Email: dalyjame@msu.edu
Office Hours: TBD

Teaching Assistant: Husain Khalifeh
Office: 3203 EB
Email: khalife8@msu.edu
Office Hours: TBD

Teaching Assistant: Zejia Zheng
Office: 3203 EB
Email: zhengzej@msu.edu
Office Hours: TBD

Course Description:

Prerequisite:
One of MTH 133, MTH 126, MTH 153H, or LBS 119.

Course Objective:
The role of discrete mathematics in computer science is analogous to the role of calculus in physics and in engineering: it provides the mechanisms that allow computer scientists to define and reason about complex systems. Complex systems of interest include software, algorithms, data structures, and hardware. The objectives of this course are to introduce the mathematical concepts that provide the basis for much of computer science and to develop the ability to describe and analyze problems in a logical and systematic fashion. This course focuses primarily on:
Logic and mathematical reasoning
Set theory and functions
Induction and recursion
Mathematical relations
Grammars and finite state machines (also, Turing Machines, if time permits)

To achieve these objectives, we study broad, general concepts in these areas and discuss applications of these concepts in computer science and in computer engineering. (Current ABET/CAC accreditation requirements (http://www.abet.org/) for CS programs specify a half-year of mathematics courses, including Discrete Structures).

Textbook:

Course Activities and Contributions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Comments</th>
<th>% contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class attendance &amp; participation</td>
<td>Two absences are allowed</td>
<td>5%</td>
</tr>
<tr>
<td>Quizzes and in-class work</td>
<td>Lowest one will be dropped</td>
<td>25%</td>
</tr>
<tr>
<td>Almost weekly Homework</td>
<td>Work in groups of 2 to 4.</td>
<td>10%</td>
</tr>
<tr>
<td>Three Exams</td>
<td>Wed Oct 5, Wed Nov 9, Thu Dec 15</td>
<td>60%</td>
</tr>
</tbody>
</table>

Course Grading:

<table>
<thead>
<tr>
<th>Grade</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 100%</td>
<td>4.0</td>
</tr>
<tr>
<td>85 – 89%</td>
<td>3.5</td>
</tr>
<tr>
<td>80 – 84%</td>
<td>3.0</td>
</tr>
<tr>
<td>75 – 79%</td>
<td>2.5</td>
</tr>
<tr>
<td>70 – 74%</td>
<td>2.0</td>
</tr>
<tr>
<td>65 – 69%</td>
<td>1.5</td>
</tr>
<tr>
<td>60 – 64%</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Make-up exams:
Make-ups for examinations or other course work will be arranged if your absence is caused by documented illness or personal emergency. A written explanation (including supporting documentation) must be submitted to the instructor; if appropriate, an alternative to the examination or other work will be arranged. Whenever possible, make-up arrangements must be completed in advance.
Course website:
All the course materials will be available on the course website:
http://www.cse.msu.edu/~cse260/

Piazza Discussion Forum:
We will use Piazza for a discussion and notification forum for this class. You will receive an invitation to join Piazza in the first week of class. The instructor and TAs monitor Piazza and respond to questions posted to it; other students may also. If you have a question, you will often find that it has already been asked and answered on Piazza—so check. Important class notifications will be sent via Piazza, so be sure that you accept the invitation to join. If you do not receive an invitation to join in the first week of class, notify your lecture instructor. Here is the link:
https://piazza.com/class/int82ke3tv01h7

Academic Honesty:
Article 2.3.3 of the Academic Freedom Report states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the College of Engineering adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide and/or the MSU Web site: www.msu.edu.)

I encourage you to visit honorcode.msu.edu to learn more about the Spartan Code of Honor academic pledge:

“As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.”

Students with Disabilities:
Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at http://rcpd.msu.edu.
Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("VISA") form. Please present this form to the instructor at the start of the term and/or two weeks prior to the accommodation date (exam, quiz, etc.).

Campus Emergencies:
If an emergency arises in this classroom, building, or vicinity, your instructor will inform you of actions to follow to enhance your safety. As a student in this class, you are responsible for knowing the location of the nearest emergency evacuation route or shelter. These directions
appear on the maps posted on the walls throughout this building. If police or university officials order us to evacuate the classroom or building, follow the posted emergency route in an orderly manner and assist those who might need help in reaching a barrier-free exit or shelter. To receive emergency messages, set your cellular phones on silent mode when you enter this classroom. If you observe or receive an emergency alert, immediately and calmly inform your instructor. (See also http://www.alert.msu.edu.)