Course Syllabus

Instructor

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Office Hours

Mon & Wed 5:30-6:45pm (RVR 3024)

Please feel free to email me or drop by my office with an appointment at other times. Please feel free to call me if there is an exigency.

Canvas will be used for submitting assignments.

Class Meetings

Section 2: Tue/Thu 4-5:15pm -- RVR-1002
Section 3: Mon/Wed 4-5:15p, -- EUR-114
Section 5: Tue/Thu 5:30-6:45pm – RVR-5029

Course Overview

Introduction to computing theory with examples and applications. Automata and formal languages; regular expressions; deterministic and non-deterministic finite automata; pumping lemma for regular languages; push-down automata and context-free grammars; language recognition; parsing techniques including recursive-descent; Turing machines; computable and non-computable functions. Design and implementation of selected features of programming languages, particularly parameter-passing methods, and approaches for scope and binding. Functional and Logic programming paradigms.

This course has been approved for GE Area B5. This designation requires that there be a 1500-word writing component, which will be included in the course. Although officially the GE approval will start in the Fall 2019 catalog, this course can be counted towards GE area B5 for those utilizing the 2018-2019 GE catalog as well, by submitting a GE substitution form. See the instructor, or ask in the department office, if this applies to you.

Course Materials

Handouts and online materials provided as necessary.
There is no textbook required. Students are expected to read and study the posted materials.

Students will also need to download and acquaint themselves with two programming language environments: Racket, and SWI-Prolog. Links to those systems are provided on the homework page.

Prerequisite

CSc-28, CSc-35, and CSc-130 (all with a C- or better).

Students who have not met the prerequisites of the course will be automatically dropped, unless arrangements are made directly with the instructor. It is the students' responsibility to discuss any questions or unusual situations regarding prerequisites with the instructor during the first week of class, or face being administratively dropped from the course.

Important Dates

Monday	September 3	Labor Day (no classes for Section 03)
Monday	November 12	Veterans Day (no classes for Section 03)
Thurs-Fri	November 22-23	Thanksgiving Holiday (campus closed - no classes)

Tentative Final Exam Schedule:

Thursday	December 13	Section 2: Final Exam 3-5pm
Wednesday	December 12	Section 3: Final Exam 3-5pm
Tuesday	December 11	Section 5: Final Exam 5:15-7:15pm

Coursework

Lecture

The proposed outline of material to be covered appears in the course schedule at the end of this document. Students are expected to attend all lectures. Students are responsible for making arrangements to get notes from other students if they are absent.

Programming Assignments

There will be three programming assignments, which will be turned in, and will be graded. Most likely, all of the assignments will be individual, but there may also be team assignments. Refer to schedule and the Homework Guidelines for important information on due dates/times, and the late policy.

Quizzes

There will be four 20-minute quizzes during the semester. Quizzes will be given on the **Thursday** section of the weeks scheduled, at the **start** of class. Each quiz will include material covered in lecture from the prior three weeks, and related material in the associated readings. **The lowest quiz score will be dropped.**

Final Exam

The final exam will be *comprehensive*. There will not be a midterm.

Taking quizzes or the final exam at times other than scheduled is only done under extreme circumstances and must be arranged in advance with the instructor.

All exams and quizzes are **closed book**. One 8.5x11 sheet of handwritten notes (handwritten by you, NOT photocopied from other sources) will be allowed for the

FINAL EXAM ONLY, and must be submitted along with the exam (it can be returned to you after grades have been submitted).

Grading

Coursework and exams will all factor into a student's grade, weighted as follows:

Programming Assignments (3)	33% (11% each)
Quizzes (best 3 of 4)	33% (11% each)
Final Exam	34%

At the end of the semester, a final percentage will be calculated according to the above criteria. It will then be rounded to the nearest integer value. Then, **two** grades will be assigned: first, a straight percentage grade according to the following scale:

```
93-100   A
90-92    A-
87-89    B+
83-86    B
80-82    B-
77-79    C+
73-76    C
70-72    C-
67-69    D+
63-66    D
60-62    D-
below 60 F
```

The second grade assigned will be based on a curve of the final point scores of all students.

The final grade will be the higher of the two assigned grades. That is, the percentage scale listed above is the minimum grade that a student will receive based on his/her percentage.

Incomplete Grades

University guidelines regarding the grade of Incomplete will be strictly adhered to. Incomplete grades will only be given under extraordinary conditions beyond a student's control. Inability to keep up with the work due to an excessive course load, for example, is insufficient to warrant an Incomplete. *A student who does not have a passing grade based on the work completed thus far at the time of the request is ineligible for an Incomplete.*

Exception: students on military reserve whose units go on active duty during or around the final exam period *are* eligible for an Incomplete regardless of the circumstances mentioned in the previous paragraph.

This is an approximate weekly schedule, which may be modified as the semester progresses.

Week	Week Of	TOPIC	Notes/Due Dates
1	Aug 28-30	Overview, recursion review	
2	Sep 4-6	Regular Languages and Formal Grammars	
3	Sep 11-13	Lexical Scanning, BNF, Parse Trees	Quiz 1
4	Sep 18-20	EBNF, Syntax Diagrams, Recursive Descent Parsing	
5	Sep 25-27	Recursive-Descent Parsing (continued), DFA vs. NFA	
6	Oct 2-4	DFA/NFA (continued), Chomsky Heirarchy	Program #1 due
7	Oct 9-11	Scheme	Quiz 2
8	Oct 16-18	Functional Programming	
9	Oct 23-25	Pumping Lemma	
10	Oct 30 - Nov 1	Pumping Lemma (continued), Context-Free Languages	Program #2 due
11	Nov 6-8	Pushdown Automata, Prolog	Quiz 3
12	Nov 13-15	Prolog (continued)	
13	Nov 20	Logic Programming	
	Nov 22-23	*Thanksgiving Break*	**no classes**
14	Nov 27-29	Turing Machines, Computability	Quiz 4
15	Dec 4-6	Procedures, Parameters	Program #3 due
(16)	***Thu. Dec 13*** ***Tue. Dec 11***	***Final Exam - Section 02*** ***Final Exam - Section 05***	***3-5pm*** ***5:15-7:15pm***