ISAT 480-005 (3 Credits) - Fall 2012 Syllabus

Introduction to Mobile App Development

MoWe 5:00PM – 6:15 PM, HHS 2202

Hands-On Projects Meeting in HHS-3022 (Networking & Security Lab)

Contact Information:

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Office Hours: TBD	**TBD**

Course Web Page:

The course web page is rendered through http://blackboard.jmu.edu. You must be registered in the course to access BlackBoard (BB). You should check BB frequently for course-related information. This syllabus along with revisions to it will be posted in the Course Information folder of BB.

*Nature of Course Content (Course Description):

This course introduces the practice of mobile application development. Students will learn about and engage in aspects of the mobile app development process including idea generation, system design, implementation, testing, deployment, and marketing..

***Goals of the Course (Learning Objectives):** Upon successfully completing this course, students should:

By the time this course is completed, students should be able to:

1. Identify problems that could be addressed via a mobile application
2. Identify target platforms (e.g. phone vs. tablet, iPhone vs. Android, etc.)
3. Describe the tradeoffs involved with making platform decisions and justify the choice of a given platform
4. Design a Mobile App for a chosen platform or platforms and generate high-level design documentation (e.g., paper and pencil screen drawings, flow charts, etc.)
5. Set up an appropriate development environment for building a Mobile App
6. Use version control for managing code and team-based development
7. Create test cases and demonstrate understanding of test-driven development (TDD)
8. Write the code necessary to implement a Mobile App
9. Make use of many device features (e.g. accelerometer, GPS, Bluetooth, etc.)
10. Make use of appropriate inter-device communication (e.g. via web services, wireless protocols, etc.)
11. Debug and demonstrate that an app passes all specified test cases
12. Deploy an application to appropriate devices
13. Develop a marketing and distribution plan for a Mobile App via such venues as the iPhone store or Android Marketplace
14. Demonstrate effectiveness as a team member

***Requirements of the course:**

Prerequisite: Instructor's permission

Course Materials (Required):
None

***Method of Evaluation:** Your final grade will consist of the following components

Component	Description & Important Notes	Grade %
Attendance & Class Participation	Arrive on time & participate. Attendance will be taken at the beginning of each class. One forgiveness afterwards one lost point per absence. **Late = Absent**	5
Reading	Reading Assignments and HWs will be posted weekly on Blackboard.	10
Mini-Projects & Labs	Mini-Projects & Labs will be posted on Blackboard.	35
Semester Project	Each student will participate on a Team Semester Project. Grading: Presentation/Demo, Status and Final Reports, Peer Evaluation, and Individual Contribution	50

Your final course grade will be based on your percentage of 100 points (see note 2) and scored on the following scale. I reserve the right to adjust the scale as necessary based upon changing circumstances. Strong suggestion: work for 100%, not for a number on the scale.

≥94 - 100% A	≥87 - < 90% B+	≥77 - < 80% C+	≥67 - < 70% D+
≥90 - < 94% A-	≥84 - < 87% B	≥74 - < 77% C	≥64 - < 67% D
	≥80 - < 84% B-	≥70 - < 74% C-	≥60 - < 64% D-
			Below 60%: F

NOTES AND COMMENTS:

1.	**Administrative Drops**: Students who do not attend both the first and second lass sessions may be administrative dropped form the course. *If you wish to drop*, you are responsible for doing so. Check www.jmu.edu/registrar for specific add/drop information and for important deadlines.
2.	**Attendance**: Attendance of all class sessions is strongly encouraged. Remember that you're working to support going to school – school takes priority over work. Plan your off-campus trips using the Syllabus. Historically, students who read the textbook and attend class perform well on assignments and exams.
4.	**Grading Errors**: You have two weeks after an assignment, coursework, or exam grade is posted on Blackboard to dispute your grade. After that time, no grade adjustments will be made. If you are not in class to receive a grade, you may stop by my office to get your graded work. Keep all returned coursework; use it to study for exams and as proof to correct errors in recorded BB grades.
5.	**Mini-Project**: Mini-Projects will be assigned regularly and listed on BB. Late Mini-Project will not be accepted. There will be no make-up for missed assignment. If you cannot attend class, arrange for a classmate to bring it to class or drop it off at my office *before* class meets. All assignments should contain your name, section, and the assignment name

