

Software Engineering

Department Information

- **Department Web Site:**
www.ndsu.edu/cs/ (<http://www.ndsu.edu/cs/>)
- **Credential Offered:**
B.S.; UG Certificate
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/software-engineering/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/software-engineering/>)

Students interested in working as software engineers must have a sound foundation of math, physics, software, circuit theory, and engineering design principles to function effectively. A bachelor of science (B.S.) degree with a major in software engineering is focused on preparing individuals to work with other IT professional and apply engineering principles to design, test, implement, and evaluate software. Software engineers are an integral part of the accelerating growth of technology, are knowledgeable on the ever-increasing complexity of the IT sector, and are meeting the growing demands of customer and innovative website and mobile applications, and the continuous need to update code due to its limited lifespan. Software Engineering is offered jointly by the Computer Science department and the Electrical & Computer Engineering department in the College of Engineering.

The Software Engineering certificate draws from the set of courses that are specific to the B.S. in Software Engineering and the Software Engineering track of our B.S. in Computer Science degree. It can be of interest to professionals with computer science degrees who wish to expand their expertise in the area of software engineering. It is also targeted at current students who complete a different track or program and wish to cover more than one specialization.

IMPORTANT DISCLAIMER: A Sample Program Guide provides an unofficial guide of program requirements and should be used by prospective students who are considering attending NDSU in the future. It is NOT an official curriculum and should NOT be used by current NDSU students for official degree planning purposes. Note that the official curriculum used by current NDSU students can vary from the Sample Program Guide due to a variety of factors such as, but not limited to, start year, education goals, transfer credit, and course availability.

To ensure proper program completion, enrolled students should utilize Degree Map (<https://www.ndsu.edu/registrar/degreemap/>) and Schedule Planner (<https://www.ndsu.edu/onestop/degree-map-and-planning/>) in Campus Connection and consult regularly with their academic advisor to ensure requirements are being met.

First Year			
Fall	Credits	Spring	Credits
CHEM 121		3 ENGL 120 ^{1,2}	3
ENGL 110 ^{1,2}		3 MATH 165 ²	4
ECE 111		3 CSCI 160 ²	4
Gen Ed Social & Behavioral Sci ²		3 ECE 275	4
Gen Ed Wellness ²		2 CHEM 121L or PHYS 251L (GE Lab) ²	1
		14	16
Second Year			
Fall	Credits	Spring	Credits
MATH 166		4 MATH 265	4
COMM 110 ²		3 MATH 129	3
EE 206		4 ECE 374	4
CSCI 161		4 CSCI 213	3
		Gen Ed Social and Behavioral Sci ²	3
		15	17
Third Year			
Fall	Credits	Spring	Credits
PHYS 251 ²		4 ECE 341	3
CSCI 222		3 CSCI 372	3
CSCI 313		3 STAT 330	3

ECE 376	4 ECE 401	1
Gen Ed Humanities and Fine Arts ²	3 Tech Elective	3
	ENGL 320 or 324 ²	3
	17	16

Fourth Year			
Fall	Credits	Spring	Credits
CSCI 366		3 ECE 479	3
CSCI 413		3 CSCI 405	3
Tech Elective		3 ENGR 327 ²	3
ECE 403		2 Tech Elective	3
ECE 474		3 ECE 405	3
		14	15

Total Credits: 124

1

English placement guidelines apply. Students must earn 12 credits in the general education communication category.

2

Fulfills a Gen Ed Requirement

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CSCI 222		3 CSCI 372	3
CSCI 313		3 STAT 330 ²	3

ECE 376	4	CSCI 416	3
Gen Ed Social & Behavioral Sci	3	ENGL 320 or 324 ²	3
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Fourth Year

Fall	Credits	Spring	Credits
CSCI 366		3 ECE 479	3
CSCI 413		3 CSCI 405	3
Tech Elective		3 CSCI 445	3
CSCI 419		3 Tech Elective	3
ENGR 327 ²		3 Tech Elective	3
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