Software Engineering

Department Information

- **Department Location:**
  258 Quentin Burdick Building
- **Department Phone:**
  701-231-8562
- **Department Web Site:**
  www.ndsu.edu/cs/ (http://www.ndsu.edu/cs/)
- **Credential Offered:**
  B.S.; UG Certificate
- **Program Overview:**
  catalog.ndsu.edu/programs-study/undergraduate/software-engineering/ (http://catalog.ndsu.edu/programs-study/undergraduate/software-engineering/)

Major Requirements

Major: Software Engineering

Degree Type: B.S.
Minimum Degree Credits to Graduate: 120

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 30 credits must be NDSU resident credits. Resident credits include credits registered and paid for at NDSU.
6. At least 36 credits presented for graduation must be in courses numbered 300 or higher.
7. Students presenting transfer credit must meet the NDSU residence credits and the minimum upper level credit. Of the 30 credits earned in residence, a minimum of 15 semester credits must be in courses numbered 300 or above, and 15 semester credits must be in the student's curricula for their declared major.

For complete information, please refer to the Degree and Graduation Requirements (http://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/) section of this Bulletin.

University General Education Requirements

Code	Title	Credits
Communication (C)		**12**
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Quantitative Reasoning (R) [†]		**3**
Science and Technology (S) [†]		**10**
Humanities and Fine Arts (A) [†]		**6**
Social and Behavioral Sciences (B) [†]		**6**
Wellness (W) [†]		**2**
Cultural Diversity (D) [*†]		
Global Perspectives (G) [*†]		
Total Credits		**39**

*
 May be satisfied by completing courses in another General Education category.

†
 General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review major requirements to determine if specific courses can also satisfy these general education categories.

- A list of university approved general education courses and administrative policies are available here (http://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/#genedcoursestext).

Software Engineering Requirements

Code	Title	Credits
ECE 111	Introduction to Electrical and Computer Engineering	3
ECE 275	Digital Design	4
ECE 341	Random Processes	3
ECE 374	Computer Organization	4
ECE 376	Embedded Systems	4
ECE 479	Formal Verification	3
EE 206	Circuit Analysis I	4
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
CSCI 213	Modern Software Development	3
CSCI 222	Discrete Mathematics	3
CSCI 313	Software Development with Frameworks	3
CSCI 366	Database Systems	3
CSCI 372	Comparative Programming Languages	3
CSCI 405	Principles of Cybersecurity	3
CSCI 413	Principles of Software Engineering	3
CHEM 121	General Chemistry I	3
or BIOL 111	Concepts of Biology	
MATH 129	Basic Linear Algebra	3
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
PHYS 251	University Physics I	4
STAT 330	Introductory Statistics	3
Software Engineering Track: Select either Systems Programming or Applications Development		12
Total Credits		**91**

Systems Programming Track

Code	Title	Credits
ECE 401	Design I	1
ECE 403	Design II	2
ECE 405	Design III	3
ECE 474	Computer Architecture	3
ENGR 327	Ethics, Engineering, and Technology	3
Total Credits		**12**

Applications Development Track

Code	Title	Credits
CSCI 416	Software Architecture and Design	3
CSCI 419	Software Testing and Debugging	3
CSCI 445	Software Projects Capstone	3
CSCI 489	Social Implications of Computers	3
Total Credits		**12**