

CS/IS133 : Mobile Application Development - iOS

General Information

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Course Code (CB01) :	CS/IS133
Course Title (CB02) :	Mobile Application Development - iOS
Department:	CSIS
Proposal Start:	Fall 2022
TOP Code (CB03) :	(0707.00) Computer Software Development
CIP Code:	(11.0201) Computer Programming/Programmer, General.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000574116
Curriculum Committee Approval Date:	Pending
Board of Trustees Approval Date:	Pending
Last Cyclical Review Date:	09/01/2020
Course Description and Course Note:	CS/IS 133 introduces the art and practice of mobile application development for the Apple iOS operating system. Students will use the Xcode IDE and Swift to create mobile applications.
Justification:	New Course NT FR
Academic Career:	<ul style="list-style-type: none">Credit
Mode of Delivery:	No value
Author:	No value
Course Family:	No value

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none">Computer Science
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

Units and Hours

Summary

Minimum Credit Units (CB07)	3
Maximum Credit Units (CB06)	3
Total Course In-Class (Contact) Hours	54
Total Course Out-of-Class Hours	108
Total Student Learning Hours	162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	3	6
Laboratory Hours	0	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	54

Laboratory	0
Studio	0
Total	54

Course Out-of-Class Hours

Lecture	108
Laboratory	0
Studio	0
Total	108

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

CS/IS112 - Introduction To Programming Using Java

Objectives

- Examine problems, apply logic, and provide solutions/algorithms for the problems
- Show the solution/algorithm using flowcharts or pseudocode
- Utilize a compiler to write, debug, and test Java programs

Entry Standards

Entry Standards	Description
No value	No value

Course Limitations

Cross Listed or Equivalent Course

Description

No value

No value

Specifications

Methods of Instruction

Methods of Instruction

Lecture

Methods of Instruction

Demonstrations

Out of Class Assignments

individual and/or group project (e.g. develop and deploy mobile applications such as a mashup of maps and XML).

Methods of Evaluation

Rationale

Exam/Quiz/Test

final examination.

Exam/Quiz/Test

midterm examinations and quizzes;

Exam/Quiz/Test

performance-based assessment of student-written programs;

Exam/Quiz/Test

instructor evaluation of student portfolio work;

Textbook Rationale

No Value

Textbooks

Author

Title

Publisher

Date

ISBN

Nahavandipoor, Vanda

iOS 11 Swift Programming
Cookbook: Solutions and
Examples for iOS

O'Reilly Media

2018

9781491992470

Other Instructional Materials (i.e. OER, handouts)

No Value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Develop and test Swift classes and protocols, implementing the model-view-controller (MVC) paradigm;

create user interfaces using Storyboard;

write programs that download and consume data from web servers;

make iPhone applications with networked data and multiple views.

SLOs

Create, design and debug applications using the Apple iOS mobile development environment

Expected Outcome Performance: 70.0

ILOs
Core ILOs

Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.

Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

CS/S
Information Technology
Certificate

Demonstrate installing, configuring and maintaining computer and mobile devices, including diagnosing, resolving and documenting common hardware and software.

CS/S
Information Technology - A.S.
Degree Major

Demonstrate installing, configuring, and maintaining computer and mobile devices, including diagnosing, resolving, and documenting common hardware and software.

CS/S
Computer Science - A.S. Degree
Major

Prepare a software project to implement a single scientific, mathematical, business, or technical function.

CS/S
Computer Science - Certificate

Prepare a software project to implement a single scientific, mathematical, business, or technical function.

CS/S
Computer Software Technician

demonstrate the ability to independently create, save, modify and print a document using a word processing program and appropriate assistive technology

CS/S
Web Development - Certificate

use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.

CS/S
Web Development - A.S. Degree
Major

use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.

Implement mobile applications using User interface (UI) development with Storyboard

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
<i>CSIS</i> Information Technology Certificate	Demonstrate installing, configuring and maintaining computer and mobile devices, including diagnosing, resolving and documenting common hardware and software.
<i>CSIS</i> Information Technology - A.S. Degree Major	Demonstrate installing, configuring, and maintaining computer and mobile devices, including diagnosing, resolving, and documenting common hardware and software.
<i>CSIS</i> Computer Science - A.S. Degree Major	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
<i>CSIS</i> Computer Science - Certificate	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
<i>CSIS</i> Computer Software Technician	demonstrate the ability to independently create, save, modify and print a document using a word processing program and appropriate assistive technology
<i>CSIS</i> Web Development - Certificate	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.
<i>CSIS</i> Web Development - A.S. Degree Major	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.

Make iPhone applications with networked data and multiple views

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
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Course Content

Lecture Content

Object oriented programming in Swift (10 hrs)

- Swift fundamentals
- Declarations using var and let
- Strings and characters
- Flow of control
- Functions
- Closures
- Object Oriented Programming in Swift
- Classes and Protocols
- Properties
- Methods
- Init methods
- Inheritance and Polymorphism
- Self and super
- Standard Swift collection classes
- Arrays
- Dictionaries
- Iterating

Development using XCode (10 hrs)

- Creating projects
- Command line applications
- iOS Applications
- Application Templates
- Integrated Development Environment (IDE)

Fundamentals

- Project navigation
- Text Editor
- Utilities
- Building a project
- Compiling
- Running applications on the simulator
- Running applications on a physical device
- Viewing compiler errors and runtime errors
- Debugging
- NSLog
- Console interaction
- Debugger

Fundamental UIKit Building Blocks (10 hrs)

- MVC paradigm
- Views and View Controllers
- Extending Views and View Controllers to customize behavior
- Controls and Target actions
- Delegate Pattern
- Pickers, TextFields and Tables
- Navigation View Controllers and Segues
- Tab Controllers

User interface (UI) development with Storyboard (8 hrs)

- Outlets and Actions
- Visual representation of UI objects and properties
- Visual representation of segues

Persistence (8 hrs)

- NSDefaults
- File system
- SQLite
- Core Data

Networking (8 hrs)

- Posting data to a server using NSURLConnection
- Downloading data from a server using NSURLConnection
- Downloading data from a server using Cocoa-pods and AFNetworking

Total hours - 54

