

HUDSON VALLEY COMMUNITY COLLEGE  
TROY, NEW YORK

COURSE OUTLINE

**COURSE TITLE:** Mobile Computing Technologies

**COURSE SUBJECT AND NUMBER:** CISS 229

**DEPARTMENT:** Computing and Information Sciences

**CREDIT HOURS:** 3

**CONTACT HOURS:** 3 Lecture

**SEMESTER COURSE IS OFFERED:** Fall, Spring

**OFFERED DISTANCE LEARNING:** No

**PREREQUISITES (list):** Yes

CISS 100 Fundamentals of Information Processing  
AND  
CISS 110 Programming & Logic I  
AND  
CISS 220 Web Design and WWW programming  
OR permission of CIS Department Chair

**COREQUISITES (list):** No

**PRE OR COREQUISITES (list):** No

**TEXT(S):**

**Title: Programming With Mobile Applications**  
**Author: Thomas J. Duffy**  
**ISBN-13: 978-1-133-62813-2**  
**Publisher: Cengage**  
**URL: <http://www.cengagebrain.com/shop/isbn/9781133628132>**

**Beginning Mobile Application Development in the Cloud**  
**By Richard Rodgers, Wrox Publishing**  
**ISBN-13: 978-1-118-03469-9**  
Hard Copy or DRM-free ebook available from the publisher  
<http://www.wrox.com/WileyCDA/WroxTitle/Beginning-Mobile-Application-Development-in-the-Cloud.productCd-1118034694.html>

**\*\*This book is also currently available via the HVCC library website as an ebook\*\***

**LAB FEES:** No

**FINAL EXAM/FINAL PROJECT: YES, Final Exam (or Final Project)**

**ORIGINAL SUBMISSION DATE: 4/12/10**

**CURRICULUM COMMITTEE APPROVED REVISION DATE:**

**PREPARED BY:** Andrew Hurd

**COURSE DESCRIPTION:**

This course will discuss the theory and practices of programming mobile devices for modern technologies. The students will have the opportunity to program as well as test application programming for current smart phones and other 3g and 4g devices. This class is meant to be a hands-on class in mobile computing application programming. Platforms will include but are not limited to the iPhone OS and Google Android OS architectures.

**ACTIVITIES AND ASSIGNMENTS:**

Coursework will consist of lectures, lab activities and projects, homework, tests, and quizzes. Students will be assigned laboratory problems using mobile devices.

**GRADE COMPUTATION:** (In general terms as defined by college policy. Specifics, including Z grade, will be defined on the instructor's syllabus).

Laboratory assignments, projects, in-class assignments, homework, quizzes/tests:	75%
Final Exam:	25%

**ADA COMPLIANCE:** In compliance with the Americans with Disabilities Act of 1990 and with Section 504 of the Rehabilitation Act, Hudson Valley Community College is committed to ensuring educational access and accommodations for all its registered students, in order to fully participate in programs and course activities or to meet course requirements. Hudson Valley Community College's students with documented disabilities and medical conditions are encouraged to access these services by registering with the Center for Access and Assistive Technology to discuss their particular needs for accommodations. For information or an appointment contact the Center for Access and Assistive Technology, located in room 130 of the Siek Campus Center or call 518-629-7154/TDD: 518-629-7596 .

**STUDENT BEHAVIORAL OBJECTIVES:**

Upon completion of this course, through the use of assignments, projects and assessments the student will be able to:

- identify current mobile technologies
- create applications that execute on current mobile technologies
- discuss and explain current problems with mobile technology programming
- discuss and explain the differences between multiple Mobile Technolgy API's

## **SEMESTER OUTLINE:**

First Eight weeks:

Modules:

- 1: Introduction to iPhone App Development
- 2: iPhone App Store and App Business Issues
- 3: Welcome App Dive-Into® Xcode, Cocoa and Interface Builder
- 4: Tip Calculator App Introducing Objective - C Programming
- 5: Favorite Twitter® Searches App          Collections and Cocoa GUI Programming
- 6: Flag Quiz Game App          Controllers and the Utility Application Template
- 7: Spot-On Game App          Using UIView and Detecting Touches
- 8: Cannon Game App          Animation with NSTimer and Handling Drag Events
- 9: Painter App          Using Controls with a UIView
- 10: Address Book App          Tables and UINavigationController
- 11: Route Tracker App          Map Kit and Core Location (GPS and Compass)
- 12: Slideshow App          Photos and iPod Library Access
- 13: Enhanced Slideshow App          Serialization Data with NSCoder and Playing Video
- 14: Voice Recorder App          Audio Recording and Playback
- 15: Enhanced Address Book App          Managing and Transferring Persistent Data
- 16: Twitter® Discount Airfares App          Internet Enabled Applications

Second Eight weeks:

Modules:

- 1: Introducing Android
- 2: Your Android Development Environment
- 3: Writing Your First Android Application
- 4: Understanding the Anatomy of an Android
- 5: Managing Application Resources
- 6: Exploring User Interface Screen Elements

- 7: Designing Android User Interfaces with Layouts
- 8: Drawing and Working with Animation in Android
- 9: Using Android Data and Storage APIs
- 10: Using Android Networking APIs
- 11: Using Location-Based Services (LBS:APIs
- 12: Using Android Multimedia APIs
- 13: Using Android Telephony APIs
- 14: Using Android 3D Graphics with OpenGL ES
- 15: Using Android's Optional Hardware APIs
- 16: Working with Notifications
- 17: Working with Services
- 18: The Mobile Software Development Process
- 19: Developing and Testing Bulletproof Android
- 20: Selling Your Android Application

Benefits for Veterans:

<https://www.hvcc.edu/veterans/>

Regarding mobile apps, C++ has been doing unusually well since it helps to develop cross-platform mobile apps easily with its consolidating debugging experience and powerful environment. It can be used to design and build amazing apps for Android, Windows, and iOS. C++ gives you access to smoothly code games, apps, and commercial software. 6. Swift.Â This general-purpose programming language is developed Microsoft. From server applications, games, mobile apps to web services, you can pretty much create everything in C#. The expectations of the experts and the developers in C# has been completely changed by the "Xamarin" platform. Xamrin is an app building tool that makes it uncomplicated for C# users to create apps for Android and iOS users. Mobile applications monetization, Mobile App Analytics. App localization statistics, case studies and analytics. The goal of every app developer, product manager, and marketing manager is to drive their app's visibility and broaden its coverage. At the same time, this is also a way to approach the ultimate business goal of increasing monthly active users and revenue. This brings us to the idea of app localization, which allows a product to reach new geographical regions and satisfy specific needs and user expectations. As such, localization must address multiple linguistic, cultural, regional,