



Hybrid Apps and Frameworks

2023-2024 Catalog

[ARCHIVED CATALOG]

SDEV 257 - Hybrid Apps and Frameworks

PREREQUISITES: [SDEV 255 - Web Application Development](#) OR [SDEV 264 - Mobile Application Development](#) OR [SDEV 260 - iOS Swift Application Development](#)

PROGRAM: Software Development

CREDIT HOURS MIN: 3

LECTURE HOURS MIN: 2

LAB HOURS MIN: 2

DATE OF LAST REVISION: Fall, 2020

This course focuses on developing cross-platform, web, native iOS, and Android applications utilizing a hybrid framework. Students focus on learning the mechanics of a framework, comparing and contrasting hybrid applications against native applications, and designing mobile-first applications. Students design and implement single page/screen applications, and utilize a programming language to implement gesture based actions. Students will apply hybrid application frameworks to support UI/UX, layouts, and native performance. The culmination of this course is building applications targeting multiple platforms with a single codebase.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Compare and contrast hybrid applications vs native applications.
2. Explain how hybrid applications are able to utilize native functionalities within a particular platform.
3. Compare and contrast single page applications vs traditional applications.
4. Compare and contrast a framework vs a library.
5. Implement a framework in a software project.
6. Describe the various types of frameworks and their purposes.
7. Develop a single page application, and describe its efficacy over multiple platforms.
8. Explain the differences between various types, categories, and genres of hybrid applications.
9. Implement front end design using hybrid application tools and design methodology.
10. Implement and identify components and reusable assets in hybrid app development and design.
11. Utilize gesture based interactions within an application that can be utilized over multiple platforms.
12. Differentiate between backend and front-end development, and how they interconnect to form a functioning application.
13. Identify and implement good UI/UX practices that can be utilized over multiple platforms.
14. Describe how software development methodologies relate to hybrid application development.
15. Utilize services and APIs in order to interact with data in a hybrid application.
16. Collaborate and utilize version control tools to maintain and update a hybrid application.
17. Create an interface design prototype for a mobile application based on a set of requirements.
18. Develop a hybrid application based on a set of requirements that can be utilized over multiple platforms.

COURSE CONTENT: Topical areas of study include -

- Hybrid Development with a Single Codebase
- SPA (Single Page Applications)
- Frameworks
- Components
- APIs

- Events
- Gestures
- Native Applications
- PWA (Progressive Web Applications)
- Mobile First Layouts and Design
- Backend Services
- OOP/Functional programming



[Course Addendum - Syllabus \(Click to expand\)](#)
