

MONTE VISTA CHRISTIAN SCHOOL
VIPA 1814 Apple Apps Programming
Course Syllabus

Course Description:

This is the 6th offering of a computer programming course devoted to developing applications for the iPad. It will engage programming in Swift, the new Apple programming language that will replace Objective-C, with the Cocoa framework, by utilizing Apple's Software Development Kit (SDK).

Curricular Mapping:

This course is unique in its knowledge base, and does not require a prerequisite, though programming experience is extremely helpful. However, the nature of the course will be focused on a real-world model of developing software for a customer; beyond learning to code, this will develop customer service skills that have direct relevance to today's business world.

Course Objectives:

This course will reinforce critical thinking skills, problem solving, and apply these in a setting which mirrors real-world business models that pertain to software design. The object of this course is singular: develop a unique application to run on an iPad. Though this is a lofty objective to achieve in the time allotted, students will still be able to learn a great deal, and pass the course, without having completed this singular objective. We are going to shoot for the stars and be happy if we fail and catch the moon in the process.

Text:

The textbook is being re-written this summer, and the instructor will install it on student iPads when it is ready: *App Programming for Apple's iOS: Swift Version*. As secondary resources, students should download the free iBooks: *The Swift Programming Language*, by Apple Inc., and *Using Swift with Cocoa and Objective-C*, also by Apple Inc.

Prerequisites:

There is no required prerequisite, however it is highly encouraged that students first take Monte Vista's *Introduction to Programming* (formerly known as *Microsoft Apps Programming*) and/or have some programming experience.

Course Outline:

- Learn the fundamentals of coding: memory allocation, variables, decision structures, loops, object oriented design including inheritance and encapsulation.

- Learn the syntax of Swift.
- Become familiar with some of the Cocoa library.
- Become familiar with the SDK tools like Xcode and the Simulator.
- Develop a debugging workflow.
- Design an App for a customer (staff member) tailored to the customer's needs.
- Engage in building the App for the customer, with completion as a goal, but not necessarily a necessity (students will be graded on their process rather than the end product).

Grading:

<u>Grade Book Categories</u>		<u>Semester Weighted Grading Configuration</u>	
Assignments	S1 - 60% / S2 - 80%	Quarter	45%
Tests & Quizzes	S1- 30% / S2 – 0%	Quarter	45%
Homework	S1 - 10% / S2 – 20%	Final Exam	10%

Because most of the work in this class is performed on a Mac, in the Mac lab, most assignments will be completed in class. There will be enough time allotted for assignments such that an average student could complete the work while maximizing his or her class time. Homework will mostly consist of watching iTunesU lectures from either Harvard and/or Stanford, and then writing brief reports about the lectures. All late work will be penalized 10% per day, up to a maximum of 30%.

High School Standard Grading Policy:

Please refer to the policy and procedures posted online in our Parent-Student Handbook.

Class Policies:

The following policies are non-negotiable. Please see the teacher if you have any concerns with your ability to follow these policies:

1. Love God. Love your neighbor as yourself. These establish the foundation for all our interpersonal interactions.
2. Attendance: Students are expected to be in class daily. If you are unable to attend, it is your responsibility to get the work and homework missed. If you have questions, seek out answers.
3. Tardiness: When the bell rings, be in your seat and ready for work.
4. Enjoy water (in a bottle) in class but not food or other drinks.
5. Bathroom: Students should plan on using the bathroom before or after class.

School Policies and Expected Student Learning Results (ESLRs):

Students are subject to all academic policies of the school as found in the Parent-Student Handbook. Furthermore, it is each student's responsibility to read and follow all academic policies of Monte Vista Christian School. In addition to addressing each ESLR every year, we target a specific ESLR each academic year for particular focus.

Miscellaneous:

1. It is wise, since we are using a shared computer lab, to bring a removable memory device in order to store backup copies of student work.
2. Apps required for this class will either be free, or provided for by MVCS.