# Mobile App Development Syllabus

Spring Professional Practice II

**Credit Hours:** 4

www.evl.uic.edu/mad/421/

Office Hours:

By Appointment

Lab:

Mondays 1.00-6.40pm Zoom & in person Via: website, Zoom, Blackboard Daria Tsoupikova

tsoupi@uic.edu

# Description and Objectives

This course is an introduction to mobile application development. It will cover the development of interactive apps for mobile devices (Apple's iPhone) and provides a solid mobile design and development foundation focusing on user-centered design, and client-side components.

Students explore the current standards and best practices of mobile app development and the basic principles of software development. The course will cover the introduction to coding, software development and the principles of development of new mobile apps. This course will take participants from complete beginners with no prior experience in any programming languages to being able to build their first mobile app. We will start with the basics of Xcode and how to make a simple app, and work our way towards more advanced techniques as the course progresses. By the end of the course, particpants will have all the experience necessary to develop their team app they designed in the previous semester.

We will use methods, tools, concepts and technologies for development of native apps for iOS App Development: Xcode, Swift programming language and collaborative software development such as GitHub and Mural. The curriculum will cover responsive UI design, coding, testing of mobile applications, and software development required to build the front-end functionality for mobile apps. Students will continue to work in teams in the year-long (Fall & Spring) research+design+development process of developing their mobile app in collaboration with the engineers from EVL and the App Factory.

The course is structured around a combination of class lectures, in-class workshops, work in teacm in breakout sessions, weekly assignments, quizzes and team projects. Any number of unannounced quizzes may be given during the semester at the beginning or end of class. There are no make-ups for assignments or quizzes.

This course is about blended learning format so you have to do a lot of work on your own. While various software, packages, scripting and coding languages will be utilized, the course focuses on the research and development of creative concepts, ideas and the quality of their implementation. The students will learn 1) to develop mobile apps, 2) to work in teams, 3) to build a basic functioning mobile app, 4) to research, code and program for mobile app development.

We will use online videoconferencing technologies available in UIC such as Zoom, Blackboard, Mural. We will use virtual communication for our critiques, presentations and demonstrations of team projects and collaboration to clients.

We will be conducting group reviews and discussing the progress of the work. Students are encouraged to share your work with classmates, engage in discussion and learn to use constructive criticism. Class lectures will include demonstrations, invited speaker presentations, discussions, and technical exploration relevant to mobile app development. The course will meet online (via Zoom) with major time devoted to "hands on learning" with teams in break-outrooms.

## Required & Recommended Textbooks

iOS Programming. The Big Nerd Ranch Guide by Christian Keur, Aaron Hillegass, 7th ed

Beginning Xcode by Matthew Knott Daniel Bramhall

Mobile Usability by Jakob Nielsen and Raluca Budiu, New Riders

The Elements of User Experience: User-Centered Design for the Web and Beyond by Jesse James Garrett

A Project Guide to UX Design: For user experience designers in the field or in the making by Russ Unger and Carolyn Chandler

Learn Xcode Tools for Mac OS X and iPhone Development by Ian Piper

Typographie by Emil Ruder, Arthur Niggli/Teufen

The Elements of Typographic Style by Robert Bringhurst, Hartley & Marks Publishers

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# **Evaluation and Requirements**

Your final grade will be based on your performance on the group project, weekly assignments, quizzes, peer evaluation, attendance, participation, and your ability and willingness to accept client and faculty feedback. In order to successfully pass the course, students will be expected to complete the activities listed below. Weights listed between parentheses indicate the contribution of the specific component to the final course grade. The course evaluation components listed below are mandatory. Students do not have the option of opting out of any of the activities required for the assessment of these components.

### Attendance and Participation (20%):

this component of the final grade is based on your contribution to the class in the form of attendance and active participation. Students are expected to attend every class meeting, arrive on time and stay until the end. Regular and punctual attendance may be used, at the professor's discretion, to make adjustments to the final grade in borderline cases. Active participation will help students achieve the best learning experience. Completing the readings indicated in the class schedule before class, and being fully present during each class will help students actively engage during each class meeting. Active participation includes active engagement during in-class activities and contributions through asking questions or providing answers when material is unclear. The professor will assume that you are well prepared for each class meeting and will feel free to call upon you to provide an answer or comment. Each absence will be penalized by 1% in the case where permission was not granted by the professor ahead of time. More than two unexcused absences will result in a reduction of the final grade by one letter grade; with every additional unexcused absence, the final grade will drop by an additional grade. Be prepared for a lot of hard work: be prepared to design, research and code, often, and much outside of the class. This course will be difficult but also very much in-depth and useful to prepare your graduation portfolio.

