Course Syllabus

1. *Course number and name*
   COSC 5340: Programming Languages

2. *Credits and contact hours*
   3 Credit Hours

3. *Instructor's or course coordinator's name*
   Instructor: Leonard Brown

4. *Textbook, title, author, and year*
   - *Concepts of Programming Languages*, Sebesta, 12th Edition, 2019, ISBN 9780134997186

   a. *Other supplemental materials*
      None

5. *Specific course information*
   a. *A brief description of the content of the course (catalog description)*
      Theoretical aspects of programming languages, design and implementation criteria, analysis and classification of programming languages used in computing software. Topics include: language design principles; translation and the formalization of syntax; generalization of primitive and abstract data types; sequence, data, and subprogram control; storage management; and language paradigms.

   b. *Prerequisites or co-requisites*
      COSC 2315 (Computer Organization), COSC 2336 (Data Structures & Algorithms)

   c. *Indicate whether a required, elective, or selected elective course in the program*
      Required course for MSCS program

6. *Specific goals of the course*
    a. *Specific outcomes of instruction, The student will be able to*:

1. Describe the salient characteristics of several language paradigms (procedural, object-based, object-oriented, imperative, declarative/logic, functional).
2. Understand the concept of data binding and its effect upon the semantic level of the language.
3. Understand the standard mechanisms of realizing language semantics at execution time.
4. Use formal techniques (e.g. BNF) in the specification of language syntax.
5. Recognize the relationship between the semantic level of the language and its expressivity, efficiency, control mechanisms, and data types.
6. Apply the conceptual material covered in this course (i.e. binding times, run-time support etc.) to the analysis of specific languages.
7. Identify the core semantics of data types and control constructs and to recognize the similarity and differences between data and control representations of various programming languages.
8. Code programs that illustrate the core semantics of each set of languages that represent the paradigms covered in the course.
9. Discuss the technological, software-engineering, and educational issues that affected the evolution of programming languages.

    b. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course*
    Course address Student Outcome(s): a, b:5, c:9, h:10, i, j

7. *Brief list of topics to be covered*

- Programming Language Design Issues
- Impact of Machine Architecture
- Translation and Formalization of Language Syntax
- Elementary and Structured Data Types
- Abstract Data Types and Encapsulation
- Inheritance and Polymorphism
- Expression and Statement Sequence Control
- Subprogram Sequence and Data Control Concepts
- Variations on Subprogram Control
- Storage Management Concepts

COSC 5340.001 Programming Languages Fall 2025

General Information

Instructor	Leonard Brown
Office Location	Soules 315.01
Office Hours	MTWThF 10:00 a.m. – Noon (or by appointment)
Phone	(903) 566-7403
Email	lbrown@uttyler.edu
Class Time/Location	MWF 12:20 p.m. – 1:15 p.m. / COB 207

Exams: There will be three midterm exams and one final exam given for this class. All exams will be held in the class lecture room. The midterm exams will be during the regular class time. The ***tentative*** dates of the exams are:

Exam I	September 29, 2025
Exam II	October 29, 2025
Exam III	November 21, 2025
Final Exam	**(See University Schedule)**

You will be notified in advance of any change in the above dates.

Grading: There are several components to the course grade totaling 1000 points. The point distribution is as follows:

Exam I	100 points
Exam II	100 points
Exam III	100 points
Homework Assignments/Quizzes	400 points
Final Examination	300 points

Course grades will be assigned based on the following scale.

900-1000	A
800-899	B
700-799	C
600-699	D
599 and below	F

Late Policies: All homework assignments are due at 11:59 p.m. on the date specified in the assignment. Assignments submitted after the due date (even if it is by one minute) are considered late. There is a 10% penalty for late assignments. Assignments will not be accepted after 48 hours.

Plagiarism: Unless otherwise specified, all work submitted for a grade must be completed by yourself. You are not to submit another person's work and claim it as your own. Plagiarism will result in disciplinary actions. To spare yourself accusations of plagiarism-

1. Do not show another student a copy of your work before it has been graded. The penalties for permitting your work to be copied are the same as the penalties for copying someone else's work.
2. Do not leave printouts of your work where other students may pick them up.

Additional Policies:
https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information.pdf

Academic Calendar:
https://www.uttyler.edu/academics/academic-calendar-25-26/

Final Exam Schedule:
https://www.uttyler.edu/academics/academic-calendar-25-26/final-exam-schedule.php