

School of Computing

Personnel

Dean: Richard L. Halterman

Graduate Program Coordinator: Willard Munger

Faculty: Scot Anderson, Richard L. Halterman, Willard Munger

Adjunct Faculty: Rebecca Cathey, Tyson S. Hall

Mission Statement

The mission of Southern Adventist University's School of Computing is to provide an exemplary Christian learning environment that enables students to become Christian computing professionals, who, in addition to being competent in their chosen profession, realize their responsibility to God, church, family, employer, colleagues, and society.

Degrees Offered

The School of Computing offers a Master of Science in Computer Science and a Master of Science in Applied Computer Science.

Admission

Provisional Admission

A student accepted on provisional basis may be admitted to regular status upon the completion of 12 graduate credit hours taken through Southern with a minimum grade of B- in each course. Students are not permitted to repeat courses in order to satisfy this requirement. Students who do not satisfy this requirement will not be permitted to continue in the program.

Time Limits

The time allowed from graduate program enrollment to the conferring of the Master of Science in Computer Science degree or Master of Science in Applied Computer Science degree may not exceed five years. Application for an extension will be considered on an individual basis.

Residence

The last 27 hours must be taken through Southern Adventist University School of Computing. Project/Thesis credit hours must be taken in residence.

Transfer Credits

A maximum of six semester hours with a minimum grade of B may be transferred into the program to satisfy graduation requirements provided they are equivalent to courses required for the degree.

Progression

A maximum of two courses may be repeated one time for the purpose of improving the GPA.

MS Applied Computer Science

Admission Requirements

An applicant for the Master of Science in Applied Computer Science will comply with the following requirements:

1. Baccalaureate degree from a recognized accredited institution in any area of study
2. Cumulative undergraduate grade point average of 3.00 or higher.
3. International students must have a minimum TOEFL score of 90 (Internet-based), having taken the test within the past year or demonstrated proficiency in the use of the English language.
4. Students may be admitted to the program at the beginning of both fall and winter semesters
5. One year of computer programming coursework or CPTR 502

Note: some courses have additional pre-requisites that must be satisfied before taking those graduate courses.

Graduation Requirements

A candidate for graduation must:

1. Complete an application to graduate, which must be filed with Graduate and Professional Studies at least two months prior to the anticipated graduation date.
2. Complete all required coursework with a minimum GPA of 3.00, including no more than two courses with a grade below B-. Courses with a grade below a C will not be counted for credit toward the MS in Applied Computer Science degree.
3. Successfully complete and defend a project or complete an approved field practicum.
 - A project consists of significant individual development work. In the process the student will successfully complete an approved Project Proposal and publicly defend a final Project Report that meets the standards defined on the School of Computing web site.
 - After all coursework has been completed and the student has taken the required 6 hours of project credit, the student must take at least one project credit per semester until the project is completed and accepted.

Requirements

Required Courses (33 Total Credits)

CPTR575 - Issues in Computer Science and Religion (3)

Select two (2) of the following 12-hour certificates (Minimum 24 credits):

Data Analytics Certificate
 Computer Science Certificate
 Cybersecurity Certificate
 Web Development Certificate

Select 6 credit(s):

CPTR597 - Field Practicum (3)
 CPTR598 - Project (1 - 6)

Grand Total Credits: 33

MS Computer Science

Admission Requirements

Students with undergraduate degrees in Computer Science from non-ABET accredited programs and students with an undergraduate degree in an area outside of Computer Science may be required to take specific prerequisite

undergraduate courses in computer science prior to admission.

An applicant for the Master of Science in Computer Science will comply with the following requirements:

1. A BS in Computer Science degree from an ABET-accredited program, or a four-year undergraduate degree in Computer Science or related program with permission.
2. Cumulative undergraduate grade point average of 3.00 or higher.
3. International students must have a minimum TOEFL score of 90 (Internet-based), having taken the test within the past year or demonstrated proficiency in the use of the English language.
4. Students may be admitted to the program at the beginning of both fall and winter semesters.

Permission to Take Classes

Before the end of their junior year students wishing to complete the BS/MS dual-enrollment program should request and be granted permission to take graduate classes. Undergraduate students need to receive at least a B- in each graduate course to continue.

