COMPUTER SCIENCE, BS

Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

Minimum Overall Grade Point Average: 2.00
Total Hours: 120

Code	Title	Hours
General Education Requirements		
English Composition		
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)		
ENGL 1113	Composition I	3
or ENGL 1313	Critical Analysis and Writing I	
Select one of the following:		3
ENGL 1213	Composition II	
ENGL 1413	Critical Analysis and Writing II	
ENGL 3323	Technical Writing	
American History & Government		
HIST 1103	Survey of American History	3
or HIST 1483	American History to 1865 (H)	
or HIST 1493	American History Since 1865 (DH)	
POLS 1113	American Government	3
Analytical & Quantitative Thought (A)		
CS 1113	Computer Science I (A)	3
MATH 2144	Calculus I (A)	4
Humanities (H)		
Courses designated (H)		6
Natural Sciences (N)		
Must include one Laboratory Science (L) course.		
Courses designated (N)		6
Social & Behavioral Sciences (S)		
SPCH 2713	Introduction to Speech Communication (S)	3
Additional General Education		
Courses designated (A), (H), (N), or (S)		6
Hours Subtotal		**40**
Diversity (D) & International Dimension (I)		
May be completed in any part of the degree plan		
Select at least one Diversity (D) course		
Select at least one International Dimension (I) course		
College/Departmental Requirements		
First Year Seminar		
(Transfer students with 15 hours exempt)		1
Arts & Humanities		
See note 2.a.		3
Natural & Mathematical Sciences		
CS 2133	Computer Science II	3
MATH 2153	Calculus II (A)	3
STAT 4033	Engineering Statistics	3
Foreign Languages		
See note 3		
0-6 hours		
Upper Division General Education		
Select 6 hours outside major department (see note 2.c.)		
Hours Subtotal		**13**
Major Requirements		
Minimum major GPA 2.50 with a minimum grade of "C" in each course and all MATH and CS courses		
CS 3353	Data Structures and Algorithm Analysis I	3
CS 3363	Organization of Programming Languages	3
CS 3443	Computer Systems	3
CS 3513	Numerical Methods for Digital Computers	3
CS 3613	Theoretical Foundations of Computing	3
CS 3653	Discrete Mathematics for Computer Science	3
CS 4243	Introduction to Computer Security	3
CS 4323	Design and Implementation of Operating Systems I	3
CS 4883	Social Issues in Computing	3
CS 4983	Senior Capstone Project	3
MATH 2163	Calculus III	3
MATH 3013	Linear Algebra (A)	3
Select one of the following:		3
ENGL 3323	Technical Writing	
BCOM 3113	Written Communication	
BCOM 3223	Oral Communication	
SPCH 3723	Business and Professional Communication	
CS electives		
Select 12 hours CS electives (upper-division courses and CS 2433 and excluding CS 4113)		12
Select 6 hours in the following areas:		6
Computer Science (upper-division courses and CS 2433 and excluding CS 4113)		
Engineering (upper-division courses)		
Geography (GEOG 3333, GEOG 4303, GEOG 4323, GEOG 4333, GEOG 4343, GEOG 4353, GEOG 4383)		
Management Science and Information Systems (upper-division courses)		
Mathematics (upper-division courses and MATH 2233 and excluding MATH 3303, MATH 3403, and MATH 3603)		
Natural Sciences (upper-division courses with natural science designation or upper-division courses in BIOC, BIOL, CHEM, GEOL, MICR, PBIO, PHYS)		
Statistics (upper-division courses)		
Hours Subtotal		**57**
Electives		
Select 10 hours of electives		10
May need to include 6 hours of a foreign language. See note 3		
May need to include 6 hours upper-division general education outside major department (see note 2.c.)		
May need to include MATH 1513 and/or MATH 1813 if student does not place into MATH 2144.		

Hours Subtotal	**10**
Total Hours	**120**

CS Electives

Code	Title	Hours
CS 2433	C/C++ Programming	3
CS 3030	Industrial Practice in Computer Science	1-6
CS 3570	Special Problems in Computer Science	1-6
CS 4143	Computer Graphics	3
CS 4153	Mobile Applications Development	3
CS 4173	Video Game Development	3
CS 4183	Video Game Design	3
CS 4273	Software Engineering	3
CS 4283	Computer Networks	3
CS 4373	Agile Software Development	3
CS 4433	Introduction to Database Systems	3
CS 4513	Introduction to Numerical Analysis	3
CS 4523	Cloud Computing and Distributed Systems	3
CS 4570	Special Topics in Computing	1-3
CS 4623	Introduction to Cyber Physical Systems	3
CS 4743	Extended Reality	3
CS 4783	Machine Learning	3
CS 4793	Artificial Intelligence I	3
CS 4993	Senior Honors Project	3

Other Requirements

- See the College of Arts and Sciences Requirements.
- **Upper-Division Credit:** Total hours must include at least 40 hours in courses numbered 3000 or above.

