

MAD9137

iOS Development

Course Outline

2020-2021

Pre-requisite(s)	MAD9021
Co-requisite(s)	N/A
Prepared by	Steve Griffith, Professor
Approved by	Dan Pihlainen, Chair, Media Studies
Normative hours	70.00
Grading system	A+ Through F
Experiential Learning	No

Applicable Program	Level	Core/Elective
1515X01FWO - Mobile App. Des. & Dev	3	Core

COVID-19 Notice

Due to COVID-19 this course may be offered via remote delivery in 2020-21. Your course may have changes that are not reflected in the Course Outline. Please see the Course Section Information document for updated information about your course. If you have questions please contact your professor.

Course Description

Students use the Swift language within the standard Mac OSX development environment to create native applications for the iPhone and iPad. Working together in teams, students build and test applications. User interface requirements and building for a better user experience is stressed.

Vocational Learning Outcomes

This course provides the opportunity for you to achieve the following outcomes.

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VLO 3 Create effective user interfaces that leverage evolving mobile device capabilities. (T, A)

VLO 6 Design and develop device-specific, native applications. (T, A)

VLO 7 Research and apply various software development kits (SDKs), frameworks and toolkits. (T, A)

VLO 8 Integrate database and server-side technologies to provide complete mobile development solutions. (T, A)

Assessment Levels — T: Taught A: Assessed CP: Culminating Performance

Essential Employability Skills

This course contributes to your program by helping you achieve the following Essential Employability Skills:

- | | |
|--------------|--|
| EES 3 | Execute mathematical operations accurately. (T, A) |
| EES 4 | Apply a systematic approach to solve problems. (T, A) |
| EES 7 | Analyze, evaluate and apply relevant information from a variety of sources. (T, A) |

Assessment Levels — T: Taught A: Assessed CP: Culminating Performance

Course Learning Requirements / Embedded Knowledge and Skills

When you have earned credit for this course, you will have demonstrated the ability to:

- 1.) Develop, compile and test code using the Swift programming language in the Xcode development environment.**
 - Explain the features and advantages of using the Swift programming language to build applications
 - Explore Swift programming fundamentals including flow control, operator, variables, functions, classes and data structures.
 - Use the Xcode development environment to create and manage projects, simulate devices and debug applications.
 - Use playgrounds in Xcode to become familiar with Swift and iOS fundamentals.
 - Perform application deployments to simulated and physical devices.
- 2.) Design iOS user interfaces leveraging best practices and recommended guidelines.**
 - Utilize the Apple human interface guidelines to produce consistent user experiences.
 - Implement responsive interface layouts and elements that adapt to various screen resolutions, orientation and sizes.
 - Identify the core interface elements available for use in iOS. Configure user interface element properties (colour, size, border etc) to reflect style choices.
 - Add functionality to interface elements programmatically to respond to user interactions.
 - Create and modify user interfaces using visual tools (Storyboard) and through code (Swift UI).
- 3.) Produce applications for iPhone and iPad targeting iOS version 12**
 - Explain the main features and differences between various iOS devices.
 - Show an understanding of how to use Apple's integrated development environment (Xcode) to create iOS applications.
 - Construct applications which make use of iOS specific development fundamentals in Xcode.
 - Use Apple libraries including CoreLocation Manager, UIKit, MapKit and UserDefaults to add features and functionality to applications.
- 4.) Apply various development techniques and design patterns in the creation of iOS applications.**
 - Explain the fundamentals of the Model-View-Controller pattern and how it is applied in developing iOS applications.
 - Communicate with REST APIs to request data and consume JSON data in responses.
 - Convert JSON formatted data to Swift data types for consumption within an application.
 - Explain what delegation is and why it's used.