Graduation Requirements

A candidate for graduation must:

1. Complete an application to graduate, which must be filed with Graduate & Professional Studies at least two months prior to the anticipated graduation date.
2. Complete all required coursework with a minimum GPA of 3.00, including no more than two courses with a grade below B-. Courses with a grade below a C will not be counted for credit toward the MS in Computer Science degree.
3. Successfully complete and defend a project or thesis.
 - A project consists of significant individual development work. In the process the student will successfully complete an approved Project Proposal and publicly defend a final Project Report that meets the standards defined on the School of Computing web site.
 - The Thesis consists of a body of original scholarly work completed by an individual student. In the process the student will successfully complete an approved Thesis Proposal and publicly defend a thesis that meets the standards defined on the School of Computing web site.
 - After all coursework has been completed and the student has taken the required 6 hours of project/thesis credit, the student must take at least one project/thesis credit per semester until the project/thesis is completed and accepted.

Program Specific Information

Options for Completing the MS in Computer Science

The Master of Science in Computer Science program can be completed in two ways. First, the coursework can be completed in a traditional two-year program following the student's completed undergraduate program. Second, the coursework can be completed in conjunction with the School of Computing's undergraduate Bachelor of Science in Computer Science program. The coursework for both the BS and MS programs can be completed in approximately five years with some summer coursework required. The graduate courses are taken during the fourth and fifth years. Applicants should consult

with a Southern Adventist University financial adviser to discuss the financial aid ramifications of these options.

Requirements

Required Courses (33 Total Credits)

CPTR575 - Issues in Computer Science and Religion (3)

Select 4 course(s):

CPTR521 - Advanced Database Systems (3)
 CPTR531 - Algorithms (3)
 CPTR551 - Parallel and Distributed Systems (3)
 CPTR555 - Advanced Computer Architecture (3)
 CPTR571 - System Software and Architecture (3)

Select one (1) of the following 12-hour certificates (Minimum 12 credits):

Cybersecurity Certificate
 Data Analytics Certificate
 Web Development Certificate

Select 6 credit(s):

CPTR598 - Project (1 - 6)
 CPTR599 - Thesis (1 - 6)

Grand Total Credits: 33

Computer Science Certificate

Program Specific Information

Prerequisites:

1. One year of programming or CPTR 502
2. Undergraduate course in databases (equivalent to CPTR 319)
3. Undergraduate course in data structures and algorithms (equivalent to CPTR 318)
4. Calculus I (equivalent to MATH 191)
5. Undergraduate course in discrete mathematics (equivalent to MATH 280)
6. Undergraduate course in operating systems (equivalent to CPTR 365)

Requirements

Required Courses (12 Total Credits)

Select 4 course(s):

CPTR521 - Advanced Database Systems (3)
 CPTR531 - Algorithms (3)
 CPTR551 - Parallel and Distributed Systems (3)
 CPTR555 - Advanced Computer Architecture (3)
 CPTR571 - System Software and Architecture (3)

Grand Total Credits: 12

Cybersecurity Certificate

Program Specific Information

Prerequisites:

1. One year of programming or CPTR 502

Requirements

Required Courses (12 Total Credits)

CPTR534 - Advanced Network & Server Administration (3)

CPTR544 - Offensive Cybersecurity (3)

CPTR545 - Defensive Security (3)

CPTR554 - Cyber Forensics (3)

Grand Total Credits: 12

Data Analytics Certificate

Program Specific Information

Prerequisites:

1. Undergraduate course in statistics (equivalent to MATH 215)
2. One year of programming or CPTR 502

Requirements

Required Courses (12 Total Credits)

- CPTR512 - Programming in Data Analytics (3)
- CPTR519 - Databases and Data Warehouses (3)
- CPTR524 - Data Mining and Analytics (3)
- CPTR528 - Data Visualization (3)

Grand Total Credits: 12

Web Development Certificate

Program Specific Information

Prerequisites:

1. One year of programming or CPTR 502

Requirements

Required Courses (12 Total Credits)

- CPTR526 - User Experience (3)
- CPTR546 - Web Services (3)
- CPTR556 - Advanced Web Programming (3)

Select 1 course(s):

- CPTR519 - Databases and Data Warehouses (3)
- CPTR535 - Mobile Application Development (3)

Grand Total Credits: 12