## Assignments, Discussions, Quizzes (40%)

Assignments will be due on Mondays by 10:00 am unless otherwise specified. Project deliverables will have a different deadlines' structure. Any number of unannounced quizzes may be given during the semester at the beginning or end of class. There are no make-ups for assignments or quizzes.

Team Project (40%): Teams will consist of 3-4 people. Teams will propose their own projects and go through an ideation phase. Ideas will have to be approved by the instructor and a client. Each team will have to submit various deliverables including a project proposal, prototype wireframes and/or user flow charts, market research, sketches, peer evaluations, simulations, user testing evidence, presentation and final design. Teams are expected to submit all the deliverables in order to receive a final grade on the group project. Members are expected to contribute to every deliverable and be present in ALL group meetings and class presentations. Kindly be aware that peer evaluations can increase your final grade by 5% or reduce it by 15%.

A (90-100%) work of exceptional quality and craft	<b>B (80-89%)</b> work of overall good quality and craft	C (70-79%) work of overall average quality and craft	<b>D (60-69%)</b> work of overall poor quality and craft	F (0-59.9%) work is incomplete or missing	an incomplete is given only in the event of extreme or dire circumstances
level of interest and quality of research exceeds expectations	level of interest and quality of research meets expectations	level of interest and quality of research is minimal	level of interest and quality of research is poor	no demonstrated interest or evidence of research	
deep understanding	clear understanding	vague understanding	lacks understanding	no understanding	
of material and concepts	of material and concepts	of material and concepts	of material and concepts	of material and concepts	
presented	presented	presented	presented	presented	
class participation	class participation	class participation	class participation	class participation	
is active and enthusiastic,	is open and attentive,	is minimal,	is nonexistent,	is nonexistent,	
perfect attendance	good attendance	inconsistent attendance	weak attendance	poor attendance	

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#### **Course Policies**

**Attendance and Preparation for Class:** You are expected to attend all scheduled class sessions with your reading and supplementary materials. Readings are to be completed prior to class.

#### **Laptops, Tablets and Cell Phones:**

While this course is centered on mobile technologies, using mobile devices such as cell phones and tablets (even for texting purposes) in class is unprofessional behavior and forbidden in this course. Turn your cell phones to airplane mode while in class. Never answer a phone call in class. Employers will leave you a message or call you back; they also want professionals who know when and when not to take calls.

Laptops can only be used for classroom purposes when directed by the professor. Bring your laptops to every class but please leave them in your book bags or closed until needed. Misuse of laptops or mobile devices will be considered a breach of discipline and appropriate action will be initiated by the professor.

**Absences:** Each absence will be penalized by 1% in the case where permission was not granted by the professor ahead of time. More than two unexcused absences will result in a reduction of the final grade by one letter grade; with every additional unexcused absence, the final grade will drop by an additional grade. In the event you have an excused absence, it is your responsibility to notify the instructor and catch up on missed class material.

**Assignments:** In both the professional and academic world, you must meet deadlines. In this class, assignments will be due on Mondays by 1:00 pm unless otherwise specified. Make sure to double check the submission deadline for every assignment. Assignments submitted after the deadline will be considered late.

**Late Assignments:** Late assignments will receive a 15% penalty for the first day they are late, and 10% for each day afterwards. So, if you submit a perfect assignment a day late, you earn 100% - 15% = 85%; two days late, you earn 100% - 25% = 75%; and so on. Hardware failure is not an acceptable reason for turning in an assignment late. You should always make a backup of your files.

## **Lab Fee**

A \$125.00 laboratory fee is required for this course, which is used for the course supporting materials, and supplies (mobile devices, printer paper, copies, media storage, supplies for presentation etc.)

