

## **FSD-701: Building Mobile and Web Applications**

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### **Description:**

**3 credits/126 hours**

**Prerequisite: None**

Introduction to Python will help students develop a strong understanding of the Python platform. In this course, students will be taught to work with all the tools in Python to design and implement software. Students are introduced to graphics and frameworks for image processing and GUI application development. This course will cover five major aspects of computing: programming basics, object-oriented programming (OOP), data and information processing, software development life cycle, and contemporary applications of computing.

**Textbook:** Building Cross-Platform Mobile and Web Apps for Engineers and Scientists: An Active Learning Approach, 1<sup>st</sup> ed., Lingras, Triff, & Lingras– ISBN: 978-1-305-10596-6

### **Course objectives:**

Throughout the course, you will meet the following goals:

- Learn how to create simple and complex apps that work across platforms
- Use various web development tools to design websites for various platforms including mobile
- Design apps to do significant computing tasks
- Understand app setup and security including user profiles and passwords
- How to connect to and work with data servers
- Create native apps for iOS and Android

Contents:

Chapter 1: Introduction

Chapter 2: Developing, Installing, and Testing First App

Chapter 3: Making Apps More Interactive Through Data Input

Chapter 4: Making Apps Do Significant Computing

Chapter 5: A Menu-Driven App to Monitor Important Indicators

Chapter 6: Storing Data Locally on Device for Long-Term Use

Chapter 7: Graphics on HTML5 Canvas

Chapter 8: Using Servers for Sharing and Storing Information

Chapter 9: Using MongoDB Server for Sharing and Storing Information

Chapter 10: Using a Relational Database Server for Sharing and Storing Information

Chapter 11: JavaScript Templating

Chapter 12: Maps, Location, and Multimedia Databases

Chapter 13: Cross-Platform and Native App Development and Testing

**Grading Scale**

**A = 95-100%**  
**B = 88-94.9%**  
**C = 80-87.9%**  
**D = 70-79.9%**  
**F = Below 70%**

**Grade Weighting**

<b>Chapter Quizzes.....</b>	<b>50%</b>
<b>Activities .....</b>	<b>20%</b>
<b><u>Final Exam .....</u></b>	<b><u>30%</u></b>
	<b>100%</b>