

LeMoyne-Owen College
Division of Natural and Mathematical Sciences
Programming Languages, COS350
Spring 2023

Instructor:	Valerie Chu, Ph.D.
Office Room:	GOH400D or Teams
Office Phone:	Teams Chat or (901) 568-4424(cell)
Office Hours:	MW 10:00 a.m. to 1:00 p.m., Tues/Thurs 9:30 a.m. to 11:00 a.m. Friday 10:00 a.m. to 11:00 a.m.
Email Address:	valerie_chu@loc.edu
URL:	https://www.loc-cs.org/~chu/

Credit Hours: 3
Prerequisites: COSI 225 or Instructor's permission
Class Meeting: Tues/Thurs 11:00 a.m. to 12:15 p.m.; GOH114

Syllabus

Texts: Robert W. Sebesta., *Concepts of Programming Languages*, Twelfth Edition. Pearson Higher Education, Inc., 2021, ISBN-13: 978-0-13-499718-6

Course Description:

Formal definition of programming language including specification of syntax and semantics. The course compares the features, syntax, and applicability of various computer languages. Topics include data types, data structures, control structures, procedures, recursion, list processing, and programming styles.

College Graduate Competencies:

The three college graduate competencies (CGC) that are directly addressed in Intro to Micro Computers are:

1. Think creatively, critically, logically, and analytically using both quantitative and qualitative methods for problem solving;
2. Communicate effectively (listen, speak, read, and write) on formal and informal levels;
8. Maintain levels of literacy that allow them to understand the impact of science and technology on individuals, society, and the environment.

Major Area Competency Levels:

The college graduate competencies are developed specifically for this course through major area competency levels (MAC). By the end of this course, students should have attained proficiency in the following major area competencies:

1. To demonstrate an ability to think creatively, critically, logically, and analytically using both quantitative and qualitative methods for solving problems (CGC#1).
2. To demonstrate an ability to address problems, and communicate solutions clearly. (CGC#2).
3. To control a computer through the process of programming which will include defining the problem, planning the solution, coding the program, and testing the program (CGC#8).

Course Objectives:

The identified major area competencies focus on how students enhance their logical understanding and critical comprehension of Programming Languages. Therefore, students are expected to show proficiency in the following:

1. To develop a view of programming languages as not only means to solve problems but subjects of analysis and design.
2. To investigate the *functional*, *logic*, and *object* paradigms and languages as alternatives to the *imperative* ones.
3. To investigate *lexical* and *syntax analysis* and be able to *write a recursive descent parser* for a set of simple grammar. This will prepare students for the study of *compiler design*.
4. To understand the difference between the *syntax* and *semantics* of contemporary programming languages.
5. To investigate three levels of *control structures* which are *within expressions*, *among statements*, and *among program units* in various language designs and implementations.
6. To distinguish the *scope* and *lifetime* of a variable.
7. To understand *parameter passing methods* and be able to apply different principles to a new programming language in future.
8. To view three fundamental features of an *object oriented programming* in detail.

Attendance Policy: In accordance with college policy, classroom attendance is required. The following standard will be applied:

1. If unexcused absences total 15% of the regularly scheduled class meetings, the instructor has the authority to lower the final grade by one letter.
2. If unexcused absences total 20% of the regularly scheduled class meetings, the instructor has the authority to give a failing grade.
3. Five classes of tardiness—arrival to class five minutes after class has begun—will equal one unexcused absence.

Technology Use: LeMoyne-Owen College is committed to enhancing student learning through the use of a variety of applicable technologies. In this course, students will use and be exposed to Microsoft Office 2010 which includes Word, Excel, PowerPoint, and Access.

Demeanor: Suitable demeanor, posture and attire are required. For guidelines and the dress code, please refer to the 2011/2012 Student Handbook (8-9; 13).

Classroom Policies and Procedures:

The classroom learning experience provides opportunities for faculty and students to engage in interactive exchanges of course content. To facilitate this exchange, the following guidelines are provided:

1. Because each class session covers vital material and information, it is important that students arrive on time to each class session.
2. In order to enhance students' performance and confidence in acquiring the material, it is critical that students come to each class session prepared. This includes bringing to class required texts, supplemental materials, and assigned work, which is provided on the course outline.
3. In order to limit unnecessary distractions which would deter learning, cell phones, multi-media devices, and laptops are required to be turned off or on vibrate when class is in session, except by permission of the faculty.

Faculty reserve the right to apply penalties for noncompliance to either or all of the above guidelines.

Assignments and Submission Requirements:

- Several quizzes, two mid-term tests and a Final Written Comprehensive Test will be given. There are **no make-up tests** except for a valid document from a doctor; however, a note from home is not acceptable.
- Homework will be assigned frequently. It has to be sent through the e-mail by the due date and promptly graded and returned. **Sending somebody else work** to the instructor will not be permitted. Duplicated homework as well as the original will be assigned a grade of "F". **Late assignments will receive penalties.**

Student Performance Evaluation and Grading Scale:

The course grade will be calculated on the following distribution:		Grades will be recorded in numerical form until the final averages are determined at the end of the semester.	
Homework	20%	<i>Grading Scale</i> will be	
Quizzes	20%	90 to 100	A,
Mid-term Tests	40%	80 to 89	B,
Final Written Exam	20%	70 to 79	C,
The final exam test score can replace the lowest mid-term test score. However, final exam score will not be replaced.		60 to 69	D,
		others	F.

