

**LeMoyne-Owen College**  
**Division of Natural and Mathematical Sciences**  
**Advanced Programming Lab, COSI 225L**  
**Spring, 2023**

<b>Instructor:</b>	Valerie Chu, Ph.D.
<b>Office Room:</b>	Teams or GOH400D
<b>Office Phone:</b>	Teams Chat or (901) 568-4424(cell)
<b>Office Hours:</b>	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.
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**Credit Hours:** 3  
**Prerequisites:** COSI223  
**Class Meeting:** MW 8:00 to 8:50 a.m.

## Syllabus

**Texts:**

Practical Programming, Third Edition  
An Introduction to Computer Science Using Python 3.6  
by Jennifer Campbell, Jason Montojo, Paul Gries  
ISBN: 978-1-680-50268-8  
Publisher: Pragmatic Bookshelf

**Course Description:**

This is a continuation of COSI 223 / ITEC 223 Introduction to Programming with emphasis on advanced programming design and object-oriented algorithmic problem solving in Python. Topics include inheritance, polymorphism, exception handling, file and stream, recursion, and graphic user interface.

**College Graduate Competencies:**

The three college graduate competencies (CGC) that are directly addressed in Probability and Statistics Theory 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. Demonstrate an ability to think creatively, critically, logically, and analytically using both quantitative and qualitative methods for solving problems (CGC#1)
2. Demonstrate an understanding of the knowledge of solving problems using a technological means (CGC#2).
3. Define a problem and break it down into smaller subsets (CGC#8).

### **Course Objectives:**

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

1. Demonstrate understanding the concepts of Object-Oriented Programming.
2. Demonstrate the ability to solve real life problems.
3. Show the ability of describing the strategies of solving problems by Python programming.

### **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

### **Special Notice on Attendance Policy**

The U.S Department of Education policies regarding financial aid have become strict on student attendance. It is therefore essential that LeMoyne-Owen College enforce attendance standards in order not to jeopardize the aid for all students. The following policies and procedures will therefore be enforced beginning in January 2013. Students who do not meet the attendance standards, in line with federal requirements, will not receive refund checks and part of their financial aid award may be returned to the Department of Education. The WF grade will count as an F on the transcript for grade point average (GPA) and hours attempted purposes.

1. Students who never attend class (No Shows) during the first fourteen days of class will be purged from the class roster. There will be no academic penalty or impact on the GPA or hours attempted, but if it reduces the hours of enrollment to part-time status, it may have financial aid implications.

2. Students who fail to meet the academic attendance standards and virtually have left a class at the mid-semester mark will receive a grade of WF.

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

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3. Five tardies—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 technology. In this course, students will use or be exposed to [software and/or hardware].

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

### **Assessment and Submission Requirements:**

Several quizzes, two mid-term tests and a final comprehensive examination 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.

Programming or written assignments will be assigned frequently. It has to be sent through the **Teams** by the deadline. If a student has turned in assignments and there is no response from the instructor, the student has to contact the instructor directly; otherwise, the student would get a zero credit for the assignment. **Duplication of programming or written assignments will not be permitted. Duplicated programming assignments as well as the original will be assigned a grade of "F".**

