

Software Engineering (SFTW)

SFTW 500 Software Engineering Discipline 3 Credits (3,0)

Introduction to disciplined software engineering processes; study and application of team project processes; framework for applying and analyzing managed software engineering practices; exploration of common industry processes.

Course Offered at: Daytona Beach

SFTW 510 Software Project Management 3 Credits (3,0)

Management considerations in software development; advanced software planning mechanisms for monitoring, controlling, and leading projects.

Course Offered at: Daytona Beach

SFTW 520 Formal Methods for Software Engineering 3 Credits (3,0)

In-depth exploration of formal methods in software engineering; techniques and tools for specifying, developing, and verifying software systems; application of mathematical models for ensuring software correctness; topics include formal specification languages, formal modeling, and formal verification techniques.

Course Offered at: Daytona Beach

SFTW 525 Software Quality Engineering and Assurance 3 Credits (3,0)

Describes the overall approach to achieve software quality; mapping quality specifications into a set of engineering activities; provides a framework for applying software verification and validation techniques; understanding the economics of software quality.

Course Offered at: Daytona Beach

SFTW 530 Software Requirements Engineering 3 Credits (3,0)

Development, definition, and management of software system requirements; topics include requirements process, elicitation, analysis, specification, verification and validation, management, and standards and tools; individual and group exercises on software requirements engineering tasks.

Course Offered at: Daytona Beach

SFTW 555 Object-Oriented Software Construction 3 Credits (3,0)

Essential concepts of object-oriented software development; integrated view of software development phases using object-oriented techniques; high-quality programming, source code refactoring and maintenance issues.

Prerequisites: SFTW 500

Course Offered at: Daytona Beach

SFTW 591 Graduate Seminar 3 Credits (3,0)

Exploration of current advancements in software engineering, determined by the instructor. Focus on different topics each term based on student, faculty, or departmental research needs.

Course Offered at: Daytona Beach

SFTW 599 Special Topics in Software Engineering 1-6 Credit (1-6,0)

Individual, independent, or directed studies in software engineering.

Course Offered at: Daytona Beach, Prescott

SFTW 610 Software Systems Architecture and Design 3 Credits (3,0)

Principles and concepts of software architecture and design; creation and evaluation of software design; classes, responsibilities, collaborations, contracts and subsystems modeling; analysis and prioritization quality attributes; architectural styles, views, notations, and description languages

Course Offered at: Daytona Beach

SFTW 650 Current Trends in Software Engineering 3 Credits (3,0)

Current techniques, methods, procedures, and paradigms in software engineering; literature searches; assessment and evaluation of research articles, and trends; preparation of written and oral reports on contemporary software engineering practices.

Course Offered at: Daytona Beach

SFTW 690 Graduate Research Project 3 Credits (3,0)

Individual investigation or software development effort; culminating in a formal written report, requisite artifacts, and oral presentation to faculty; focus on an advanced topic in software engineering, theoretical or practical.

Course Offered at: Daytona Beach

SFTW 692 Software Engineering Practicum 3 Credits (3,0)

Capstone practicum building on core MSE courses; faculty-mentored team software development project from concept to delivery; includes all phases of the development life-cycle: requirements, architecture, detailed design, implementation, verification, and validation; follows disciplined software engineering practices and project management techniques.

Course Offered at: Daytona Beach

SFTW 699 Special Topics in Software Engineering 1-6 Credit (1-6,0)

Individual, independent, or directed studies in software engineering.

Course Offered at: Daytona Beach, Prescott

SFTW 700 Graduate Thesis 1-9 Credit (1-9,0)

Master-level research project in software engineering; conducted under supervision of research advisor and thesis committee approved by the program coordinator; submission of a final thesis report approved by the committee; oral defense of research required.

Course Offered at: Daytona Beach

SFTW 799 Special Topics in Software Engineering 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in software engineering.

Course Offered at: Daytona Beach, Prescott