	in the upper right hand corner.
6.	**Inclement Weather/JMU Closure**: In the event that JMU closes, we will not have class. JMU's closing policy is available at www.jmu.edu/JMUpolicy/1309.shtml. Based on the particular circumstances, I will post information regarding making up the missed day(s) on Blackboard. It is your responsibility to reschedule work and other obligations as necessary to attend the missed sessions.
8.	**Project**: You will be assigned to a course project team. Projects will be completed outside of class time and will be presented at the end of the semester. Underperforming project team members may be 'fired' by their team, resulting in a project grade of 0 points.
10.	**Withdrawals**: Ordinarily, no WP or WF grades are offered. Exceptions may be granted if a student demonstrates the existence of extenuating circumstances outside of the student's control that prevented attending or performing well in class. A student seeking an exception to this rule must provide a letter (not email) to the Director of the Program, Mr. Paul Goodall describing the request and the justification (including supporting documentation).
11.	**Religious Accommodations:** reasonable and appropriate accommodations will be given to students' requests for religious accommodations and observation. Students should notify the instructor by no later than the end of the Drop-Add period the first week of the semester of potential scheduled absences and determine with the instructor if mutually acceptable alternative methods exist for completing the missed classroom time, lab or activity. For further information checkout the following JMU web page: http://www.jmu.edu/syllabus/#Religion**.**

DISABILITIES/SPECIAL NEEDS

If you are a student with a documented disability who will be requesting accommodations in my class, please make sure you are registered with JMU's Office of Disability Services (www.jmu.edu/ods/, 107 Wilson Hall, 568-6705) and provide me with an Access Plan letter outlining your accommodations. I will be glad to meet with you privately during my office hours to discuss your special needs.

JMU HONOR CODE

You are expected to abide by both the JMU Honor Code and the JMU Appropriate Use of Information Technology Resources Policy. Please familiarize yourself with these documents. JMU"s Honor Code prohibits unauthorized sharing and use of electronic or printed material. Others' work used in relation to your Project must be properly cited. Citation assistance is available from the Library and from JMU's Writing Center. Protect your work – knowingly providing access to your work and unauthorized use of another person's work are both violations of the JMU Honor Code.

A JMU degree is a valuable commodity. Please don't diminish the value of your degree by participating in or ignoring others' dishonest actions. Use good judgment and insist that others do the same. I will gladly answer questions you have about applying the Honor Code, Appropriate Use Policy, and Academic Honesty to this course.

Do NOT cheat -- I will take appropriate action if I detect any instances of unauthorized collaboration or assistance. At a minimum this will result in a report to the JMU Honor Council and a reduction in your course grade.

COURSE SCHEDULE (tentative) –
Dates may be adjusted as the semester progresses. Be sure to check BB for updates.

	Dates	Topic	Reading (TBD)	Mini-Projects	Mini-Project Deliverables	Semester Project
1-Mo	8/27			MP#1		
1	8/29	Mobile Application Ideas Generation				
2-Mo	9/3					Draft Proposal
2	9/5	Target Platforms			MP#1	
3-Mo	9/10			MP#2		
3	9/12	Development Environment - Single				
4-Mo	9/17					Final Proposal
4	9/19	Development Environment - Multiple			MP#2	
5-Mo	9/24			MP#3		
5	9/26	Version & Change Control				
6-Mo	10/1					Status Report/Demo
6	10/3	Test Driven Development (TDD)			MP#3	
7-Mo	10/8			MP#4		
7	10/10	Development Life Cycle – Design, Define Tests, Write Code, Testing, Deploy				
8-Mo	10/15					Status Report/Demo
8	10/17	Architecture (Push (Comet), Pull (Ajax), MVC (Backbone), APIs (Canvas, GeoLocation, etc.)			MP#4	
9-Mo	10/22			MP#5		
9	10/24	User Experience (UX) – Click, Tap, Double Tap, Finger Move,				
10-Mo	10/29					Status Report/Demo
10	10/31	Working with Devices (Accelerometer, GPS, Bluetooth, Sensors)			MP#5	
11-Mo	11/5			MP#6		
11	11/7	Working with Devices (Accelerometer, GPS, Bluetooth, Sensors)				
12-Mo	11/12					Status Report/Demo
12	11/14	Mobile Application Deployment			MP#6	
13	**11/19, 11/21**	Thanksgiving Break				
14-Mo	11/26					
14	11/28	Semester Project Dry Run#1 Demo, Draft Report & Presentation				
15-Mo	12/3					
15	12/5	Semester Project Dry Run#2 Demo, Draft Report & Presentation				
	We - 12/12	Semester Project Final: 3:30 - 5:30 pm Final Demo, Final Report & Presentation				

Appendix A: Resources (To Be Updated on a regular basis)

1. App Inventor, David Wolber, et al, O'Reilly Media, Inc., 2011, ISBN-13: 978-1-4493-0748-7 (available on Safari/JMU)
2. MIT App Inventor, appinventor.mit.edu/ - www/appinventor.org/homepage2 (Book online)