Bachelor of Science in Computer Science

Selected Educational Outcome

1. Students will design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
2. Students will demonstrate ability to use current techniques, skills, and tools necessary for computing practice.
3. Students will apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

Examples of Outcome Assessments

The department assesses the extent to which the program requirements create the desired outcomes by a variety of techniques. Examples of these assessments include the following:

1. The capstone courses are used to assess student progress since taking Area F courses. They determine if students have mastered effective oral and written communication skills, acquired critical analysis skills, and learned to use the library and technological resources in solving non-routine problems. Assessment methods include student projects and presentations.
2. Student examinations and samples of student work are kept in the department and are examined by the faculty to assess student content knowledge.
3. Available student and alumni survey data collected by the University will be examined to determine student satisfaction with their undergraduate preparation for further education or employment.

Requirements for the Bachelor of Science Degree with a Major in Computer Science

Core Curriculum		60
Core Curriculum Areas A-E (See VSU Core Curriculum)		42
Majors in Computer Science are required to take MATH 1112 or MATH 1113 or MATH 2261 in Area A and MATH 2261 or MATH 2262 in Area D		
Core Curriculum Area F		18
CS 1301	Principles of Programming I	4
CS 1302	Principles of Programming II	4
CS 2620	Discrete Structures	3
MATH 2261	Analytic Geometry and Calculus I (1 hour "spillover" from Area D)	1
MATH 2262	Analytic Geometry and Calculus II	4
Any D.2.a or D.1 Laboratory Science from a different discipline than the sequence completed in D.2.a (with 2 hours "spilling" into Supporting Courses) or ENGR 2320 (with 1 hour "spilling" into Supporting Courses)		2
Senior College Curriculum		60
CS 3200	Computer Ethics	3
CS 3101	Computer Organization	3
CS 3335	The C Programming Language	3
CS 3410	Data Structures	3
CS 3520	Algorithms	3
CS 4345	Operating Systems	3
CS 4121	Data Communications and Networks I	3
CS 4321	Software Engineering I	3
CS 4721	Database Design I	3
CS 4500	Formal Languages and Automata Theory	3
CS 4900	Senior Seminar	3
Additional 3000-level or 4000-level course in CS (except CS 4800)		3
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Supporting Courses		11
D.2.a Laboratory Science ("spillover" from Area F)		
MATH 2150	Introduction to Linear Algebra	
MATH 3600	Probability and Statistics	

MATH 4651	Numerical Analysis I	
or MATH 4901	Operations Research I	
Electives		10
Total Hours Required for the Degree		120

Additional Notes

1. The 12-hour lab science requirement must include a two-course sequence. All three courses must be from Area D.2.a. Students not completing these requirements in their Core Curriculum must complete them with elective courses.
2. Students must receive a “C” or better in all of the lower division mathematics and computer science courses completed to satisfy the degree requirements.