

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/>

It is really great application for C/C++ programmers. Some of its features are mentioned below. Features. Create your own applications on android device and run them even without internet access. Source code editor with syntax highlighting, tabs, code completion, code formatting, file association and undo/redo. Easily export and share your programs as APKs or native executables (for terminal apps). No root access is required. Full ANSI C and ISO C99 support with TCC (Tiny C Compiler) + uClibc. Supports Git integration. If you love C# programming so much then C# To Go app will let you to do C# programming anywhere on your mobile. It is like having mini C# compiler in your pocket. C# To Go provides various features like code completion, syntax highlighting, etc. Mobile devices require features not usually needed on traditional desktop devices. Question 08. In which of the following programming languages are Android's Native libraries typically written? Answer. C/C++. Question 09. The Resource Manager helps with internationalizing applications. Which of the following might explain why that's important to Android developers? Answer. Android phones and applications are sold to and used by people who speak languages other than English. Question 10. Which of following kinds of information does the Location Manager provide to applications? Answer.