

CSCE 322: Programming Language Concepts (3 credits)

Fall 2022 – Section 001

Lecture: 10:30am – 11:20am MWF in Avery 106

Contact Information:

Instructor

Marcus Gubanyi

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Teaching Assistants

Jared Soundy and Mrinal Rawool

Office Hours in the Student Resource Center

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Office hours for the instructor and TA's are up-to-date on Canvas.

Prerequisite: CSCE 156/H or RAIK 184H or CSCE 311 or SOFT 161/H

Course Materials: Students are expected to obtain a copy of *Concepts of Programming Languages* by Robert W. Sebesta, 11th edition (2016). ISBN-13: 978-0133943023. Other materials will be available on Canvas.

Course Description: List-processing, string-processing, and other types of high-level programming languages. Fundamental concepts of data types, control structures, operations, and programming environments of various programming languages. Analysis, formal specification, and comparison of language features.

Objectives: Students successfully completing this course will be able to:

1. Understand different programming language paradigms,
2. Understand formal language theory as it relates to programming languages,
3. Evaluate programming language design choices,
4. Appreciate the complexity of the implementation of programming language features,
5. Implement solutions with functional programming.

Grading: Grading will be based on a weighted system outlined below. Late submissions will be accepted up to one week after the deadline, penalized 30%.

Item	Weight
3 Midterm Exams	$3 \times 10\%$
Final Exam (Cumulative)	20%
Homework	20%
Programming Assignments	30%

Letter grades will be awarded based on the following percentages:

A+ ≥ 97	B+ ≥ 87	C+ ≥ 77	D+ ≥ 67	F < 60
A ≥ 93	B ≥ 83	C ≥ 73	D ≥ 63	
A- ≥ 90	B- ≥ 80	C- ≥ 70	D- ≥ 60	

Course Schedule: The course is split into 4 modules, each spanning three to four weeks. Each module has a homework assignment, programming assignment, and an exam. Homework will be due a week prior to the exam and is directly related to exam content. Programming assignments will be due after the exam, except for the final. ***All dates are tentative and subject to change.***

1. Programming Language Concepts

- Lecture Topics: Programming Paradigms, Language Evaluation, Design and Implementation, Evolution of Programming Languages, Functional Programming
- Homework 1: Due September 9
- Midterm 1: September 16
- Program 1: Due September 23

2. Formal Language Theory and Syntax

- Lecture Topics: Formal Language Theory, Chomsky's Hierarchy, Grammars, Automata, Parsing
- Homework 2: Due September 5
- Midterm 2: October 12
- Program 2: October 19

3. Variables

- Lecture Topics: Variables, Binding, Scope, Data Types, Memory Management
- Homework 3: Due November 2
- Midterm 3: November 9
- Program 3: Due November 16

4. "Control Structures"

- Lecture Topics: Expressions, Statements, Selection, Iteration, Subprograms, Abstract Data Types, Object-Oriented Programming
- Homework 4: Due December 2
- Program 4: Due December 2
- Final Exam: Finals Week

UNL Course Policies and Resources: Students are responsible for knowing the university policies and resources found on this page: <https://go.unl.edu/coursepolicies>.

- University-wide Attendance Policy
- Academic Honesty Policy
- Services for Students with Disabilities
- Mental Health and Well-Being Resources
- Final Exam Schedule
- Fifteenth Week Policy
- Emergency Procedures
- Diversity & Inclusiveness
- Title IX Policy
- Other Relevant University-Wide Policies

SoC Academic Integrity: The Computer Science & Engineering department has an [Academic Integrity Policy](#). Please note that by staying on the course you are abiding by the rules and regulations as described on the page. This is non-negotiable.

Miscellaneous

- The SoC has an [anonymous suggestion box](#) that you may use to voice your concerns about any problems in the course or school if you do not wish to be identified.
- The SoC has a [Student Resource Center](#) in Avery 12. This is where you can get additional help from the TA during his/her office hours and additional help with coursework and assignments. This is also the place where you can get technical support with SoC Computer Systems.
- All students enrolled in CSCE/SOFT courses will be enrolled in the [Virtual SRC](#). You can access the virtual SRC via canvas. All SRC tutors will have experience up through CSCE 310 and/or SOFT 262. The SRC tutors will serve as hosts to move students into break-out rooms while the specific course TAs are holding office hours and be available to answer general questions. For our TA hours, please check our office hours page on canvas.