

## Independent Study Professor Manly

### Goals

The purpose of this course will be to explore more in depth some of the tools used in software engineering. The final goal for this course will be to create a stand-alone fully functional application that interacts with data outside of the state of the app in some form, by both sending data to (most likely) a database and then retrieving data from it, most likely through an API.

### Schedule

- Weeks 1-3
  - Front end mobile application for sending data
  - Tools: react-native
  - Deliverable: Demo of application
- Weeks 4-5
  - Explore tools for clients to interact with data, and to use data optimally, such as databases, servers, and cloud storage.
  - Potential tools: SQL, MongoDB, AWS, Google Cloud, Elastic Search, ?
  - Deliverable: Write-up of pros and cons for each tool explored
- Week 6
  - Applying the decided data tools to be applicable within the application to receive and return data.
  - Deliverable: Demo of data tool
- Weeks 7-8
  - RESTful API for client to interact with data, and integration into application
  - Potential tools: Flask, JSON-based API, ?
  - Deliverable: Demo of application interacting with data not within the state
- Weeks 9-10
  - Front end mobile application for receiving, displaying, and interacting with data
  - Tools: react-native
  - Deliverable: Demo of fully functional application that can send and receive data
- Weeks 11-12
  - Explore different testing frameworks for React Native applications and unit test all written application code.
  - Potential tools: Jest
  - Deliverable: Code, and 100% coverage of application
- Week 13
  - Explore different testing frameworks for React Native applications and write end-to-end tests for all written application code.
  - Potential tools: Detox
  - Deliverable: Example of end to end tests
- Week 14
  - Deploy application and server for both iOS and Android
  - Tools: XCode, Android Studio
  - Deliverable: final application