Winona State University

Four-Year Program Map

Created on 6/13/2017
Effective Fall 2017

Program: Applied Computer Science (MATH 140+) (BS CSAC)
Emphasis (optional): Bioinformatics Emphasis

	Fall Semester			Spring Semester		
	Course	Requirement Met	SH	Course	Requirement Met	SH
Year 1	CS 101 Exploring Creative Computing	GE Goal 4/Major	3	CS 250 Algorithms and Problem Solving II	Major	4
	CS 234 Algorithms and Problem Solving I	Major	4	CS 275 Mathematical Foundations of Algorithms	Major	4
	MATH 140 Applied Calculus or Math 212 Calculus I	GE Goal 4/Major	3-4	STAT 210 Statistics	Major	3
	ENG 111 College Reading and Writing or CMST 191	GE Goal 1	4-3	CMST 191 Introduction to Public Speaking or ENG 111	GE Goal 1	3-4
	OR 100 Introduction to Higher Education	Recommended	1	Physical Development & Wellness	PDW	1
	*NOTE: *Students need a total of 40 SH of general education courses that fulfill specific goal areas. To remain under 120 credits, choose courses that meet two goal areas.*			*NOTE: Students must earn a grade of "C" or better in all major courses. A 2.50 GPA is required in the major and overall. Students are allowed to attempt CS courses at most 3 times (including withdraws).*		
	First-Year Fall Semester Credit Hour Total		**14-16**	**First-Year Spring Semester Credit Hour Total**		**15-16**
Year 2	CS 341 Data Structures*	Major/CAI	4	CS 313, CS 375, CS 385*, or CS Elective**	Major	3-4
	CS 313, CS 375, CS 385, or CS Elective**	Major	3-4	CS 313, CS 375, CS 385*, or CS Elective**	Major	3-4
	BIOL 241 Basics of Life	GE Goal 3/Major	4	BIOL 242 Organismal Diversity	GE Goal 3/Major	4
	CHEM 212 Principles of Chemistry I	GE Goal 3/Major	4	CHEM 213 Principles of Chemistry II	GE Goal 3/Major	4
				Physical Development &Wellness	PDW	1
	*NOTE: *CS 341 satisfies the math/critical analysis requirement. ** Students should take 1 course from CS 313, 375, 385, 300-level elective this semester and the other 3 courses from this list in the next two semesters. Students review the DARS to find full list for CS Electives.*			*NOTE: *CS 385 satisfies a writing intensive requirement. **Students should take 2 courses from CS 313, 375, 385 this semester and the other 2 courses from this list in the previous and following semesters. Students review the at DARS to find full list for CS Electives.*		
	Second-Year Fall Semester Credit Hour Total		**15-16**	**Second-Year Spring Semester Credit Hour Total**		**15-17**
Year 3	CS 344 Web Programming	Major	3	CS 368 Introduction to Bioinformatics	Major	4
	CS 313, CS 375, CS 385, or CS Elective*	Major	3-4	CS 444 Human Computer Interaction	Major	3
	BIOL 310 Genetics	Major	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	NOTE: Students should take 1 course from CS 313, 375, 385 this semester and the other 3 courses from this list in the previous 2 semesters. Students review the at DARS to find full list for CS Electives.			*NOTE: Students must earn a minimum of 40 credits at the 300-400 level to earn a degree. Students must complete 18 SH of 300-400 level CS courses, with at least 12 SH beyond the core course requirements, from WSU.*		
	Third-Year Fall Semester Credit Hour Total		**15-16**	**Third-Year Spring Semester Credit Hour Total**		**16**
Year 4	CS 410 Software Engineering*	Major/WI	3	CS 471 Object Oriented Design and Development*	Major/OI	3
	CS 485 Advanced Database Systems	Major	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	Unrestricted Electives	Electives	3
	General Education Course	GE Goal 5-10	3			
	*NOTE: * CS 410 satisfies the second writing intensive requirement.*			*NOTE: *CS 471 satisfies the oral intensive requirement. Students must earn a minimum of 120 credits to graduate.*		
	Fourth-Year Fall Semester Credit Hour Total		**15**	**Fourth-Year Spring Semester Credit Hour Total**		**12**

Total Credit Hours (SH): 120

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Created on 4/5/2016
Effective Fall 2016

Guide to 4 Year Major Maps

- 4 Year Major Maps are intended to show a recommended four-year pathway to a degree. Students must be fulltime, college ready, and ready to declare a major to follow the map exactly as shown. Maps are only a sample; there may be other pathways that lead to completion of the degree in four years.
- Major Maps are NOT intended to take the place of meetings with advisors.
- Major Maps are NOT intended to take the place of the Degree Audit System (DARs).

All courses listed on a major map will be labelled as one or more of the following:

GE Goal	General Education Goal Area	Indicates that the course meets one of the 10 General Education Goals
Gen Elec	General Elective	Indicates that the course does not meet a General Education, Major or Minor requirement but does count toward the degree
Major	Major Requirement	Indicates that the course meets a Major requirement
Major Elec	Major Elective	Indicates that the course counts toward the major as an elective, must be chosen from list of approved courses
Minor	Minor Requirement	Indicates that the course meets a Minor requirement
CAI	Critical Analysis Intensive	Indicates that the course counts as a Critical Analysis Intensive
OI	Oral Intensive	Indicates that the course counts as an Oral Intensive
WI	Written Intensive	Indicates that the course counts as a Written Intensive
PDW	Personal Development and Wellness	Indicates that the course counts as a Personal Development and Wellness Requirement

General Education Goal Areas:

		Minimum credits required
Goal 1	Communication	7 credits
Goal 2	Critical Thinking (Met with completion of all other goal areas)	--
Goal 3	Natural Science	7 credits
Goal 4	Mathematics	3-4 credits
Goal 5	History, Social/Behavioral Sciences	9 credits
Goal 6	Humanities and Fine Arts	9 credits
Goal 7	Human Diversity	3 credits
Goal 8	Global Perspective	3 credits
Goal 9	Ethic and Civic Responsibility	3 credits
Goal 10	People and the Environment	3 credits

Graduation Requirements:

- Minimum of 120 total credits (semester hours) required for Bachelors' Degree
- Minimum of 40 General Education credits required
- Minimum of 40 Upper Division credits required
- Minimum of 30 Residence credits required in Junior/Senior years
- Minimum WSU cumulative grade point average of 2.00; some programs require higher grade point averages