

22C:131 Limits of Computation

syllabus

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The University of Iowa, Department of Computer Science



Schedule

Instructor: Teodor Rus

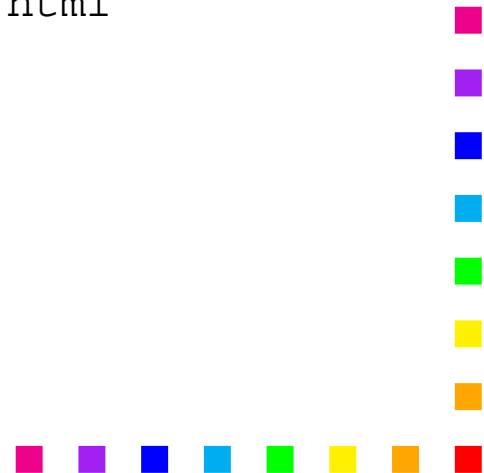
Office: 201J MLH, Phone: 319-335-0742

OfficeH: MWF 1:30pm–2:30pm, 201J MLH

Class hours: MWF 10:30am–11:20am, 210 MLH

Web site:

<http://www.cs.uiowa.edu/~rus/Courses/Theory/index.html>



Methodology promise

- Make it acceptable and useful for undergraduates
- Make it acceptable and complete for graduates
- Make it funny for both.

Note: click on “Topics to be covered” on the web site to see the topics to be covered and their structure in my offering of 22C:131.



Teaching and learning

I plan on keeping the following structure of every lecture:

1. Informal presentation of the topic of interest
2. Formalizing the topic of interest
3. Illustrating the topic of interest by in-class problem solving

Note: Use office hours (held by the instructor and TA) to improve learning process



Assessment

- One midterm in-class exams, covering material not yet tested up to the exam date. See syllabus for the midterm date.
- One final exam that is comprehensive and mandatory. See syllabus for the final date.
- Assignments a rhythm of one every other two weeks
- Class attendance (5–10 minutes quizzes randomly at the beginning of the class) and class contribution (by in-class problem solving or topics presentation).



Class contribution

- Volunteer to solve problems that illustrate the topic presented in class.
- Select topics of interest (ex: hyper computation), seek instructor approval, set a class presentation time, present topic to the class.
- Implement algorithms presented in class.



Textbooks

- Michael Sipser, *Introduction to the Theory of Computation*, PSW Publishing Company 2006.
- Arthur Fleck, *Formal Models of Computation*, World Scientific 2001, AMAST Series in Computing, Vol 7.



Note

Since Theory of Computation is at the core of our profession these books should be in everybody's private library.

However:

- I do know that these are expensive books and I will try to help putting my lecture notes on the web.
- But lecture notes are good for understanding while a textbook may help in many other ways.
- Formal Models of Computation will be in reserve in the Math Library.



Student assessment

The total number of points accumulated by a student during the semester will be transformed into student's score, by the following formula:

$$\text{Score} = (25\text{MidT} + 30\text{Final} + 30\text{Assigns} + 15\text{InClass})/100$$

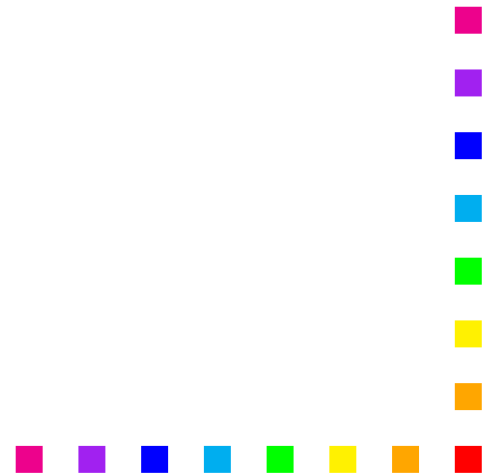
That is, the Score is an averaged sum of the

1. MidT, (25% of the midterm exam score)
2. Final, (30% of the final exam score)
3. Assigns, (30% of the score in the assignments)
4. InClass (15 % of the score obtained from in-class contribution).



