

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.

For students with substantial computer science training, the Computer Science Department offers a certificate with focus on software engineering. The 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.

Sample Program Guide

IMPORTANT DISCLAIMER: This guide is not an official curriculum. This guide is a sample four-year degree plan of how students might plan this major with other degree requirements to complete their education in four years. Student plans will vary from this sample due to a variety of factors, such as, but not limited to, start year, education goals, transfer credit, and course availability. To ensure proper degree 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 academic advisors to ensure graduation requirements are being met.

First Year			
Fall	Credits	Spring	Credits
CHEM 121		3 CHEM 121L or PHYS 251L	1
ECE 111		3 CSCI 160	4
ENGL 110		3 ECE 275	4
Gen Ed Social & Behavioral Sci		3 ENGL 120	3
Gen Ed Wellness		2 MATH 165	4
		14	16
Second Year			
Fall	Credits	Spring	Credits
COMM 110		3 ECE 374	4
CSCI 161		4 MATH 265	4
EE 206		4 MATH 129	3
MATH 166		4 STAT 330	3
		Gen Ed Social and Behavioral Sci	3
		15	17
Third Year			
Fall	Credits	Spring	Credits
CSCI 213		3 CSCI 313	3
CSCI 222		3 CSCI 372	3
ECE 376		4 ECE 341	3

PHYS 251	4 ECE 401	1
Gen Ed Humanities and Fine Arts	3 ENGL 320 or 324	3
	Tech Elective	3
	17	16

Fourth Year			
Fall	Credits	Spring	Credits
CSCI 305		3 ECE 405	3
CSCI 366		3 ECE 479	3
CSCI 413		3 ENGR 327	3
ECE 403		2 Tech Elective	6
ECE 474		3	
		14	15

Total Credits: 124

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First Year			
Fall	Credits	Spring	Credits
CHEM 121 ²		3 CHEM 121L or PHYS 251L (GE Lab)	1
ENGL 110		3 CSCI 160	4
ECE 111		3 ECE 275	4
Gen Ed Wellness		2 ENGL 120	3
Gen Ed Social & Behavioral Science		3 MATH 165	4
		14	16

Second Year			
Fall	Credits	Spring	Credits
COMM 110		3 ECE 374	4
CSCI 161		4 MATH 265	4
EE 206		4 MATH 129	3
MATH 166		4 STAT 330	3
		Gen Ed Humanities and Fine Arts	3
		15	17

Third Year			
Fall	Credits	Spring	Credits
CSCI 213		3 CSCI 313	3
CSCI 222		3 CSCI 372	3
ECE 376		4 CSCI 416	3
PHYS 251		4 ECE 341	3
Gen Ed Social & Behavioral Sci		3 ENGL 320 or 324	3
		17	15

Fourth Year			
Fall	Credits	Spring	Credits
CSCI 305		3 CSCI 419	3
CSCI 366		3 CSCI 445	3
CSCI 413		3 ECE 479	3
ENGR 327		3 Tech Elective	3
Tech Elective		3 Tech Elective	3
		15	15
Total Credits: 124			