Course Syllabus Part I
CSD 325 Advanced Python

3 credit hours

Course Description
This course introduces students to a variety of advanced Python topics. Students will model, design, and implement solutions for both ASCII based, form based, and web based assignments. Topics include incorporating python built in dictionary and date-time modules, integrating third party library modules, utilizing APIs, designing and completing code testing, building GUI interfaces, and exploring Django web services.

Course Prerequisites
CSD205 or CIS245

Course Skills
- Design and code solutions to satisfy requirements
- Debug and eliminate errors in computer software syntax and logic
- Revise existing code to satisfy new requirements

Course Objectives
1. Demonstrate the fundamental concepts in computer programming.
2. Integrate library modules inherent to Python.
3. Integrate third party library modules.
4. Design and develop ASCII based programs.
5. Design and develop form-based programs.
6. Develop and deploy testing plans for code.
7. Design and develop web-based programs.

Grading Scale

Letter Grade	Percentage Grade	Letter Grade	Percentage Grade
A	≥ 92.5%	C	< 76.5% and ≥ 72.5%
A-	< 92.5% and ≥ 89.5%	C-	< 72.5% and ≥ 69.5%
B+	< 89.5% and ≥ 86.5%	D+	< 69.5% and ≥ 66.5%
B	< 86.5% and ≥ 82.5%	D	< 66.5% and ≥ 62.5%
B-	< 82.5% and ≥ 79.5%	D-	< 62.5% and ≥ 59.5%
C+	< 79.5% and ≥ 76.5%	F	< 59.5%

Topic Outline

I. Basic Python Principles Review
   A. Variable Use
   B. Program Design
   C. Input, Processing, and Output Usage
   D. Algorithms
II. Brownfield vs. Greenfield Developments
III. Debugging in an IDE
IV. CSV and Matplotlib
V. JSON Topics
VI. Incorporating APIs
VII. Developing and Deploying Test Plans
VIII. ASCII Based Coding
   A. Animation Speeds
   B. Relative Directional Movement
IX. Tkinter
   A. Form Based Coding
   B. Buttons, Labels, Text Attributes
   C. Menu Bar, Layout Manager
   D. Reusable Components
X. Introduction to Django