

SWE 4723: Undergraduate Research Methods

3 Credit Hours

Prerequisite: SWE 3313 or instructor permission.

High Impact Practices (HIPs) are recognized as an important tool that can transform the educational experience of a student. Among the different possible HIPs, undergraduate research is an important activity that allows for training creativity and critical thinking. Being a good researcher depends on many factors and requires discipline and the knowledge of the research process and related methodologies. This course will provide a comprehensive introduction to give students the tools to create a research project, including research methodologies and foundational research theories and protocols. This course will also teach students how to write the results of their research and how to present them.

SWE 4724: Software Engineering Capstone Project

4 Credit Hours

Prerequisite: SWE 3623

Concurrent: SWE 3643 and SWE 4663

This is the capstone project course and constitutes a major design experience. The course focuses on a team project comprising the development of a realistic software system during all phases of the software development life cycle. Topics include software project management, design, verification and validation, development, evolution and quality assurance. Current methods, techniques, and software tools are utilized in the development of the project.

SWE 4743: Object-Oriented Development

3 Credit Hours

Prerequisite: CS 3305

This course involves engineering activities related to the analysis, design, and implementation of object-oriented software systems. Topics include modeling foundations, requirements specification and documentation, design concepts and strategies, and OOAD methodologies with an emphasis on UML. The course includes a major project utilizing current analysis and design methods and tools implemented in a contemporary IDE.