COMPUTER INFORMATION SYSTEMS (M.S.)

Academic Year

2014-2015

School

Graduate SchoolSchool Web site

School Dean

Winston F. Erevelles, Ph.D.werevelles@stmarytx.edu

Department

Computer Science

Program Director

Carol Luckhardt Redfield, Ph.D.credfield@stmarytx.edu

Program Specific Admission Requirements

Admission is granted to those with high promise for success in graduate study. Applicants can demonstrate this potential through previous academic records, testing, certification and work performance. Some talented undergraduates may want to apply to our combined BA/BS+MS program where a student can take up to 12 credit hours of graduate work while completing an undergraduate degree. Those students may take the GRE anytime before the first semester after completing the undergraduate degree.

Admission Requirements

To be considered for admission to this master's program, applicants should have:

- Minimum grade point average (GPA) of 2.7 out of a possible 4.0 in a bachelor's degree
- Minimum Graduate Record Exam quantitative score of 143 or better (480 on tests prior to 2011), or a minimum GMAT score of 334
- For international students, minimum TOEFL score of at least 80 on the Internet-based test or 6.0 on IELTS. Some students may be required to take an English class for graduate international students as part of their degree plan.
- Completed application form to include the following:
  - written statement of purpose indicating interest and objective
  - two letters of recommendation
  - official transcripts of all college-level work

For admissions to the Master of Science in Computer Information Systems program, applicants should have typing, word processing (Microsoft Word equivalent), and extensive computer programming (any high-level language) skills in addition to the following prerequisites:

- College algebra or higher, with a C or better
- Programming classes including data structures and object oriented programming with a C or better
- One other computer-related class such as computer architecture or operating systems.

Applicants for other disciplines or those lacking specific classes may be admitted with the provision that they take the prerequisite courses selected by the graduate program director on an individual basis. Some of these prerequisites may be fulfilled by work certification or previous experience. Applicants that fail to meet any of the above standard may be admitted on a conditional basis.

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International Students

Please note that for students from outside of the United States, completed applications must be in the Graduate Admissions office at least 6 weeks before classes begin to be considered for that semester. GRE and English proficiency scores must be at St. Mary's before the application can be reviewed, and if accepted, an I-20 can be issued. International students may be required to take English classes so that the students can be successful in our classes.

Our students should have their own laptop computers that they bring to class and a printer at their residence.

Degree Requirements

Computer Information Systems (33 hrs)

Course #	Course Title	Hours
Computer Science Core (18 hrs):		
CS6310	Systems Analysis & Design	3
CS6320	Files & Databases	3
CS6330	Advanced Network & Data-Communications	3
CS6340	Advanced Software Engineering	3
CS6350	Hardware & Operating Systems	3
CS6395	Project	3
Computer Science Electives (9 hrs):		
Any other graduate computer science course (other than the core courses) for a total of 9 (nine) credit hours. This is typically 3 courses.		9
Business Electives (6 hrs):		
Any two 3-credit hour BA classes for which the pre-requisites are met.		
	Total hours	**33**

Computer Information Systems (33 hrs)
Thesis Option

Course #	Course Title	Hours
Computer Science Core (15 hrs):		
CS6310	Systems Analysis & Design	3
CS6320	Files & Databases	3
CS6330	Advanced Network & Data-Communications	3
CS6340	Advanced Software Engineering	3
CS6350	Hardware & Operating Systems	3
Computer Science Electives (6 hrs):		
CS6315	Artificial Intelligence	3
CS6325	Computer Graphics	3

Course #	Course Title	Hours
CS6375	Special Topics in Computer Science (May be taken more than once with different topic)	3
CS6385	Internship	3
Business Electives (9 hrs):		
Any three 3-credit hour BA classes for which the pre-requisites are met.		
Thesis (3 hrs):		
CS6390	Thesis	3
	Total hours	**33**

Department Courses and Descriptions

CS 6310 **Introduction to Systems Analysis and Design** (3)
Concepts, methods and techniques used in the analysis and design of information systems. Student will complete projects using the techniques in practice.

CS 6320 **File and Database Systems** (3)
Development and application of databases with emphasis on topologies, normalization, and queries.

CS 6330 **Advanced Network and Data Communication** (3)
Introduction to intra- and inter-computer communications concepts and methodology. Issues include topologies, error detection and correction, LAN, ISO models, and protocols.

CS 6340 **Advanced Software Engineering** (3)
Modern methods of software design development and implementation. Emphasis is placed on application system generators and very high level programming languages. Prerequisite: CS 6310, proficiency in high-level programming language.

CS 6350 **Hardware and Operating Systems** (3)
Introduction to different types of computer hardware and operating systems software at both the microcomputer and large system level.

CS 6185, CS 6252, CS 6385 **Internship** (1, 2 or 3)
An experiential, practical applications approach to advanced computer science topics through work in a leading computer company or organization and the academic needs of the graduate CS/CIS programs. Consent of the Graduate Program Director is required.

CS 6315 **Artificial Intelligence** (3)
An advanced study into the area of artificial intelligence including topics such as expert systems, intelligent tutoring systems, robotics, search and gaming, predicate calculus, learning theories, and natural language processing.

CS 6325 **Computer Graphics** (3)
An advanced study into the development and implementation of computer graphics. The course may cover topics such as windowing, shearing, transformations, fractals, shading, and animation.

CS 6375 **Special Topics in Computer Science** (3)
A seminar based approach to advanced computer science topics. Topics may include areas such as computer security, game development, modeling and simulation, Internet programming and e-learning. May be repeated for credit as topics change. Consent of the Graduate Program Director is required for the Research section.

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Department Faculty

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