Note

I plan on giving you approximatively one assignment every other two weeks



In-class contribution

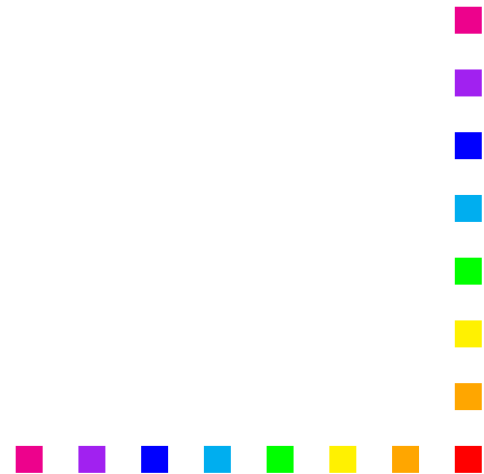
measures the students interest in this class by

- Lecture presentations by students on student's topics of interest.
- Contributions to problem solving performed during class time.
- Quizzes at unpredictable times that check students presence and their interest in the class.



Note

- Assignments and in-class contribution will be graded by TA and instructor.
- Exams will be graded by the instructor and TA.



Complain Resolution

- Complains regarding assignment grading should be resolved with the TA;
- Complains regarding exams grading should be resolved with the instructor;
- If grading complains cannot be resolved, higher authority should be involved (instructor for assignments, DEO for exams);
- For other complains (or if grading complain cannot be resolved) seek higher authority.



Grading Procedure

The student grade in this class will reflect student's work in the class.

- No curving will be applied in the determination of your final grade.
- If all students deserve an A all will get it, and this is what I expect. Therefore at the beginning of the class every student receives an A in this class. It is student's task to keep it.



Letter grade

The letter grades will be determined as follows:

- An A is obtained if $90 < \text{Score} \leq 100$.
- A B is obtained if $70 < \text{Score} \leq 90$.
- A C is obtained if $50 < \text{Score} \leq 70$.
- A D is obtained if $30 < \text{Score} \leq 50$.
- An F is obtained if $0 \leq \text{Score} \leq 30$, or if the student does not attend the final exam.

Note: These ranges are not absolute. However, the lower limits will not be raised any higher; + and - will be used along with the letter scores in the final result.



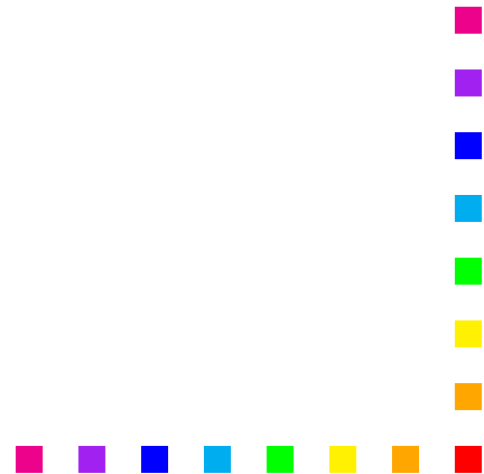
Class Policies

- **Attendance:** **Students are required to attend all classes.** Their knowledge and therefore their grade depends on it. They are responsible for all announcements and material covered during class even if they did not attend.
- **Cheating:** **Sharing solutions of graded assignments or copying someone else work, is not allowed.** Doing that will result in a zero on the assignment for the first offense and an F in the course for the second offense.
- **Make-up exams:** **only for serious and documented reason for not being able to attend a scheduled exam** (made and motivate at least a week before the scheduled exam).



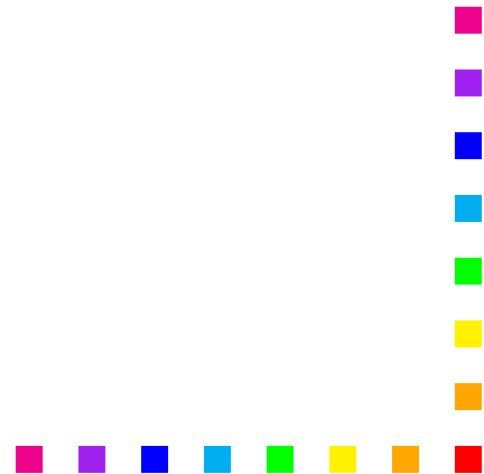
General CLAS Policies

See syllabus for General College of Liberal Arts Policies which are pertinent to this class.



Teaching Assistant

TA and TA's office hours will be determined later.



Good luck!

Question and comments, please!!!

