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