

Computer Science ! College of Science & Mathematics

About the Program

Overview

The Computer Science program combines real-life experience together with the development of a sound basis in theory. Students have varied opportunities to work, individually and cooperatively, on projects designed to foster an understanding of basic theoretical principles. Modular and structured programming are emphasized in all coursework. Recent developments in the field are regularly incorporated into the curriculum.

The program also provides excellent preparation for teaching K-12.

Unique features

- Small class sizes
- Faculty with *real world* computer science experience
- Several courses in web design and development
- Up-to-date computer labs with stand-alone and networked PC's and UNIX workstations
- Cooperative opportunities for real experience in computer operations and software development
- Practical software projects that challenge and stimulate students

Plan of Study - Bachelor's Degree

Computer Science Major (minimum of 38 s.h.)

Required Core Courses:

CSC 2010	Practical Systems	3 s.h.
CSC 2080	Computer Science I	3 s.h.
CSC 2480	Computer Science II	3 s.h.
CSC 2910	Cooperative Education in Operations	1 s.h.
CSC 3030	Operating Systems	3 s.h.
CSC 3050	Computer Architecture	3 s.h.
CSC 3280	Analysis of Algorithms	3 s.h.
CSC 3290	Programming Language Concepts	3 s.h.
CSC 3910	Cooperative Education in Software	1 s.h.
CSC 4130	Language Theory	3 s.h.
CSC 4850	Seminar: Computers & Society	3 s.h.

Core Electives - (select minimum of 9 s.h.)

CSC 2350	Web Programming (3s.h.)	
CSC 3010	Numerical Analysis for Computer Science (3 s.h.)	
CSC 3350	Java Programming (3 s.h.)	
CSC 3490	Artificial Intelligence (3 s.h.)	
CIS 2480	Programming Applications: High Level Language (3 s.h.)	
CIS 3800	Advanced Visual BASIC (3 s.h.)	
CIS 3850	Data Base Management (3 s.h.)	
MTH 3410	Linear Algebra (3 s.h.)	
PHY 4510	Electronics: Digital Techniques (4 s.h.)	

Required Support Courses: 9 s.h.

MTH 2510	Calculus with Analytic Geometry I* (5 s.h.)
MTH 2520	Calculus with Analytic Geometry II* (4 s.h.)

* Both courses must be completed with a grade of C or better within the first 20 hours of the Computer Science major.

Plan of Study - Associate's Degree

Computer Science Major (30-32 s.h.)

Required for Associate's Degree in Computer Science: 30-32 hours from approved core courses listed for bachelor's degree (except Cooperative Education courses, which may be taken as electives).

Plan of Study - Minor

Computer Science Minor (minimum 21 s.h.)

Required Minor Courses:

CSC 2010	Practical Systems	3 s.h.
CSC 2080	Computer Science I	3 s.h.
CSC 2480	Computer Science II	3 s.h.
CSC 3050	Computer Architecture	3 s.h.
CSC 3920	Programming Language Concepts	3 s.h.

Electives - (select 2 courses)

CSC 2350	Web Programming (3 s.h.)	
CSC 3030	Operating Systems (3 s.h.)	
CSC 3350	Java Programming (3 s.h.)	
CIS 2480	Programming Applications: High Level Language (3 s.h.)	
CIS 3800	Advanced Visual BASIC (3 s.h.)	

Required Support Course: 5 s.h.
MTH 2510 Calculus with Analytic Geometry I (5 s.h.)

Teacher Certification

Madonna University's teacher preparation in Computer Science received a commendation from the Michigan State Board of Education. For additional information, contact the Education Department at 734/432-5655 or 432-5647. (See reverse for more information.)



For Admissions Information

Office of Admissions
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 734/432-5339
 Fax 734/432-5393
 800-852-4951
 TTY 734/432-5643
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For Program Information

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Madonna University reserves the right to
 withdraw or modify information in this brochure.

See Advisor/Admissions Office for current
 information.

Madonna University guarantees the right to equal
 educational opportunity without discrimination
 because of race, religion, sex, national origin, age,
 or disabilities. 10/01

Computer Science Major for Teacher Education State Certification (31 s.h.)

Core Courses:

CSC 2010	Practical Systems	3 s.h.
CSC 2080	Computer Science I	3 s.h.
CSC 2480	Computer Science II	3 s.h.
CSC 2910	Cooperative Education in Operations	1 s.h.
CSC 3030	Operating Systems	3 s.h.
CSC 3280	Analysis of Algorithms	3 s.h.
CSC 3290	Programming Language Concepts	3 s.h.
CSC 4850	Seminar: Computers & Society	3 s.h.

Core Electives (9 s.h. including one programming language)

CSC 2350	Web Programming (3 s.h.)
CSC 3050	Computer Architecture (3 s.h.)
CSC 3490	Artificial Intelligence (3 s.h.)
CIS 2480	Programming Applications: High Level Language (3 s.h.)
CIS 3800	Advanced Visual Basic (3 s.h.)

Required Support Course:

MTH 2300	Business Calculus <u>OR</u>	4 s.h.
MTH 2510	Calculus with Analytic Geometry I	5 s.h.

Computer Science Minor for Teacher Education State Certification (24 s.h.)

Core Courses:

CSC 2010	Practical Systems	3 s.h.
CSC 2080	Computer Science I	3 s.h.
CSC 2480	Computer Science II	3 s.h.
CSC 3290	Programming Language Concepts	3 s.h.
CSC 4850	Seminar: Computers & Society	3 s.h.

Core Electives - (9 s.h. including at least one programming language)

CIS 2480	Programming Applications: High Level Language (3 s.h.)
CIS 3800	Advanced Visual BASIC (3 s.h.)
CIS 3850	Data Base Management (3 s.h.)
CSC 2910	Cooperative Education in Operations (1 s.h.)
CSC 2350	Web Programming (3 s.h.)
CSC 3030	Operating Systems (3 s.h.)
CSC 3050	Computer Architecture (3 s.h.)
CSC 3280	Analysis of Algorithms (3 s.h.)
CSC 3350	Web Programming (3 s.h.)
CSC 3480	Java Programming (3 s.h.)
CSC 3490	Artificial Intelligence (3 s.h.)

The Faculty

Michael Johnson (*B.S., University of
 California, Computer Engineering;
 M.S., Michigan State, Computer
 Science; Ph.D. student, Wayne State
 University, Computer Science*)
 Software designer/engineer at
 Information Industries, Inc.
 (contracted to AT&T Bell Labs);
 GTE Communications Systems.

CSC Website:

<http://acs.madonna.edu/csc>