College of Arts and Sciences Requirements

1. **Hours in One Department:** For B.A. and B.S. degrees, no more than 54 hours in one department may be required to meet degree requirements. Courses used to satisfy the General Education English Composition, U.S. History, American Government, and Mathematics or Statistics requirements will not count toward the 54-hour maximum required from one department.
2. **A&S College/Departmental Requirements**
   a. Arts and Humanities are defined as any course carrying an (H) designation or courses from AMST, ART, DANC, ENGL (except ENGL 3323 Technical Writing) HIST, MUSI, PHIL (except PHIL 1313 Logic and Critical Thinking (A), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.
   b. Natural and Mathematical Sciences are defined as any course from the following prefixes: ASTR, BIOC, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOL, MATH, MICR, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
   c. Six upper-division hours are required from General Education or any CAS courses outside the student's major department (http://catalog.okstate.edu/college-arts-sciences-major-departments/). This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
   d. Non-Western Studies Requirement for B.A. and B.F.A.; One course in Non-Western Studies (N.W.). This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
   e. The College of Arts & Sciences requires a minimum 2.0 GPA in all major requirements and a minimum 2.0 GPA in all major-prefix courses applied to the degree.
3. **Foreign Language Proficiency**
   a. The foreign language requirement for the B.A. may be satisfied by 9 hours college credit in the same language, which must include 3 hours at the 2000-level, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement. Currently Arabic and Mvskoke are not offered at the 2000-level at OSU.
   b. The foreign language requirement for the B.S., B.M. and B.F.A. may be satisfied by presenting a high school transcript which demonstrates two years of study of a single foreign language (passing grades at second-year level of study). It may also be satisfied by 6 hours college credit in the same language, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement.
   c. In addition to a. and b., students pursuing teacher certification must meet novice-high foreign language proficiency by presenting a high school transcript which demonstrates two years of study of a single foreign language with no grade below B. Or, students may complete 3 hours college credit in a single language with no grade below C (or pass an advanced standing examination, College Level Examination Program (CLEP) exam, or Oral Proficiency Interview developed by the American Council on the Teaching of Foreign Languages, equivalent to 3 hours of college credit.) Or, students may meet the requirement by transfer of documentation of meeting the foreign language competency from one of the teacher education programs in the State of Oklahoma approved by the Oklahoma State Regents for Higher Education.
4. **Exclusions**. Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.

Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.

- Degrees that follow this plan must be completed by the end of Summer 2029.

Example Plan of Study
Finish in Four Plan of Study

The plan below is an example of how students can successfully complete degree requirements in four years. This suggested class schedule plan may be used as a guide and can be adjusted based on individual needs. Students are required to meet with an academic advisor prior to enrollment each semester to plan their class schedule, and students are ultimately responsible for completing all degree requirements.

Course	Title	Hours
Freshman		
Fall		
MATH 2144	Calculus I (A)	4
CS 1113	Computer Science I (A)	3
General Education courses		8
	Hours	**15**
Spring		
MATH 2153	Calculus II (A)	3
CS 2133	Computer Science II	3
General Education courses		9
	Hours	**15**
Sophomore		
Fall		
CS 2433	C/C++ Programming	3
CS 3653	Discrete Mathematics for Computer Science	3
MATH 2163	Calculus III	3
General Education courses		6
	Hours	**15**
Spring		
CS 3353	Data Structures and Algorithm Analysis I	3
CS 3443	Computer Systems	3
MATH 3013	Linear Algebra (A)	3
Major, College, and Elective courses		6
	Hours	**15**
Junior		
Fall		
CS 4243	Introduction to Computer Security	3
STAT 4033	Engineering Statistics	3
Major, College, and Elective courses		9
	Hours	**15**
Spring		
CS 3613	Theoretical Foundations of Computing	3
3 hours Upper-Division CS Elective		3
Major, College, and Elective courses		9
	Hours	**15**
Senior		
Fall		
CS 3363	Organization of Programming Languages	3
CS 3513	Numerical Methods for Digital Computers	3
3 hours Upper-Division CS Elective		3
Major, College, and Elective courses		6
	Hours	**15**
Spring		
CS 4323	Design and Implementation of Operating Systems I	3
CS 4883	Social Issues in Computing	3
CS 4983	Senior Capstone Project	3
3 hours Upper-Division CS Elective		3
Major, College, and Elective courses		3
	Hours	**15**
	Total Hours	**120**

1

Speak with academic advisor about saving General Education electives and Humanities (H) for Upper-division courses with International (I) and Diversity (D) dimensions.