#### Software / Hardware

Macintosh (2016 or newer!): Mac OS X 10.13.6+
No Windows, or older Macs!
broadband Internet connection
Adobe Creative Suite (XD, Illustrator, Photoshop, InDesign)
A mobile device for testing is preferred but not necessary (iPhone)
UIC web account / Google account /Zoom account
Lynda.com Training Tutorials UIC, http://www.uic.edu/depts/accc/training.html/index.html
Blackboard, Mural, Slack
github.com
bitbucket.org

# **Electronic Communication Mantra**

If it's an announcement, grade, quizz or discussion it's on Blackboard; if it's any material, link, assignment, date or video, it's on the class website; if it's a file upload/download it's on Goodle Drive.

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### **Campus Resources**

#### **Academic Integrity**

UIC is committed to providing an environment in which research, learning, and scholarship can flourish and in which all endeavors are guided by academic and professional integrity. All members of the campus community—students, staff, faculty, and administrators—share the responsibility of ensuring that these standards are upheld so that such an environment exists. Instances of academic misconduct will be handled pursuant to the Student Disciplinary Policy.

## **Counseling Center**

UIC is committed to helping students deal with stress, handle a crisis or trauma, cope with the transition to college, gain strength from gender and cultural identity, or manage mental illness and other issues. Our counselors can help students increase resilience and positive well-being by developing effective coping and problem-solving skills. Click the link to make an appointment.

## **Disability Resource Center**

UIC is committed to full inclusion and participation of people with disabilities in all aspects of university life. Students who face or anticipate disability-related barriers should use the link to connect with the Disability Resource Center (DRC). Instructors in receipt of a Letter of Accommodation will work with the student and the DRC to implement the approved accommodations.

## Office for Access and Equity

UIC is committed to providing access to employment, programs, and services in an environment free of unlawful discrimination and harassment. Dispute Resolution Services (DRS) provides confidential consultation, facilitation, and mediation services to students, faculty, academic and support staff.

## **Nondiscrimination Policy Statement**

UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision-making at UIC. Students are encouraged to click the link to review the statement.

#### **Grievance Procedures**

UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision making at UIC. Students are encouraged to study the University's "Nondiscrimination Statement." Information on grievance policies and procedures is available on the University web pages of the Office of Access and Equity: www. uic.edu/depts/oae.

## **Special Needs**

Any individuals with learning disabilities or special needs must make the instructor aware of them prior to the due date of the first major assignment. Those who require accommodations for access and participation in this course must be registered with the Disability Resource Center. Please contact DRC at 312/413-2183 (voice) or 773-649-4535 (VP/Relay) and consult the following: http://drc.uic.edu/.

#### **Disclaimer**

Projects created in this course may be used by the Department for purposes of promotion for students, the School or the University in general. The School may also use these materials for instructional purposes in future courses.

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### **Campus Safety**

UIC is committed to public safety, and provides UIC Alerts for real-time news and a free smartphone app that allows students to take advantage of the many campus safety services offered. Please download the appropriate app to your smartphone—Apple (UIC SAFE) or Android (UIC Mobile)—and familiarize yourself with its features so you're prepared in case of an emergency. In addition to the features listed below, the app also contains a full Safety Toolbox, Support Resources, and Emergency Response Guidelines.

#### **Panic Button**

one-touch button to silently send your location to UIC Police

### **Friend Virtual Walk**

real-time tracking with a contact of your choice

#### **UIC Police Virtual Escort**

real-time tracking with UIC Police, available 24 hours/every day

### **Walking Safety Escort**

in-person Student Patrol or UIC Police campus escort, available 24 hours/every day use app or dial direct 312-996-2830

#### **Work Alone**

alert sent to a contact of your choice if you fail to respond to a designated check-in

#### **Safe Commute**

Night Ride—a campus shuttle van will give you a ride, available 11 pm–7 am/every day use app or dial direct 312-996-6800

### Report a Tip

Call UIC Police—use app, dial direct 312-355-5555 or from a campus phone 5-5555 Report Crime/Submit Tip—use app to report criminal incident, misconduct, or harassment Chat with UIC Police—use app to share information, request assistance, or ask a question Call the National Suicide Prevention Hotline—available 24 hours/every day use app or dial direct 800-273-8255