### **Student Performance Evaluation and Grading Scale:**

<p>The course grade will be calculated on the following distribution:</p> <table data-bbox="279 840 850 1050"> <tr> <td>Assignments</td> <td>20%</td> </tr> <tr> <td>Quizzes</td> <td>20%</td> </tr> <tr> <td>Midterm Tests</td> <td>40%</td> </tr> <tr> <td>Final Comprehensive Exam</td> <td>20%</td> </tr> </table> <p>The final exam test score can replace the lowest mid-term test score. However, final exam score will not be replaced.</p>	Assignments	20%	Quizzes	20%	Midterm Tests	40%	Final Comprehensive Exam	20%	<p>Grades will be recorded in numerical form until the final averages are determined at the end of the semester.</p> <p><i>Grading Scale</i> will be</p> <table data-bbox="850 903 1372 1134"> <tr> <td>90 to 100</td> <td>A,</td> </tr> <tr> <td>80 to 89</td> <td>B,</td> </tr> <tr> <td>70 to 79</td> <td>C,</td> </tr> <tr> <td>60 to 69</td> <td>D,</td> </tr> <tr> <td>others</td> <td>F.</td> </tr> </table>	90 to 100	A,	80 to 89	B,	70 to 79	C,	60 to 69	D,	others	F.
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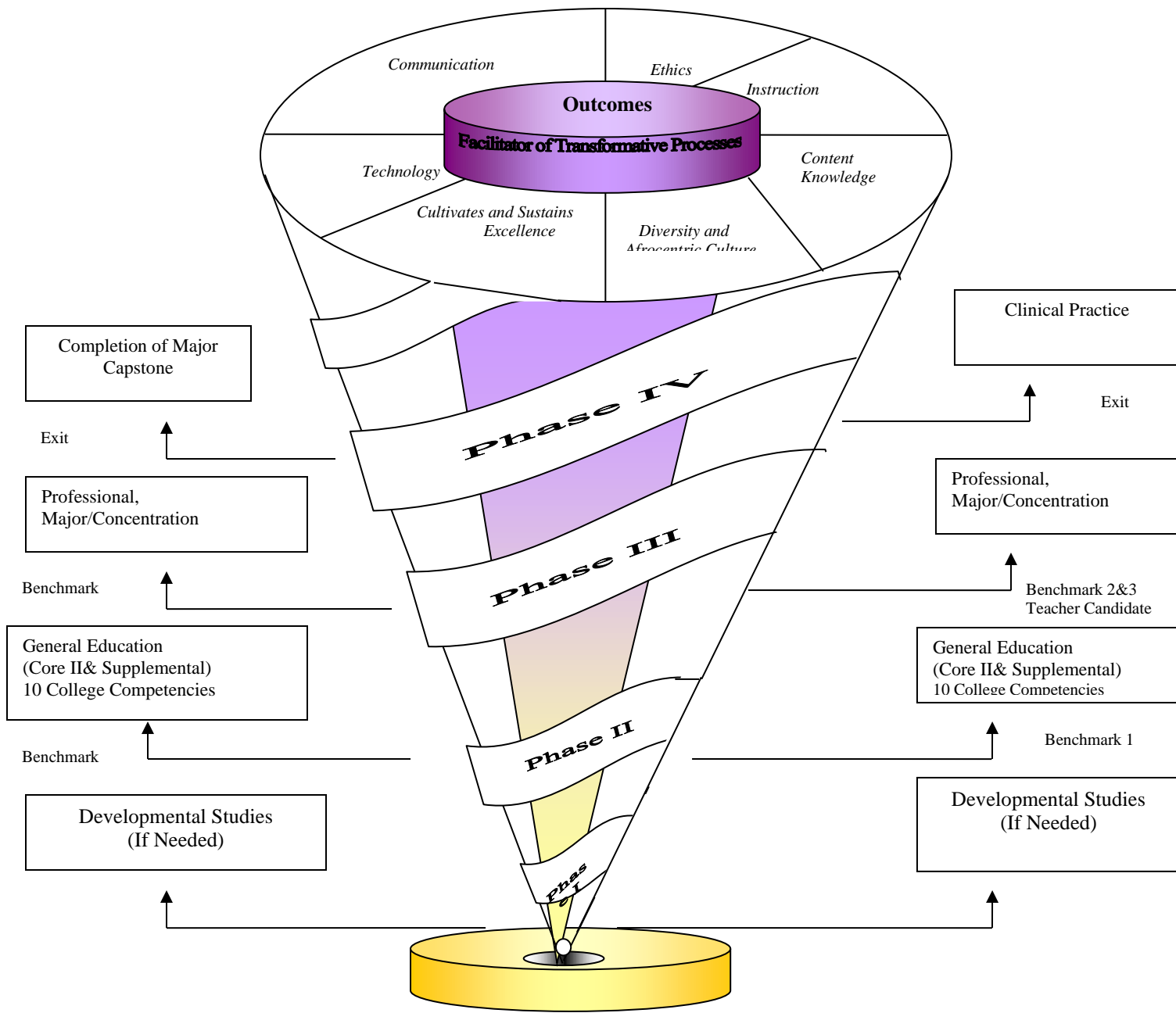
### **Policies Related to Students with Disabilities:**

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 Saulsberry, Director of Student Development, as soon as possible at (901) 435-1727. The Student Development Office is located in the Alma C. Hanson Student Center, Room 208.

## 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, now 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.



Student

Teacher Education Pre-Candidate

**The Conceptual Framework Model**  
**Theme: Teacher as a Facilitator of Transformative Processes**

<b>Advanced Programming Course Outline</b>
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<u>Weeks</u>	<u>Chapters</u>	<u>Topics</u>
1	1-9	Review for input, output, assignment statement, if/else, for/while loop and methods.
2	10	Reading and Writing Files
3-4	11	Storing Data Using List, Set, Tuple, and Dictionary
5	12	Designing Algorithms
	13	Searching and Sorting
6-8	14	Object-Oriented Programming: Inheritance, Polymorphism, <a href="#">Encapsulation</a>
9	<b>Review &amp; Mid-Term Exam</b>	
10	15	Testing and Debugging
11	16	Creating Graphical User Interfaces
12		Exception Handling
13	<b>Review &amp; Exam 2</b>	
14	<b>Review for Final Exam</b>	
15	<b>Final Comprehensive Examination</b>	

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