

SYLLABUS  
PART I  
EDISON STATE COMMUNITY COLLEGE  
CIS 226S PYTHON PROGRAMMING  
3 CREDIT HOURS

**COURSE DESCRIPTION**

Continuation of object-oriented programming techniques using Python. Topics include decision and looping structures, arrays, functions, creating and using classes, inheritance, data structures, file handling, exceptions, and GUI programming. Emphasis will be placed on the use of classes, inheritance, and encapsulation. Prerequisite: CIS 211S or CIS 221S or department approval. Lab fee.

**COURSE GOALS**

The student will:

Bloom's Level		Program Outcomes
2	1. Execute the software development process to create a top-down design approach when writing computer programs.	3, 4, 5, 7
5	2. Create Python functions, procedures, and other features listed in the course topic outline.	3, 7
5	3. Use the features of object-oriented programming to design Python programs using classes and objects.	3, 7
3	4. Use a team approach to solve a computer programming problem.	3, 6, 7
3	5. Apply appropriate documentation techniques within programs.	7
4	6. Analyze program code and implement debugging and exception handling techniques.	3, 7
2	7. Discuss the importance of ethics in the computer industry and the role they play in the field of computer programming.	1

**CORE VALUES**

The Core Values are a set of principles that guide Edison State Community College in creating its educational programs and environment. They will be reflected in every aspect of the College. Students' educational experiences will incorporate the Core Values at all levels, so that a student who completes a degree program at Edison State Community College will not only have been introduced to each value, but will have had them reinforced and refined at every opportunity.

**TOPIC OUTLINE**

1. Introduction to Python
2. Input, Processing, and Output
3. Decision Structures and Boolean Logic
4. Repetition Structures
5. Functions
6. Files and Exceptions
7. Lists and Tuples
8. More About Strings
9. Dictionaries and Sets
10. Classes and Object-Oriented Programming
11. Inheritance
12. Recursion
13. GUI Programming