



**DAVIS UNIVERSITY**

## **COURSE SYLLABUS**

### **DS106: Object-Oriented Programming SUMMER QUARTER 2024**

**QUARTER:** SUMMER QUARTER 2024

**COURSE SYLLABUS FOR:** DS106 INTRODUCTION TO PROGRAMMING WITH PYTHON

**CREDIT HOURS:** 4 CREDIT

**INSTRUCTOR:**

**INSTRUCTOR EMAIL:**

**INSTRUCTOR OFFICE HOURS:**

**COURSE DESCRIPTION:** This course is designed to introduce advanced programming skills by focusing on the core concepts of object-oriented programming and design using Python. Object-oriented programming illustrates the integration of software components into a large-scale software architecture. Software development can represent the next logical step after learning coding fundamentals. The course will focus on the theory and application of object-oriented concepts such as classes, objects, data abstraction, method overloading, inheritance, and polymorphism.

**TEXT:** *Mastering Object-Oriented Python: Build powerful applications with reusable code using OOP design patterns and Python 3.7*, 2nd Edition, Steven F. Lott (June 14, 2019), ISBN-10: 1789531365.

**LATE WORK POLICY:** All students are expected to submit homework assignments on time. No late homework will be accepted and the student will receive a "0" (zero) for the homework assignment. Should the student refuse to complete the assigned work for the class, it could result in the student failing the class. All work assigned is expected to be completed on the date assigned. The instructor reserves the right to alter the schedule as necessary.

**PLAGIARISM AND COPYRIGHT INFRINGEMENT POLICY:** Work that is found to be plagiarized receives a grade of zero and often causes a student to fail a class. Documentation of plagiarism is added to the student's academic file as a violation of accepted student conduct and is subject to disciplinary action. Plagiarism is the use of another person's exact words, or their ideas written in the student's words without giving the original author credit.

Plagiarism can result from any of the following:

- Quote material directly without using quotation marks.
- Paraphrase the original so that many of the phrases are the same as the original. A good rule is no more than 3 or 4 words in a row should be the same as the original.
- Copy the original sentence pattern, substitution synonyms for key words.
- Neglect to indicate the source of the original material.

### **ASSESSMENTS:**

#### Content

Assignments	40%
Projects	50%
Participation	10%
Total	100%

**COURSE GRADE: A = 93%-100%**

**B = 85%-92%**

**C = 77%-84%**

**D = 70%-76%**

**F = below 70%**

## TENTATIVE CLASS SCHEDULE:

(Subject to change)

Week: Date	Content Covered	Assignments & Assessment Due
<b>Week 1:</b>	Intro and overview Principle of software engineering and reusing and extending code Review of Fundamentals of Procedural Program Objects	Assignment 1-Friday
<b>Week 2:</b>	Data Abstraction Information Hiding & Encapsulation Constructors, destructors, and object creation Name space and references	Assignment 2-Friday
<b>Week 3:</b>	Class Methods Methods Overloading Inheritance	Assignment 3-Friday Project 1
<b>Week 4:</b>	Polymorphism Abstract Methods Exception Handling	Assignment 4-Friday
<b>Week 5:</b>	Templates Practical Example: Data Science Classes	Assignment 5-Friday Project 2