School of Computer Science and Information Systems
44-443/44-643: Mobile Computing – iOS (3 hours)

Spring 2019

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Office hours: MW 10:30 AM-12:00 PM, TR 2:00-2:45 PM, F 3:30-5:00 PM, other hours by appt.
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Prerequisites: CSIS 44242 with a grade of C or better or CSIS 44542 with a grade of B or better

Textbook and supplementary materials
All materials are free and online:
• The Swift Programming Language

• developer.apple.com/iOS (including WWDC video sessions)

• stackoverflow.com -- when all else fails!

• iDeveloper & Swift Unwrapped (podcasts)

Course description: Students will learn the intricacies of mobile computing development with an emphasis on the iOS platform.

Student learning outcomes: **Assessment methods:**

Communicate effectively in a gender-neutral manner in a variety of professional contexts, utilizing inclusive language and behaviors.	Classroom presentations made to their peers, quizzes, exams
Function effectively as a member or leader of a team to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.	Presentations on a) an assigned topic, b) an elevator pitch for their app, c) final project demo
Design, implement, and evaluate a computer-based solution to meet a given set of computing requirements in the context of the discipline.	Homework assignments, quizzes, exams
Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify and recommend solutions.	Homework assignments
Explain computer-based solutions at multiple levels of abstraction.	Final project presentations to the client, peers, and instructor and TA (during a code walk through) will be at different levels

Implement apps in Swift (read/write/debug Swift code, adhere to coding standards, test code and UI, use CVS, App Store submission)	Homework assignments, final project, exams, quizzes
Explain key components of the Foundation and UIKit frameworks	Homework assignments, final project, exams, quizzes

Instructional methods: Lectures, class discussions, small group work, individual/group work, learner presentations, and -- if we can find any -- guest speakers

Graded course requirements:

Category	%
Quizzes	10
Programming Assignments (10-15)	15
Midterm Exams (2)	30
Lab Exam	5
Final Project	15
Attendance	5
Final Exam	20
Total	**100**

Grading scale:

A: [90.0,100]; B: [80.0,90.0); C: [70.0,80.0]) D: [60.0,70.0); F: [0.0,60.0) **[Graduate Students]**
A: [88.0,100]; B: [78.0,88.0); C: [70.0,78.0]) D: [60.0,70.0); F: [0.0,60.0) **[Undergraduate Students]**

Course outline/major topics studied:
1. Swift programming (motivation, syntax, classes, structs, enums, protocols, etc.)
2. Basic App Architecture: Single View, Tabbed, and Nav-Based applications
3. Design Patterns: MVC, Delegation, Responder Chain, Target-Action, Closures, Notifications
4. Code vs. Storyboard
5. Layout (Auto Layout, stacks, constraints, size classes)
6. Developer considerations: app and icon (!) design, git, UI testing, simulator to iPad
7. MBaaS, CoreData and iCloud (time permitting)
8. Custom Controls (Drawing, Event Handling)
9. Select frameworks: MapKit, AVFoundation, etc. (time permitting)
10. Objective-C (time permitting)
11. App Store Submission

Note: Course schedule is subject to change with instructor notification and students will be responsible for abiding by these changes.

Miscellaneous Policies / Philosophies:

1. **Feedback**: Your instructor thrives on feedback and pertinent conversation during class. Was the material too fast? Slow? Confusing? If the latter, ask! Occasional polleverywhere.com polls will be used to take the pulse of the class, but immediate, impromptu feedback is always a Good Thing.
2. **Attitude counts**. Come to class ready to learn, and ask questions when things are unclear. Go to office hours when you are stuck on an assignment (your instructor *wrote* it, and knows how to apply the Socratic method: you will learn far more in that interaction than with a mindless stackoverflow.com search).
3. **Quizzes and exams** must be taken at the scheduled times. Midterm exams are scheduled for 12 February, 2019, 7:00-8:30 PM, 19 March, 2019, 7:00-8:30 PM, CH 3500: **there are no makeups**. Please inform your employers **now** that you will be unavailable on those dates
4. **Final Exam:** The final exam will be administered on the date as specified by the registrar.
5. **Computer programming is not a spectator sport, nor is it a Google search**: you only benefit when you are the one getting the exercise. When stuck, a conversation with your instructor **is** your best strategy. You may discuss assignments in **general** terms with your fellow students: the final product must be yours and yours alone. If you do seek help (from the instructor, TA, GA, or fellow student), acknowledge the fact in the comments. Programs may be run through moss.
6. **Assignment Due Dates:** All assignments must be uploaded by the due date. *Submissions by email will not be accepted*. Late submissions will incur a 10% penalty per 24 hour period, and will not be accepted once the assignment has been discussed in class.
7. **Coding Guidelines:** Projects must adhere to coding guidelines as specified in class.
8. **MacBook Pros.** MacBooks for your class are loaned out by the B.D. Owens Library. These are high demand, high dollar items so it is very important that you are careful when using and transporting them. Also, due to the high demand, it is imperative that these items are returned by the due date. A few other things to consider:
   a. Loan period is 3 days;
   b. MacBooks cannot be renewed;
   c. Mac computers are also available in Colden 1400, Library 1st Floor, and Library 2nd Floor;
   d. Your name must be on the list in order to check-out a MacBook
9. **Grade Concerns**. Any concerns about a grade must be raised within **5** days after the grade has been posted.
10. **Quiet in the Court!** Please silence all cellphones, etc., before class. Any time a student's cellphone rings during class, the recipient will lose 1% in the Class Attendance category. If the instructor's cellphone rings during class, all students will receive an extra 1% in the Class Attendance category (unless it comes from somebody **in** the class, in which case the two cancel each other out).
11. **Have fun!**

Attendance: Students are expected to attend all classes, and it is worth 5% of your final grade. It is the responsibility of the student to promptly notify his or her instructor when unable to attend class. Please refer to the university policy on attendance at
https://www.nwmissouri.edu/policies/academics/Attendance.pdf

Final exams: If an emergency occurs that prevents the administration of a course scheduled final examination, the final course grades will be calculated based on the work in the course completed to that point in time and the faculty member's considered judgment. Final exams will not be rescheduled, and a grade of "I" will not be given as a result of an institutional cancellation of a final examination. This final exam policy does not apply to online courses.

Disclaimer: Course schedule is subject to change and you will be responsible for abiding by any such changes. Your instructor will notify you of any changes.

Administrative drop: An instructor may request the Office of the Registrar delete a student from a course roster if the student has not met the prerequisite for the course as stated in the catalog (44242 with a grade of C or better), or as a result of non-attendance in the course.

University communications: Students are expected to use their Northwest student email account for any electronic correspondence within the university. Students are also strongly advised to check their email and CatPAWS accounts on a regular basis.

Academic integrity policy: The students, faculty, and staff at Northwest endeavor to sustain an environment that values honesty in academic work, that acknowledges the authorized aid provided by and intellectual contributions of others, and that enables equitable student evaluation. Please refer to Northwest Missouri State University's Code of Academic Integrity at http://www.nwmissouri.edu/policies/academics/Academic-Integrity.pdf. In addition, students are expected to read and understand the Computer Science and Information Systems Academic Integrity Policy. This document explains types of behavior considered to constitute academic dishonesty. You are responsible for reading this document and abiding by the guidelines described therein.

Please don't cheat. Students who cheat on an assignment, quiz, or exam will receive a 0 on that assessment, and lose an **additional** 5% of their overall grade. The director will be notified of any infractions.

Special accommodations policy: Northwest Missouri State University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 [ADA] and the ADA Amendments Act of 2008 [ADAAA].   If a student has a disability that qualifies under the ADA/ADAAA and requires accommodations, they should contact the Office for Equity and Accessibility for information on appropriate policies and procedures at 660.562.1639, or pjp@nwmissouri.edu / ADA@nwmissouri.edu. For the university policy on disability accommodation refer to http://www.nwmissouri.edu/policies/student/Disability-Accommodation.pdf

Non-discrimination and anti-harassment policy: Northwest Missouri State University is committed to maintaining an environment for all faculty, staff, students, and third parties that is free of illegal discrimination and harassment. Please refer to the Non-Discrimination and Anti-Harassment Policy at http://www.nwmissouri.edu/diversity/titlevi.htm

Family Education Rights and Privacy Act (FERPA) policy: Family Educational Rights and Privacy Act of 1974, as amended (commonly known as the Buckley Amendment), is a federal law which provides that colleges and universities will maintain the confidentiality of student education records. Please refer to the Family Educational Rights and Privacy Act (FERPA) Policy at http://www.nwmissouri.edu/policies/academics/Family-Educational-Rights-and-Privacy-Act.pdf