



**COWLEY COLLEGE  
& Area Vocational Technical School**

**COURSE PROCEDURE FOR**

<p><b>IOS APP DEVELOPMENT 2 CIS1768 3 Credit Hours</b></p>
--

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**CIS1768 – IOS APP DEVELOPMENT 2 (3 hrs)**

This course will prepare students to code apps with extended features for the iOS operating system. The topics will include stack views, UINavigationController, camera, application states, size classes, touch events, UIResponder, UIGestureRecognizer, UIMenuController, web services, collection views, core data and accessibility.

**Prerequisites:**

CIS1767 – IOS APP DEVELOPMENT 1.

**Co-requisites:**

None

**Controlling Purpose:**

This course is designed to prepare students to code apps with extended features on the iOS operating system. These concepts provide a foundation for further courses in iOS app development as well as creating midsize apps for use in industry.

**Learner Outcomes:**

Upon completion of the course, the student will be able to code apps including the following topics: stack views, UINavigationController, camera, application states, size classes, touch events, UIResponder, UIGestureRecognizer, UIMenuController, web services, collection views, core data and accessibility.

**Units Outcomes and Clock Hours of Instruction for Core Curriculum:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

Evaluation Key:

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.
- D = A few of the major goals have been achieved, but the student's achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

### UNIT 1: Stack Views

Outcomes: Demonstrate knowledge of how to use different techniques for passing control between different view controllers

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Use UINavigationController
						Implement segues that allows navigation between view controllers
						Use UINavigationController to bring in data to a view
						Pass data between views

### UNIT 2: UINavigationController

Outcomes: Demonstrate the knowledge necessary to use the UINavigationController to simplify the changing of views in an app

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Describe the role of the UINavigationController
						Navigate with UINavigationController
						Cause views to appear and disappear
						Dismiss the keyboard
						Use the UINavigationController

### UNIT 3: Camera

**Outcomes:** Explain how to use the camera capabilities on an iOS device to incorporate pictures in an app

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Display images and use UIImageView
						Take pictures and use UIImagePickerController
						Create an ImageStore
						Give View Controllers access to the image store
						Create and use keys
						Implement an ImageStore

**UNIT 4: Saving, Loading, and Application States**

**Outcomes:** Describe how an app can save the current state of the application

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Archive an object
						Construct a file URL
						Use the NSKeyedArchiver and NSKeyedUnarchiver
						Implement application states and transitions
						Write to the filesystem with data
						Use error handling

**UNIT 5: Size Classes, Touch Events, and UIResponder**

**Outcomes:** Describe the techniques of controller elements given different screen sizes, how to handle touch events with code and the UIResponder

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Modify traits for a specific size class
						Implement touch events
						Create a line struct
						Turn touches into lines
						Implement the UIResponder

**UNIT 6: UIGestureRecognizer and UINavigationController**

**Outcomes:** Describe how to write apps that are controlled by different gestures and use menus to organize an app

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Describe UIGestureRecognizer subclasses
						Detect taps with UITapGestureRecognizer
						Use multiple gesture recognizers
						Implement the UINavigationController
						Discuss the other states of UIGestureRecognizer

**UNIT 7: Web Services**

**Outcomes:** Use various external sites and services to enhance an iOS app including Flickr, JSON data, and image data

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Create an interface to bring photos in from Flickr
						Parse JSON data
						Download and display the image data
						Implement background threads

**UNIT 8: Collection Views**

**Outcomes:** Explain how to implement a collection view of images

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Display a grid
						Implement a data source for images
						Download image data from a collection view
						Navigate to a photo

**UNIT 9: Core Data**

**Outcomes:** Explain how to use core data to enhance the performance of an app by proper handling of objects

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:

						Describe and use object data
						Use entities
						Implement the Core Data stack
						Update items and the data source
						Define relationships
						Add tags to the interface
						Manage background tasks

<b>UNIT 10: Accessibility</b>						
Outcomes: Explain how to implement the voiceover service in an app						
A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Define accessibility issues
						Implement voiceover in an app

**Projects Required:**

Varies, refer to syllabus.

**Textbook:**

Contact Bookstore for current textbook.

**Materials/Equipment Required:**

None

**Attendance Policy:**

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

**Grading Policy:**

The grading policy will be outlined by the instructor in the course syllabus.

**Maximum class size:**

Based on classroom occupancy

**Course Time Frame:**

The U.S. Department of Education, Higher Learning Commission and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended

learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

**Refer to the following policies:**

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

**Disability Services Program:**

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability which may impact work in this class and which requires accommodations, contact the Disability Services Coordinator.