

CS153a: Mobile App Development

Contact Details

Professor Timothy Hickey

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Meeting Times

Classes

MTWT 9:00-11:00

Office Hours

MTWT 1:15-2:00

Course Description

Learning Goals:

After successfully completing this course you will be able to design, develop, debug, and deploy mobile applications on iOS and Android platforms using the React-Native framework.

The React framework is one of the most popular and versatile client-side frameworks for developing User Interfaces for web and mobile applications. There is a substantial set of additional skills you will need to develop to succeed in this course. This includes learning Javascript and some frameworks including React-Native and Expo. You will also need to master several software development tools including Atom, Github, Zenhub, the Javascript Console, and new software development methodologies such as Scrum.

After completing this course you will be able to work effectively in a team to create mobile apps that run on Android or iOS platforms as well as on the Web and you will have developed some interesting apps for your ePortfolio.

Teaching/learning strategies

The course will require you to read the textbook and online software manuals as well as to use google and other search tools such as StackOverflow to find answers to questions and fixes for bugs. The class will be formed into teams and each team will be responsible for building a suite of Mobile Apps using React Native over the five week course. Daily lessons will mix lectures, coding challenges with your team, and reflections..

Prerequisites

The only prerequisite is an ability to program in some Object Oriented Languages such as Python, Java, Javascript, or Ruby, e.g. completing CS10a or CS12b will adequately prepare you for this course.

Credit Hours:

This course gives you 4 credit hours and will require 8 hours/week of class time and 24 hours of time outside of class working on your projects and preparing for classes.

Course Requirements

Academic Integrity

Every member of the University community is expected to maintain the highest standards of academic integrity. A student shall not submit work that is falsified or is not the result of the student's own effort. Infringement of academic honesty by a student subjects that student to serious penalties, which may include failure on the assignment, failure in the course, suspension from the University or other sanctions (see section 20 of R&R). Please consult Brandeis University Rights and Responsibilities for all policies and procedures related to academic integrity. Students may be required to submit work to TurnItIn.com software to verify originality. A student who is in doubt regarding standards of academic honesty as they apply to a specific course or assignment should consult the faculty member responsible for that course or assignment before submitting the work. Allegations of alleged academic dishonesty will be forwarded to the Department of Student Rights and Community Standards. Citation and research assistance can be found at [Brandeis Library Guides - Citing Sources \(https://guides.library.brandeis.edu/c.php?g=301723\)](https://guides.library.brandeis.edu/c.php?g=301723).

Assignments

This course will have five creative assignments, one per week, in which you demonstrate your mastery of the skills and concepts learned in the previous weeks.

Exams/Quizzes

Each Thursday we will release a quiz which you need to complete within 24 hours.

Participation

Class participation is critical for success in this course. You will be working with your team in class and the class time will provide you the opportunity to ask questions and discuss challenges.

Portfolio

The main work product for this course will be a final project which will be part of your college ePortfolio and can help you when searching for jobs or internships..

Evaluation

You will receive a weekly, individual, grade for your participation in the course and your work on your term project. We will use progressive grading so a higher grade in a later week will replace lower grades from earlier weeks.

Essential Resources

Accommodations

Brandeis seeks to welcome and include all students. If you are a student who needs accommodations as outlined in an accommodations letter, I want to support you. In order to provide test accommodations, I need the letter more than 48 hours in advance. I want to provide your accommodations, but cannot do so retroactively. If you have questions about documenting a disability or requesting accommodations, please contact Student Accessibility Support (SAS) <https://www.brandeis.edu/accessibility/> at 781.736.3470 or access@brandeis.edu.

Course Materials

We will use online resources to learn React-Native. Our main text will be available for free from the Brandeis library:

React and React Native, 3rd Edition

<https://learning.oreilly.com/library/view/react-and-react/9781839211140>

We will also use the ReactNative website and its tutorials and documentation:

<https://reactnative.dev>

Apps or Tools/Equipment

You will need to download and install a lot of software, mainly using npm. We will spend the first day in class downloading software and setting it up.

LATTE

LATTE is the Brandeis learning management system: <http://latte.brandeis.edu>. Login using your UNET ID and password.

Library

The Brandeis Library collections and staff offer resources and services to support Brandeis students, faculty and staff. These include workshops, consultations, collaboration, materials and instruction on emerging trends in technologies such as machine learning, emerging trends in research such as data visualization, and emerging trends in scholarship such as open access. Librarians at the Circulation Desk, Research Help Desk, Archives & Special Collections, Sound & Image Media Studios, MakerLab, AutomationLab, and Digital Scholarship Lab are available to help you. <https://www.brandeis.edu/library/about/index.html>

Privacy

This class requires the use of tools that may disclose your coursework and identity to parties outside the class. To protect your privacy, you may choose to use a pseudonym/alias rather than your name in submitting such work. You must share the pseudonym/ alias with me and any teaching assistants as needed. Alternatively, with prior consultation, you may submit such work directly to me.

Student Support

Brandeis University is committed to supporting all our students so they can thrive. The following resources are available to help with the many academic and non-academic factors that contribute to student success (finances, health, food supply, housing, mental health counseling, academic advising, physical and social activities, etc.). Please explore the many links on this Support at Brandeis page (<https://www.brandeis.edu/support/undergraduate-students/browse.html>) to find out more about the resources that Brandeis provides to help you and your classmates to achieve success.

Course Plan

Week 1: Introduction to Javascript and React-Native

We will give an introduction to React and React-Native. We will also learn the core concepts behind HTML, CSS, Bootstrap, Javascript, React, Git and Scrum. Our main goal will be to get familiar with javascript and the React Native core concepts.

Week 2: Interactivity

We learn how to incorporate interactivity in an app using Event Handling and Error Handling.

Week 3: Server-side interaction

We learn a minimal level of server side app development so that our mobile app can interact with a server to store and retrieve information.

Week 4: Native Apps

We learn how to use React Native to create and deploy apps onto IOS and Android systems.



Week 5: Final Project showcase

We apply all we have learned to complete the Term Projects and we have a Final Project showcase.