Learning Resources

- Online written and video tutorials
- LinkedIn Learning video tutorials
- Pluralsight.com video tutorials
- YouTube video tutorials
- Remote online lectures
- GitHub hosted course material

Learning Activities

- In-class exercises, assignments and discussions
- Group projects
- Online quizzes
- Online conferences and discussion groups
- Remote online lectures
- Self-directed learning activities
- Video tutorials

Evaluation / Earning Credit

The following list provides evidence of this course's learning achievements and the outcomes they validate:

Quiz(zes)/Test(s) (20%)

Validates Outcomes: CLR 1, CLR 2, CLR 4, EES 7

Assignment(s) (25%)

Validates Outcomes: CLR 1, CLR 2, CLR 4, EES 3, EES 4

Project(s) (55%)

Validates Outcomes: CLR 1, CLR 2, CLR 3, CLR 4, EES 3, EES 4, EES 7

Prior Learning Assessment and Recognition

Students who wish to apply for Prior Learning Assessment and Recognition (PLAR) need to demonstrate competency at a post-secondary level in all outlined course learning requirements. Evidence of learning achievement for PLAR candidates includes:

- Portfolio
- Performance Test
- Project/Assignment

Other Information

Grade Scheme

Final Grade	Mark Equivalent	Numeric Value	Final Grade	Mark Equivalent	Numeric Value
A+	90% - 100%	4.0	A	85% - 89%	3.8
A-	80% - 84%	3.6	B+	77% - 79%	3.3
B	73% - 76%	3.0	B-	70% - 72%	2.7
C+	67% - 69%	2.3	C	63% - 66%	2.0
C-	60% - 62%	1.7	D+	57% - 59%	1.4
D	53% - 56%	1.2	D-	50% - 52%	1.0
F	0% - 49%	0	FSP	0	0

Course Related Information

Please refer to the Course website for specific course-related information as provided by your professor.

Program Related Information

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The late policy for assignments is a 10% per day deduction to a maximum of 30%.

If an assignment is still not submitted 10 days after the due date then a grade of zero will be given for the assignment. Students can still submit work for review and feedback after the 10 days but no grade will be given.

Any extensions to due dates must be arranged with the course instructor BEFORE the due date.

Department Related Information

College Related Information

Email

Algonquin College provides all full-time students with an e-mail account. This is the address that will be used when the College, your professors, or your fellow students communicate important information about your program or course events. It is your responsibility to ensure that you know how to send and receive e-mail using your Algonquin account and to check it regularly.

Students with Disabilities

If you are a student with a disability, you are strongly encouraged to make an appointment at the Centre for Accessible Learning to identify your needs. Ideally, this should be done within the first month of your program, so that a Letter of Accommodation (LOA) can be provided to your professors. If you are a returning student, please ensure that professors are given a copy of your LOA each semester.

Retroactive Accommodations

Students are expected to meet evaluation and completion deadlines as stated in course outline and course section information documents. In circumstances where evaluation and/or completion deadlines are missed or student performance has been affected by a temporary or permanent disability (including mental health), interim or retroactive accommodations may be considered. In such instances, please consult your course faculty member. For other situations where deferral of evaluations may be warranted, please refer to college policy AA21.

Academic Integrity & Plagiarism

Algonquin College is committed to the highest standards of academic integrity, and expects students to adhere to these standards as part of the learning process. Academic work submitted by a student is evaluated on the assumption that the work presented by the student is his or her own, unless designated otherwise. The College's Policies AA18: Academic Dishonesty and Discipline and AA20: Plagiarism seeks to ensure that all students understand their rights and responsibilities in upholding the values of academic integrity.

In some courses, online proctoring may be used. Additional information can be found at <https://www.algonquincollege.com/studentsupportservices/student-learning-kit/preparing-to-learn-online/>

Student Course Feedback

It is Algonquin College's policy to give students the opportunity to share their course experience by completing a student course feedback survey for each course they take. For further details consult Algonquin College Policy AA25: Student Course Feedback

Use of Mobile Devices in Class

With the proliferation of small, personal mobile devices used for communications and data storage, Algonquin College believes there is a need to address their use during classes and examinations. During classes, the use of such devices is disruptive and disrespectful to others. During examinations, the use of such devices may facilitate cheating. For further details consult Algonquin College Policy AA32: Use of Mobile Devices in Class

Technology Requirements – New for 2020-21

As Algonquin College continues to respond to public health guidelines, many courses will be offered through remote delivery. As such, students will be required to have access to a computer and to the internet. There may also be additional technology-related resources required to participate in a course that are not included in the course materials fee, such as headphones, webcams, specialized software, etc. Details on these requirements can be found in the Course Section Information of the course outline for each course.

Transfer of Credit

It is the student's responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.

Note: *It is the student's responsibility to refer to the Algonquin College Policies website for the most current information at <http://www.algonquincollege.com/policies/>*