

Computer Science

University Requirements (20)

Writing, Rhetoric and American Cultures (WRA)	4
Integrative Studies in Humanities (IAH)	8
Integrative Studies in Social Sciences (ISS)	8

Bioscience

Select one course from Group A and one course from Group B.
A selection of BS 110 satisfies both Group A and Group B.

Group A

BS 110	Organisms & Populations	4
BS 111	Cells & Molecules	3
ENT 205	Pests, Society & Environment	3
MMG 205	Allied Health Microbiology	3
PLB 105	Plant Biology	3
PSL 250	Introductory Physiology	4
ZOL 141	Introductory Human Genetics	3

Group B

BS 110	Organisms & Populations	4
BS 111L	Cells and Molecular Biology Laboratory	2
CEM 161	Chemistry Laboratory I	1
CEM 162	Chemistry Laboratory II	1
MMG 206	Allied Health Microbiology Laboratory	1
PHY 191	Physics Laboratory for Scientists I	1
PHY 192	Physics Laboratory for Scientists II	1
PLB 106	Plant Biology Laboratory	1

College Requirements (32)

CSE 231	Introduction to Programming I	4
*EGR 100	Introduction to Engineering Design	2
MTH 132	Calculus I	3
MTH 133	Calculus II	4
MTH 234	Multivariable Calculus	4
PHY 183	Physics for Scientists & Engineers I	4
PHY 184	Physics for Scientists & Engineers II	4

Major Requirements (41)

CSE 100	Computer Science as a Profession	1
CSE 232	Introduction to Programming II	4
CSE 260	Discrete Structures in Computer Science	4
CSE 320	Computer Organization	3
CSE 331	Algorithms and Data Structures	3
CSE 335	Object-Oriented Software Design	3
CSE 410	Operating Systems	3
CSE 498	Collaborative Design	4
STT 351	Probability and Statistics for Engineering	3

*EGR 100 is required for all students matriculating at MSU beginning Fall Semester, 2008.

Some courses may have prerequisites, which are not otherwise required in the program. Students should check course descriptions to ensure they are aware of prerequisites.

Select five of the following courses:

Students may substitute two of the five courses with mathematics or statistics courses. All substitutions must be preapproved by the student's academic adviser.

CSE 420	Computer Architecture	3
CSE 422	Computer Networks	3
CSE 425	Introduction to Computer Security	3
CSE 435	Software Engineering	3
CSE 440	Introduction to Artificial Intelligence	3
CSE 450	Translation of Programming Languages	3
CSE 452	Organization of Programming Languages	3
CSE 460	Computability and Formal Language Theory	3
CSE 471	Media Processing & Multimedia Computing	3
CSE 472	Computer Graphics	3
CSE 475	Introduction to Computational Linguistics	3
CSE 480	Database Systems	3
CSE 484	Information Retrieval	3

Required Cognate (15)

A minimum of four courses outside of the College of Engineering totaling fifteen or more credits. The academic adviser of the Department of Computer Science & Engineering must approve both the cognate and the related courses. The cognate should enhance the student's ability to apply analytic procedures in a specific subject area.

Option A

At least 6 of the 15 credits must be in 300- or 400-level courses.

Option B

A four-course sequence in a foreign language.

Option C - Business

ACC 230	Survey of Accounting Concepts	3
FI 320	Introduction to Finance	3
GBL 323	Introduction to Business Law	3
MSC 327	Introduction to Marketing	3

Select one of the following:

EC 210	Economics Principles Using Calculus	3
OR		
EC 201	Introduction to Microeconomics	3
AND		
EC 202	Introduction to Macroeconomics	3

Other Electives (Variable)

Total Credits Required for Degree

120

The requirements listed above apply to students admitted to the major of Computer Science in the Department of Computer Science and Engineering beginning Fall 2008. The Department of Computer Science and Engineering (CSE) constantly reviews program requirements and reserves the right to make changes as necessary. Consequently, each student is strongly encouraged to consult with his/her advisor to obtain assistance in planning an appropriate schedule of courses. Students who have questions about Computer Science should contact the Computer Science and Engineering Department Advising Office, 3115 Engineering Building, phone (517) 353-3148.

Computer Science

Sample Program

Freshman Year				Sophomore Year			
Fall	Credits	Spring	Credits	Fall	Credits	Spring	Credits
CSE 100	1	WRA 1XX	4	IAH 20X	4	CSE 320	3
CSE 231	4	CSE 232	4	CSE 260	4	CSE 335	3
EGR 100	2	MTH 133	4	MTH 234	4	Elec./Cognate	3
ISS 2XX	4	Elec./Cog.	3	PHY 183	4	Elec./Cognate	3
MTH 132	3					STT 351	4
Total	14	Total	15	Total	16	Total	16

Junior Year				Senior Year			
Fall	Credits	Spring	Credits	Fall	Credits	Spring	Credits
CSE 331	3	Bioscience	4	Elec./Cognate	3	CSE 4XX	3
CSE 410	3	Cognate	3	CSE 4XX	3	CSE 498	4
IAH 2XX	4	CSE 4XX	3	CSE 4XX	3	Elec./Cog	3
PHY 184	4	CSE 4XX	3	Elec./Cognate	3	Elec./Cog	3
		ISS 3XX	4	Elec./Cognate	3		
Total	14	Total	17	Total	15	Total	13

Program Objectives

A graduate of the MSU Computer Science Program should be prepared to:

1. apply fundamental computing principles and software development skills to the design and implementation of systems that meet specifications.
2. use computing to solve complex problems.
3. be successful in a computing-related profession or graduate study .
4. communicate effectively with a range of audiences .
5. be an effective team member.
6. act professionally and ethically in the global workplace.
7. be actively engaged in learning and applying new ideas and technologies as the field evolves.

Computer Science