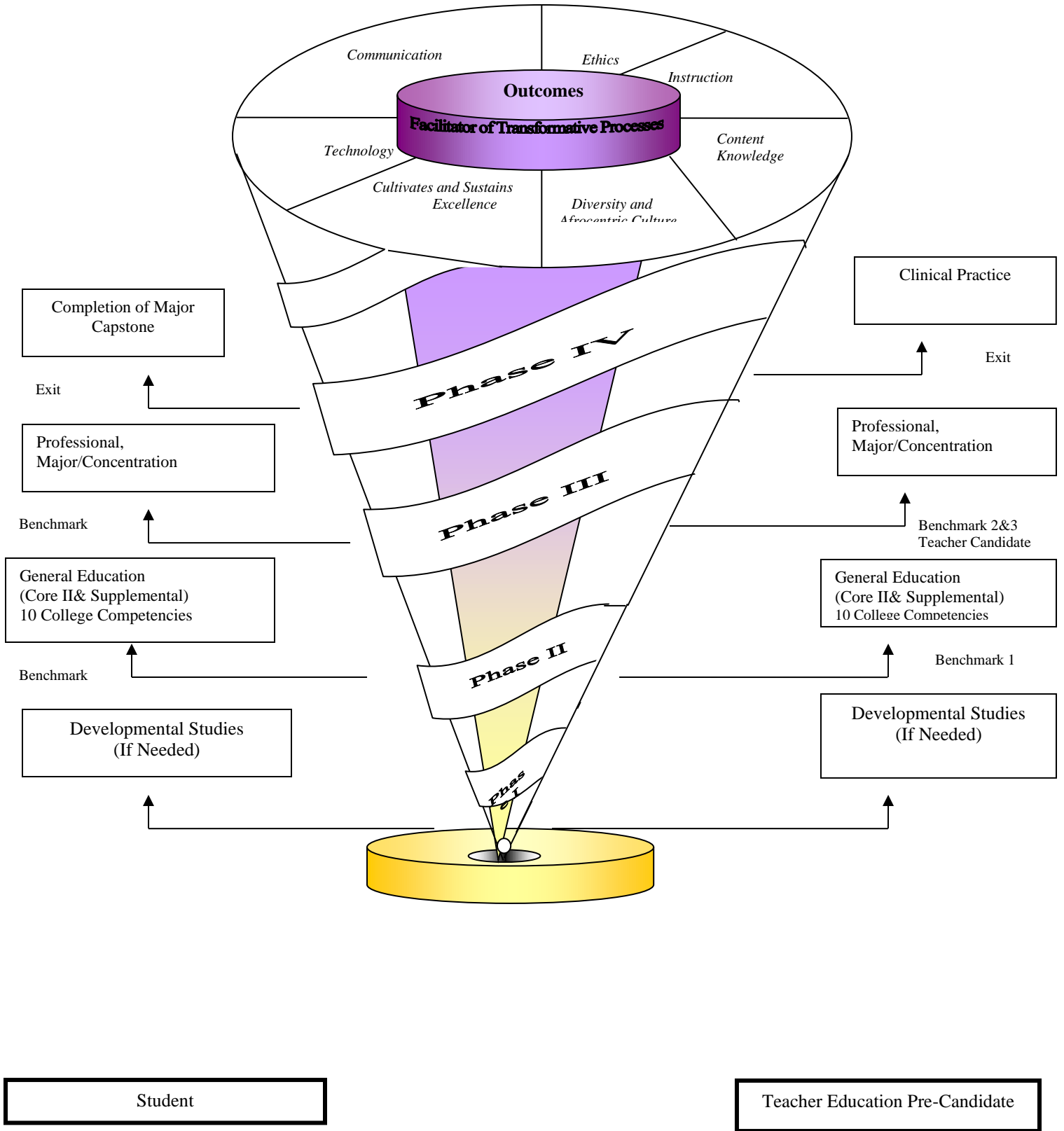
Policies Related to Students with Disabilities:

If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please make an appointment with Jean Saul berry, Director of Student Development, as soon as possible at (901) 435-1727. The Student Development Office is located in the Counseling Center.

LeMoyne-Owen College Graduate Competencies (CGC)

LeMoyne-Owen College graduates should be able to:

1. Think creatively, critically, logically, and analytically using both quantitative and qualitative methods for problem solving;
2. Communicate effectively (listen, speak, read, and write) on formal and informal levels;
3. Distinguish, clarify, and refine personal values for the attainment of richer self-perception and relate those values to the value system of others;
4. Appreciate, understand, and know the foundations of the Afrocentric perspective;
5. Appreciate, understand, and know the foundations of diverse cultures in the context of a global community;
6. Appreciate, understand, know and pursue the principles, methods and subject matter that underlie the major discipline(s);
7. Accept social responsibility and provide service to humankind;
8. Maintain levels of literacy that allow them to understand the impact of science and technology on individuals, society, and the environment;
9. Attain motivational, personal management, interpersonal skills, professional development and research experience, as well as resourcefulness that will form the basis for a career and/or further educational experiences;
10. Attain critical skills, frame of reference, and understanding needed to appreciate and discriminate between artistic achievements.



The Conceptual Framework Model

Theme: Teacher as a Facilitator of Transformative Processes

Programming Languages Course Outline

<u>Weeks</u>	<u>Chapters</u>	<u>Topics</u>
1	1	Preliminaries
2	2	Evolution of the Major Programming Languages
3	3	Describing Syntax and Semantics
4	4	Lexical and Syntax Analysis
5	5	Names, Binding, Type Checking, and Scopes
6	6	Data Types
7	7	Expressions and the Assignment Statements
8		Review and Test I
9	8	Statement-Level Control Structures
10	9	Subprograms
11	10	Implementing Subprograms
12	11	Abstract Data Types and Encapsulation Constructs
13	12	Support for Object-Oriented Programming
14		Review and Test II
		Review for Final Comprehensive Exam
15		Final Comprehensive Exam

Instructor reserves the right to add or subtract assignments or assessments.