



## 6350 – Smartphones Based Web Development Fall 2024

### **Course Information**

Course Title: Smartphones Based Web Development  
Course Number: 6350  
Term and Year: Fall 2024  
Credit Hour: 4  
CRN: 32303  
Course Format: On-Ground

### **Instructor Information**

Full Name: Dr. Frank Kadwell  
Email Address: f.kadwell@northeastern.edu  
Office Hours: By Apt

### **Instructor Biography**

Frank earned his Bachelor of Science from the University of Minnesota, majoring in Computer Science. In 2008, Frank earned his Master of Science from Capella University. Frank earned his PhD in Information Technology from Capella University in 2019. Frank has over twenty-eight years of industry experience. Frank's major area of expertise is in data engineering, analytics, and machine learning. Frank has helped companies take advantage of their competition through predictive and data analytics. Frank has been teaching for four years and his research focus is on Algorithms and specifically, generative AI. Frank is passionate about teaching and helping students to achieve their greatest potential.

### **Teaching Assistant Information**

Full Name: Jia Jia  
Email Address: jia.jia1@northeastern.edu  
Office Hours: Tuesday and Thursday between 10AM and 12PM or by Apt [Click or tap here to enter text.](#)

### **Course Prerequisites**

CSY6200 or INFO5100 with a C or better

## Course Description

Covers application development for mobile devices using advanced development platforms. Focuses on how to write mobile applications using cross-platform development tools and processes. Topics include user interfaces, the software life cycle, persistent storage, networking using HTTP and other REST interfaces, and mobile/handheld data applications. Requires a final project.

## Course Learning Outcomes

1. Develop an approach to problem-solving.
2. Understand the different techniques of programming mobile devices and program devices
3. Articulate the differences in techniques of programming mobile devices.
4. Present a program of a mobile device
5. Prepare for a mobile coding interview

## Required Tools and Course Textbooks.

Native Mobile Development: A Cross Reference for iOS and Android, First Edition by Shaun Lewis and Mike Dunn. ISBN 978-1492052876. Beginning App Development with Flutter: Create Cross-Platform Mobile Apps, First Edition by Rap Payne. ISBN 978-1484251805.

Tools – VSCode / Flutter API / Docker / Kubernetes

**Course Schedule/Topics Covered. Please NOTE this is a guide. We will move items around as necessary**

Week	Date	In Class Topic	Assignment Due
1	09/04	Expectations and intro to Mobile Development and Flutter	
2	09/11	Android and iOS Architecture	
3	09/18	Flutter Framework	Assignment 1
4	09/25	Mobile Apps / GUI Development	Assignment 2
5	10/2	Dart, Swift, Kotlin	Assignment 3
6	10/9	Persistent Data	Assignment 4
7	10/16	Navigation and Notifications	
8	10/23	Location Services / Backend Cloud	Assignment 5
9	10/30	Cybersecurity and secure code	
10	11/6	Publishing	Assignment 6
11	11/13	Docker / Kubernetes	Requirements for Project
12	11/20	Mobile Development as a system	

<b>13</b>	<b>11/27</b>	Databases	
<b>14</b>	<b>12/4</b>	Data on the phone vs network	<b>Project Code due</b>
<b>15</b>	<b>12/11</b>	Development Patterns	<b>Project Presentations</b>

**Assignment Grading**

- Attendance – 10%
- Assignments – 20%
- Quizzes – 20%
- Final Project - 50%

**Grading Scale**

	87-89.9% B+	77-79.9% C+	
95-100% A	84-86.9% B	74-76.9% C	
90-94.9% A-	80-83.9%B-	70-73.9% C-	
			69.9% or below F

## Attendance/Late Work Policy

### Attendance Policy

Students registered in MGEN courses (INFO, CSYE, and DAMG) are allowed **a maximum of 2 absences per course, with 3 or more absences resulting in an automatic 'F' for that course.** Students are expected to inform their instructors of any absences in advance of the class; if a student is sick long-term or experiences a medical issue that prevents class attendance, it is strongly encouraged that they speak with their Academic Advisor ([coe-mgen-gradadvising@northeastern.edu](mailto:coe-mgen-gradadvising@northeastern.edu)) to learn more about the Medical Leave of Absence. Should a student anticipate being unable to attend 3 or more classes, they should discuss their situation with their Academic Advisor to explore other types of leave in accordance with the University's academic and global entry expectations. International students should review the Office of Global Services webpage to understand their visa compliance requirements.

Teaching Assistants (TAs) or Instructional Assistants (IAs) will be present at each class to collect student attendance.

### Late Work Policy

Students must submit assignments by the deadline in the time zone noted in the syllabus. Students must communicate with the faculty prior to the deadline if they anticipate work will be submitted late. Work submitted late without prior communication with faculty will not be graded.

## End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is particularly important to the College of Engineering. Your comments will make a difference in the future planning and presentation of our curriculum.

At the end of this course, please take the time to complete the evaluation survey at <https://neu.evaluationkit.com>. Your survey responses are **completely anonymous and confidential**. For courses 6 weeks in length or shorter, surveys will be open one week prior to the end of the courses; for courses greater than 6 weeks in length, surveys will be open for two weeks. An email will be sent to your Northeastern University Mail account notifying you when surveys are available.

## Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind

according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to <http://www.northeastern.edu/osccr/academic-integrity-policy/> to access the full academic integrity policy.

### **MGEN Student Feedback**

Students who would like to provide the MGEN unit with anonymous feedback on this particular course, Teaching Assistants, Instructional Assistants, professors, or to provide general feedback regarding their program, may do so using this survey: [https://neu.co1.qualtrics.com/jfe/form/SV\\_cTIAbH7ZRaaW0Ki](https://neu.co1.qualtrics.com/jfe/form/SV_cTIAbH7ZRaaW0Ki)

### **University Health and Counseling Services**

As a student enrolled in this course, you are fully responsible for assignments, work, and course materials as outlined in this syllabus and in the classroom. Over the course of the semester if you experience any health issues, please contact UHCS.

For more information, visit <https://www.northeastern.edu/uHCS>.

### **Student Accommodations**

Northeastern University and the Disability Resource Center (DRC) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, visit <https://drc.sites.northeastern.edu>.

### **Library Services**

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for education specific resources, visit <https://library.northeastern.edu>  
Network Campus Library Services: [Northeastern University Library Global Campus Portals](#)

### **24/7 Canvas Technical Help**

For immediate technical support for Canvas, call 617-373-4357 or email [help@northeastern.edu](mailto:help@northeastern.edu)

Canvas Student Resources: <https://canvas.northeastern.edu/student-resources/>

For assistance with my Northeastern e-mail, and basic technical support:

Visit ITS at <https://its.northeastern.edu>

Email: [help@northeastern.edu](mailto:help@northeastern.edu)

ITS Customer Service Desk: 617-373-4357

**Diversity and Inclusion**

Northeastern University is committed to equal opportunity, affirmative action, diversity, and social justice while building a climate of inclusion on and beyond campus. In the classroom, members of the University community work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration, and an awareness of global perspectives on social justice.

Please visit <http://www.northeastern.edu/oidi/> for complete information on Diversity and Inclusion

**Title IX**

*Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.*

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty, and staff.

In case of an emergency, please call 911.

Please visit <https://www.northeastern.edu/ouec> for a complete list of reporting options and resources both on- and off-campus.