



# MASTER'S PROGRAM IN SOFTWARE ENGINEERING OR SOFTWARE SYSTEMS

## Practical Knowledge to Advance Your Career

Mercer University's Master of Science in Engineering (MSE) in Software Engineering or Master of Science (MS) in Software Systems program challenges students with courses focused on achieving *success within industry*. The program's *distance learning structure*, *cutting-edge curriculum*, and *certificate path* further separate Mercer from other graduate engineering institutions, ensuring you *exceptional marketability* as a graduate of this unique program.

## INDUSTRY SUCCESS PROMOTED BY COURSE CONTENT

- Develop knowledge/skills to produce high quality designs and high quality code
- Acquire valuable techniques for managing cost, schedule, and risk
- Explore real-world issues software engineers face within industry
- Learn how to orient work to best fit client's/employer's business needs
- Enhance ability to effectively communicate in professional settings
- Complete projects involving the latest technologies/trends

**MONEY Magazine** and **Salary.com** recently ranked the top 10 careers in America. **Software Engineering** is the #1 career in the country, based on growth, pay, stress-levels and other factors.



ALUMNI PERSPECTIVE

*"Software engineering involves identifying a problem, creating and testing a solution, then implementing and supporting the solution. My current responsibilities as a network engineer parallel my software development skills that I learned at Mercer. The same logic-oriented cognitive skills taught in Mercer's software engineering program apply to large-scale data communication and network management."*

**CHARLES L. CHEEK** United States Office of Personnel Management

## CORE CURRICULUM

**Java Design I and II (SSE 556, 571)** develops robust software construction capability in Java.

**Object-Oriented Project Methods (SSE 657)** develops capability in object-oriented analysis, design, and testing to cover the software development and maintenance life cycle.

**Refactoring (SSE 659)** develops capability in lower-level software design and design improvement.

**Design Patterns (SSE 658)** develops capability in creating or improving the quality of higher-level designs.

**Special Topics Courses** in other areas such as software security and software development process management enable students to transfer some of the latest knowledge from industry to their work.

## LEARN BREADTH AND DEPTH OF SOFTWARE SKILLS

- Conduct a software development or maintenance project throughout its entire lifecycle, including requirements analysis, object-oriented design, object-oriented programming, and testing, using iterative, incremental processes
- Develop high-quality, lower-level designs using Refactoring
- Create or improve higher-level designs using Design Patterns
- Program proficiently in Java
- Program proficiently in C++
- Develop capabilities in areas such as software architectures, software testing, and software security.
- Apply agile software development processes

## EARN GRADUATE CERTIFICATES IN ADVANCED TOPICS

- Provides practicing professionals with an alternative to earning a full graduate degree
- Allows for completion of certificates applicable to individual/ company interests
- Offers advanced training in either of the following areas: Java Software Development or Advanced Object-Oriented Design

## INTERACT THROUGH ONLINE LEARNING ENVIRONMENTS

- Better supports practicing professionals who face time and location constraints
- Provides students with the flexibility and convenience necessary to pursue an advanced degree part-time
- Facilitates collaboration and knowledge-sharing between diverse students of varying backgrounds and experiences
- Models real-world interactions of software developers
- Supplements online-learning through optional attendance at face-to-face class meetings in Macon, Georgia

ALUMNI PERSPECTIVE



*"Mercer's Software Engineering program offered me a very challenging curriculum while providing me the flexibility that I needed as a full time working professional. As a traveling part time student in the program, I was able to switch between the traditional classroom program and the distance learning program without ever missing a beat."*

JAMONICA L. DERAMUS Accenture

## GRADUATE ADMISSIONS

If you are ready to learn software engineering capabilities for the real world, then apply to Mercer's Software Engineering/ Software Systems program. It's what you need to make a difference in your company and your career.

### GENERAL APPLICATION REQUIREMENTS:

Apply to the MSE in Software Engineering program if you have:

- An ABET-accredited engineering bachelor's degree
- At least six semester hours (or equivalent) in multi-module programming in a modern high-order language

Apply to the MS in Software Systems program if you have:

- An accredited bachelor's degree
- At least six semester hours (or equivalent) in multi-module programming in a modern high-order language

**MERCER**  
UNIVERSITY

### SCHOOL OF ENGINEERING

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