

Computer Science, Turing Scholars Honors (BSCompSci)

Turing Scholars in Computer Science

The Department of Computer Science offers a comprehensive honors degree program for highly motivated and talented students. The key features of the program are an intensive, accelerated freshman- and sophomore-year program; special Turing Scholars sections of many advanced computer science courses; a second-semester freshman-year course that introduces students to the research activities of the department; and at least two semesters of supervised research and writing. Upon completion of both a sequence of Turing Scholars courses, approved by the program director, and an approved thesis, students graduate as Turing Scholars in Computer Science. Students in the Turing Scholars program pursue the Bachelor of Science in Computer Science.

Degree-Bachelor of Science in Computer Science (BSCompSci)

The Bachelor of Science in Computer Science degree program provides a strong technical background for students planning to begin careers upon graduation and for those interested in graduate study in computer science. This program allows students to take more coursework in computer science and related technical areas than does the bachelor of science and arts degree program.

The Bachelor of Science in Computer Science offers three programs: Computer Science; Computer Science Honors; and Turing Scholars Honors. Students who would like to pursue any of the degree programs must first be admitted.

Students may also apply to the Integrated BS/MS Program, which leads to simultaneous completion of the Bachelor of Science in Computer Science and the Master of Science in Computer Science, the Master of Science in Information Studies, or the Master of Science in Computational Science, Engineering, and Mathematics.

Course Reservations

Computer science courses with numbers ending in *H* are intended for students in the Turing Scholars program, and Honors Computer Science and Business, computer science honors. Students outside these programs may enroll in these courses by petition. The exceptions are those courses related to the undergraduate honors thesis, C S 374H and C S 379H, which are intended for all CS students but still require a petition for enrollment.

Enrollment in C S 312, C S 311 or C S 311H, and C S 314 or C S 314H is reserved for computer science entry-level majors. All other computer science courses that may be counted toward a degree in computer science are restricted to students who have been admitted to the computer science major or have the consent of the undergraduate faculty advisor.

An undergraduate may not enroll in any computer science course more than once without written consent of an undergraduate advisor in computer science. No student may enroll in any computer science course more than twice. No student may take more than three upper-division computer science courses in a semester without written consent of an undergraduate advisor in computer science. All transfer coursework must be approved by faculty before it can count towards a

computer science degree, except where equivalency is specified by state regulation.

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
C S 311H	Discrete Mathematics for Computer Science: Honors	3
C S 314H	Data Structures: Honors	3
M 408C or M 408N	Differential and Integral Calculus or Differential Calculus for Science	4
<u>U.S. History (060)</u>		3
First-Year Signature Course (090), approved by departmental advisor		3
Hours		16
Semester 2		
C S 429H	Computer Organization and Architecture: Honors	4
C S 118H	Introduction to Computer Science Research: Honors	1
M 408D or M 408S	Sequences, Series, and Multivariable Calculus or Integral Calculus for Science	4
<u>U.S. History (060)</u>		3
RHE 306	Rhetoric and Writing	3
Hours		15
Year 2		
Semester 1		
C S 439H	Principles of Computer Systems: Honors	4
SDS 321 or M 362K	Introduction to Probability and Statistics or Probability I	3
GOV 310L	American and Texas Government	3
<u>Social and Behavioral Sciences (080)</u>		3
BIO 315H	Advanced Introduction to Genetics: Honors	3
Hours		16
Semester 2		
C S 331H	Algorithms and Complexity: Honors	3
Hours chosen from: Upper-division C S		3
M 340L	Matrices and Matrix Calculations	3
GOV 312L	Issues and Policies in American Government	3
BIO 325H	Genetics: Honors	3
Hours		15
Year 3		
Semester 1		
Hours chosen from: Upper-division C S Honors		3
Hours chosen from: Upper-division C S		3
<u>Natural Science and Technology, Part I (030)</u>		3
<u>Foreign Language and Culture</u>		3
GEO 303	Introduction to Geology	3
Hours		15
Semester 2		
Hours chosen from: Upper-division C S Honors		3
Hours chosen from: Upper-division C S		3
<u>Natural Science and Technology, Part I (030)</u>		3
<u>Foreign Language and Culture</u>		3
C S 103F	Ethical Foundations of Computer Science	1
Hours		13
Year 4		
Semester 1		
Hours chosen from: Upper-division C S Honors		3
Hours chosen from: Upper-division C S		3
Math or Science course		3

Free Elective	3
Humanities (040)	3
Hours	15
Semester 2	
C S 379H Computer Science Honors Thesis	3
<u>Visual and Performing Arts (050)</u>	3
Free Elective	9
Hours	15
Total Hours	120

Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy [General Education](#) requirements, including [Core Curriculum](#).

Code	Title	Hours
Concentration		
Hours chosen from:		3
Additional biology, chemistry, or physics sequence (see major requirements)		
GEO 303	Introduction to Geology	
or GEO 301	Physical Geology	
Upper-division mathematics (excluding M X25K, M X40L, M X41, and M X62K)		
Hours chosen from: Upper-division computer science		9
C S 118H	Introduction to Computer Science Research: Honors	1
C S 379H	Computer Science Honors Thesis	3
Hours chosen from:		1
C S 349	Contemporary Issues in Computer Science	
C S 103F	Ethical Foundations of Computer Science	
Approved course		
<i>Subtotal</i>		17
Major (see details below)		49
<i>Subtotal</i>		49
Degree (see details below)		6
Free electives: Additional coursework to reach total hours required.		15
<i>Subtotal</i>		27
General Education		
<u>Remaining Core Curriculum (42 hours total)</u>		33
<u>Foreign Language other than English, Beginning Proficiency</u>		
<i>Subtotal</i>		33
<u>College Requirements - Natural Sciences</u>		
<u>General University Requirements</u>		
Total Hours		120

Additional Requirements and Policies

The courses the student chooses to fulfill requirements above must be approved by the [Turing Scholars](#) program director. In addition to C S 429H, C S 118H, and C S 379H, at least five upper-division Computer Science courses must be honors courses. The honors thesis the student completes in C S 379H must be approved by the program director.

