DO NOT TYPE IN THIS BOX

Bulletin #: 2

Academic Year: 2019-20

FLORIDA INTERNATIONAL UNIVERSITY
UNIVERSITY CURRICULUM COMMITTEE
Proposal for a Course Change

PART I. FILL OUT THIS SECTION COMPLETELY

1. **School/College** Engineering and Computing

   Div./Dept. in Which Taught School of Computing and Information Sciences

2. | COP | 4 | 655 | | 3 |
   |---|---|---|---|---|
   | Alpha Prefix | 1st Digit | Last 3 Digits | "C"-lec-lab "L"-Lab | Cr. Hrs. |

3. **Present Course Title** Mobile Application Development

PART II. FILL OUT CHANGE INFORMATION ONLY

Change Effective 05 / ~~24~~ 1 / 2020

4a. **New Course Title** _____

b. **New Abbreviated course Title** *(for computer class schedules, transcripts)* _____

LIMITED TO 25 Characters *(including spaces)*

5a.

New Alpha Prefix	New 1st Digit	New Last 3 Digits	Change "C"-lec-lab "L"-Lab

5b. Change Credit Hours: From _____ **To** _____

6. **New Catalog Description/Major Topics** *(not to exceed 200 characters including spaces)*
   College of Medicine and College of Law: Attach description not exceeding 1,000 characters including spaces.

7. **New Prerequisite(s):** (CEN-3721 and COP-4814) or (CAP-4104 and CEN-4010)

8. **New Corequisite(s):** None

9. **Explain Reclassification Request:**

   This course was initially designed for IT majors. As several CS majors are interested in taking this course as an elective, this prerequisite change is proposed.

10. **Does this proposed change impact the assessment process of a program or certificate? If yes, then send notification to assessment@fiu.edu.**

PROPOSAL REQUESTED BY:

Faculty Contact Nagarajan Prabakar (Type name) — Prabakar (Signature) — 10 / 24 / 2019

prabakar@cis.fiu.edu (Email address) — 305-348-2033 (Phone number)

Chairperson (Dept./Div.) S.S. Iyengar (Type name) — (Signature) — 10 / 24 / 2019

Chairperson (Curr. Comm.) Wei-Chiang Lin (Type name) — (Signature) — 10 / 31 / 2019

College/School Dean John Volakis (Type name) — (Signature) — 11 / 5 / 2019

Submit one original form. Attach one copy of the course justification and course syllabus: course description, objectives, learning outcomes, major topics and textbooks.

COP-4655 Mobile Application Development

Course Change Justification

This course was initially designed for IT majors with prerequisite as "CEN-3721 and COP-4814". However, several CS majors are interested in taking this course as an elective since this course provides expertise in mobile computing that is of high demand for job placement.

To facilitate CS majors enrolling in this course, SCIS proposes to change the prerequisite by adding appropriate CS courses to the prerequisite list as "(CEN-3721 and COP-4814) or (CAP-4104 and CEN-4010)".

School of Computing and Information Sciences

Course Title: Mobile Application Development **Date:** 10/4/19

Course Number: COP-4655

Number of Credits: 3

Subject Area: Mobile Computing	**Subject Area Coordinator:** Kip Irvine **email:** irvinek@cs.fiu.edu
Catalog Description: Design and development of mobile applications. Introduction to the mobile application frameworks, including user interface, sensors, event handling, data management and network interface. This course requires an additional fee.	
Textbook: iOS Programming: The Big Nerd Ranch Guide (6th Edition) by Christian Keur, Aaron Hillegass ISBN-10: 0134682335	
References: Apple iOS Reference Library Apple Developer Website http://developer.apple.com	
Prerequisites Courses: (CEN-3721 and COP-4814) or (CAP-4104 and CEN-4010)	
Corequisites Courses: None	

Type: Elective

Prerequisites Topics:

- Master the design and implementation of classes using inheritance and polymorphism
- Master the use and implementation of interfaces
- Master analyzing problems and writing programs in an object oriented language providing solutions to those problems using the above features

Course Outcomes:

1. Master the mobile applications framework
2. Master the development of mobile user interfaces.
3. Master controller management.
4. Be familiar with data management techniques
5. Be familiar with network communications and sensors

School of Computing and Information Sciences
COP-4655
Mobile Application Development

Relationship between Course Outcomes and Program Outcomes

BS in IT: Program Outcomes	Course Outcomes
a) Demonstrate practical hands-on expertise in selection, installation, customizing and maintenance of the state-of-the-art computing infrastructure.	
b) Demonstrate practical proficiency in selection, installation, customizing and maintenance of the state-of-the-art software systems.	1,2
c) Demonstrate general understanding of at least one field where Information Technology plays a central role.	1, 2, 3, 4, 5
d) Demonstrate understanding of the social and ethical concerns of the practice of Information Technology.	
e) Demonstrate the ability to work cooperatively in teams.	
f) Demonstrate effective communication skills.	
g) Demonstrate familiarity with fundamental ideas and issues in the arts, humanities and social sciences.	

Assessment Plan for the Course & how Data in the Course are used to assess Program Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan:
http://www.cis.fiu.edu/programs/undergrad/it/assessment/

School of Computing and Information Sciences
COP-4655
Mobile Application Development
Outline

Topic	Number of Lecture Hours	Outcome
1. Mobile application framework a. Object oriented language concepts b. Model View Controller c. Core OS functions and APIs d. Specialized Devices and Sensor e. Application packaging and execution	3	1
2. Mobile Software Development a. Interactive Development Environment Overview b. Desktop Simulator introduction c. Debugging process d. Application Deployment to device	3	1
3. Views and Drawing a. View controller b. Drawing objects c. Controlling object behavior	6	1,2,3
4. Event Management a. Event controller b. Touch and Multi-touch handling c. Optimization	6	1,2,3
5. Navigation, Scroll and Tabs a. U/I interface management techniques b. API extensions	3	1,2,3
6. Data management a. Database storage techniques b. Simple file management	3	4
7. Images, Audio and Video a. Audio management b. Image and Camera control c. Video record and playback	3	3,4,5
8. Web and Social Networking a. Networking API b. Web browsing API c. Social Networking API	3	3,5
9. Controlling Sensors a. Managing the Accelerometer b. Managing the Gyroscopes	3	5
10. Gaming Aspects a. 2D/3D Animation b. User interface controls c. Sensor integration	3	2

School of Computing and Information Sciences
COP-4655
Mobile Application Development

Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	User Interface Development and Design Outcomes: 1, 2	2
2	Complex Event Handling w/ Touch Outcomes: 1, 2	2
3	Audio/Visual Storage Management Outcomes: 2, 3, 4	2
4	Social networking using Web APIs Outcomes: 3, 5	2
5	Social Game Development Outcomes: 3, 4, 5	2

Oral and Written Communication: No significant coverage

Number of written reports:

Approximate number of pages for each report:

Number of required oral presentations:

Approximate time for each presentation:

Social and Ethical Implications of Computing Topics
No significant coverage

School of Computing and Information Sciences
COP-4655
Mobile Application Development

Estimate Curriculum Category Content (credit hours)

Fundamental IT Area	Core	Advanced
Human computer interaction	0.5	
Information management	0.5	
Web systems and technologies	0.5	
System administration and maintenance		
Programming	0.5	
Networking	0.5	
Information assurance and security	0.5	
System integration and architecture		

Theoretical Contents

No Significant Coverage

Problem Analysis Experiences

No Significant Coverage

Solution Design Experiences

1. Implementation of mobile applications
2. Real-time Device Control
3. User Interface Design