# ITMD 454 SYLLABUS

**ITMD 454 Mass-Market Intelligent Device Applications**

**Hours:** 3 credit hours / 45 contact hours

**Instructor:** TBD

**Textbook, title, author, and year:**
*Java EE 8 Recipes A Problem-Solution Approach,* Josh Juneau, 2018
*The Java EE 8 Tutorial.* Oracle Corporation, 2017
https://javaee.github.io/tutorial/toc.html

**Specific course information**
a. **Catalog description:** Intelligent device application development is covered with leading mass-market and open-source technologies on media device, mobile and robotic platforms. Utilizing contemporary toolkits, the student considers design and development on simulated and real "smart" devices including smart phones, tablets, sensors, actuators, drones, and robots. Numerous exercises reinforce concepts gained throughout the course. A term project will integrate course topics into a comprehensive intelligent device application.
b. **Prerequisites:** ITMD 312

**Specific goals for the course**
a. **Course Outcome:** Students will become familiar with iOS architectures and fundamentals; software engineering principles and best practices; and design and development of iOS based applications for iPhone, iPad and iPod devices. The student will create a number of small applications; each will highlight specific iOS features. These exercises reinforce concepts gained throughout the course. This course will help the student to lay a solid foundation down the path to creating your own user friendly, robust, efficient iOS applications in the future.
b. **Course Student Outcomes:**
Upon successful completion of the course the student should be able to:
- Describe and use the iOS Application development process including the use of iOS SDK/APIs
- Use the development toolkit XCode, Emulator, debugger, logging mechanism
- Create Swift Programming language constructs
- Design and create iOS UI components, controls and views
- Use multimedia processing including image, sound and video animation
- Describe and create common applications such as messaging, maps, databases and networking
- Successfully build and publish applications for the Apple Store

**Topics to be covered**
a. Introduction to iOS app, XCode, Simple App, UI elements, Swift Values and Types
b. Simple App and Handling Basic Interaction, Swift Control Structures
c. More UI, Rotation and Layout, Swift Control Structures
d. Multi-view Apps, Swift Classes and Objects
e. Tab Bars and Pickers
f. Table Views
g. Navigation Controllers and Table Views
h. Collection Views
i. Using Split Views and Popovers
j. Application Settings and User Defaults
k. Basic Data persistence
l. Documents and iCloud
m. Grand Central Dispatch, Background and You
n. Drawing with Core Graphics

*Each* ITM Departmental Syllabus *represents a recent offering of the course. The instructor, textbook(s), course outcomes, and course student outcomes/learning objectives may vary in future semesters.*

June 27, 2020