

# REAL-TIME SOFTWARE AND GAME SYSTEMS, SOFTWARE ENGINEERING (MS)

## Course Requirements

### Introductory Courses

Course	Title	Quarter Hours
CSC 400	DISCRETE STRUCTURES FOR COMPUTER SCIENCE	4
CSC 401	INTRODUCTION TO PROGRAMMING	4
CSC 402	DATA STRUCTURES I	4
CSC 403	DATA STRUCTURES II	4
CSC 406	SYSTEMS I	4
CSC 407	SYSTEMS II	4

### Foundation Courses

Course	Title	Quarter Hours
CSC 461	OPTIMIZED C++	4
SE 456	ARCHITECTURE OF REAL-TIME SYSTEMS	4
CSC 486	REAL-TIME NETWORKING (FORMERLY GAM 490)	4
CSC 588	REAL-TIME MULTITHREADED ARCHITECTURE	4
SE 485	REAL-TIME SOFTWARE DEVELOPMENT I	4
SE 585	REAL-TIME SOFTWARE DEVELOPMENT II	4

### Major Elective Courses

Students must take a total of twenty-four (24) credit hours of Major Elective Courses. To ensure proficiency in one area, sixteen (16) credit hours of Major Elective Courses must be taken from either the Game Focus or Software Focus areas below.

### Focus Area Requirements

Course	Title	Quarter Hours
SE 576	GPU Architecture	4
CSC 562	OPTIMIZED C++ MULTITHREADING	4

### Focus Area Electives

Course	Title	Quarter Hours
Choose Game or Software		8
Game Focus		
GAM 425	APPLIED 3D GEOMETRY	
GAM 470	RENDERING AND GRAPHICS PROGRAMMING	
Software Focus		
CSC 552	CONCURRENT SOFTWARE DEVELOPMENT	
CSC 463	THEORY AND PRACTICE OF SAFE SYSTEMS PROGRAMMING	

The remaining eight (8) credit hours of Major Elective Courses can be taken from among any CSC, GAM, or SE courses in the 421-699 range, with the following courses suggested:

### Suggested Major Electives

Course	Title	Quarter Hours
GAM 476	ARTIFICIAL INTELLIGENCE FOR COMPUTER GAMES	
GAM 450	PHYSICS FOR GAME DEVELOPERS	
CSC 480	ARTIFICIAL INTELLIGENCE I	
CSC 471	MOBILE APPLICATION DEVELOPMENT FOR IOS	
CSC 472	MOBILE APPLICATION DEVELOPMENT FOR ANDROID	
CSC 435	DISTRIBUTED SYSTEMS I	
CSC 536	DISTRIBUTED SYSTEMS II	
CSC 464	VIRTUALIZATION AND CLOUD COMPUTING	
SE 533	SOFTWARE VALIDATION AND VERIFICATION	
SE 480	SOFTWARE ARCHITECTURE I	
CSC 466	PROGRAM ANALYSIS	