

## Software Engineering M.S. 2016-2017

### **Software Engineering Core Requirements (15 hours)**

[SWEN 5130](#) Requirements Engineering

[SWEN 5232](#) Software Construction

[SWEN 5233](#) Software Architecture

[SWEN 5234](#) Software Processes

[SWEN 5432](#) Software Engineering Life Cycle

### **Software Engineering Capstone Option**

(3 hours of capstone + 18 hours of electives\*)

[SWEN 6837](#) Software Engineering Capstone Project

6-hour SENG/CSCI/SWEN technical elective 5100-6000 level

3-hour SENG/CSCI/SWEN technical elective 4000-6000 level

3-hour SWEN technical elective 4000-6000 level

6-hour SWEN technical elective 5100-6000 level

Capstone enrollment is limited to students who are in their graduating semester (last 9 hours of study including capstone) and have completed all required foundation courses identified on their CPS and any prerequisites prior to enrollment in capstone.

\*Courses taken as electives in SWEN require permission of the faculty adviser before enrolling.

### **Software Engineering Thesis Option**

(6 hours of thesis + 15 hours of electives\*)

[SWEN 6939](#) Master's Thesis Research

6-hour SENG/CSCI/SWEN technical elective 5100-6000 level

9-hour SWEN technical elective 5100-6000 level

Thesis: Students must form a thesis committee and prepare a thesis proposal in the semester prior to enrollment into thesis. Contact the SCE advising office for instructions.

\*Courses taken as electives require permission of the faculty adviser before enrolling.

### **Software Engineering Specializations**

Students interested in developing a specialization in software engineering such as Gaming, Software Development or Project Management should choose as electives those courses listed under the respective specializations listed below. Any course within a specialization is an allowable elective in SWEN.

#### **Gaming and Robotics Software Specialization**

Pick 4 courses from the 6 below.

[DMST 5235](#) Animation

[DMST 5131](#) Game Design and Theory

[DMST 5132](#) 3D Modeling

[SWEN 5134](#) Gaming Software Development with Service Oriented Architecture

[SWEN 5136](#) Software for Robotics

[SWEN 5137](#) Game Design and Development

[SWEN 5138](#) Design and Development of Virtual Worlds, Sims and Animation Scripting

### **Software Development Specialization**

[SWEN 5131](#) Software Engineering Tools

[SWEN 5132](#) Software Design Patterns

[SWEN 5133](#) Aspect-Oriented Development

[SWEN 5430](#) Software Metrics

### **Software Project Management Specialization**

Pick 4 courses from below.

[SENG 5330](#) Risk Management

[SWEN 5230](#) Software Project Management

[SWEN 5431](#) Testing, Validation and Verification

[SWEN 5435](#) Personal Software Process

### **Web Based Electives**

(Electives are periodically offered online as well as face to face).

[SENG 5330](#) Risk Management

[SWEN 5132](#) Software Design Patterns

[SWEN 5134](#) Gaming Software Development with Service Oriented Architecture

[SWEN 5230](#) Software Project Management

[SWEN 5431](#) Testing, Validation and Verification

[SWEN 5435](#) Personal Software Process

[SWEN 5534](#) Reuse and Reengineering