Students in the [Turing Scholars program](#), must maintain a University grade point average of at least 3.25 and a grade point average in computer science of at least 3.25; in rare circumstances, this grade point average requirement will be waived for students whose honors thesis

has been judged by the Department of Computer Science Undergraduate Thesis Committee to be truly outstanding. In addition to this grade point average requirement, students must know and abide by the academic and disciplinary policies given in this catalog and in the [General Information Catalog](#). Those who fail to do so will be considered for academic dismissal from the Turing Scholars program. Under special circumstances and at the discretion of the director, a student will be allowed to continue in the program under academic review. A student who is academically dismissed from the program may enter another computer science program if he or she fulfills the scholastic standards for continuance in the University given in *General Information*. Students in scholastic difficulty should discuss their problems with a Turing Scholars program academic advisor and the director.

Major-Computer Science (BSCompSci)

Code	Title	Hours
Choose a sequence below:		8
Sequence 1:		
M 408C	Differential and Integral Calculus	
M 408D	Sequences, Series, and Multivariable Calculus	
Sequence 2:		
M 408N	Differential Calculus for Science	
M 408S	Integral Calculus for Science	
M 408M	Multivariable Calculus	
M 340L	Matrices and Matrix Calculations	3
or M 341	Linear Algebra and Matrix Theory	
M 362K	Probability I	3
or SDS 321	Introduction to Probability and Statistics	
Choose a sequence below:		6
Sequence 1:		
BIO 311C	Introductory Biology I	
BIO 311D	Introductory Biology II	
Sequence 2:		
BIO 315H	Advanced Introduction to Genetics: Honors	
BIO 325H	Genetics: Honors	
Sequence 3:		
CH 301	Principles of Chemistry I	
or CH 301C	Foundations of Chemistry I	
CH 302	Principles of Chemistry II	
or CH 302C	Foundations of Chemistry II	
Sequence 4: Choose from of the following PART A and B		
PART A		
Sequence 1:		
PHY 303K	Engineering Physics I	
PHY 105M	Laboratory For Physics 302K, 303K, and 317K	
Sequence 2:		
PHY 301	Mechanics	
PHY 101L	Laboratory for Physics 301	
Sequence 3:		
PHY 317K	General Physics I	
PHY 105M	Laboratory For Physics 302K, 303K, and 317K	
AND PART B		
Sequence 1:		
PHY 303L	Engineering Physics II	
PHY 105N	Laboratory For Physics 302L, 303L, and 317L	
Sequence 2:		
PHY 316	Electricity and Magnetism	

PHY 116L	Laboratory for Physics 316	
Sequence 3:		
PHY 317L	General Physics II	
PHY 105N	Laboratory For Physics 302L, 303L, and 317L	
C S 311	Discrete Mathematics for Computer Science (minimum grade of C- within two attempts)	3
or C S 311H	Discrete Mathematics for Computer Science: Honors	
C S 331	Algorithms and Complexity (minimum grade of C- within two attempts)	3
or C S 331H	Algorithms and Complexity: Honors	
C S 314	Data Structures (minimum grade of C- within one attempt)	3
or C S 314H	Data Structures: Honors	
C S 429	Computer Organization and Architecture (minimum grade of C- within two attempts)	4
or C S 429H	Computer Organization and Architecture: Honors	
C S 439	Principles of Computer Systems (minimum grade of C- within two attempts)	4
or C S 439H	Principles of Computer Systems: Honors	
Hours chosen from: Additional upper-division C S		12
Total Hours		49

Degree-Bachelor of Science in Computer Science (BSCompSci)

Code	Title	Hours
Select one of the following: foreign language/culture choices (Students in Computer Science Honors, and Honors Computer Science and Business are exempt from this requirement)		6
<u>Foreign Language other than English, Beginning Proficiency</u>		
First course in a foreign language and a three-semester-hour course in the culture of the same language area		
Two three-semester-hour courses in one foreign culture area. The courses must be chosen from an approved list available in the dean's office and the college advising centers. https://cns.utexas.edu/students/degrees-majors-advising/university-core-curriculum/foreign-culture-requirement		
Total Hours		6

Additional Requirements and Policies

Students must also earn a grade of at least C- in each mathematics and science course required for the degree, and a grade point average in these courses of at least 2.00. More information about grades and the grade point average is given in the [General Information Catalog](#). The student must consult the faculty advisor each semester regarding order and choice of work.

At least 21 semester hours of upper-division coursework in computer science must be completed in residence at the University.

An undergraduate may not enroll in any computer science course more than once without written consent of an undergraduate advisor in computer science. No student may enroll in any computer science course more than twice. No student may take more than three upper-division computer science courses in a semester without written consent of an undergraduate advisor in computer science. All transfer coursework must be approved by faculty before it can count towards a computer science degree, except where equivalency is specified by state regulation.

Turing Scholars in Computer Science

Application to the Turing Scholars program is separate from, and in addition to, application to the University. Application materials and information about deadlines are available in the Department of Computer Science and on the [Turing Scholars website](#). Students may enter the program either as freshmen or after they have enrolled at the University. Factors in the admission decision are the student's high school grades and class rank, the rigor of the courses the student has taken, the quality of the required application essays, and the student's interest and aptitude in math, science, and computing as demonstrated by extracurricular activities.

Admission-to-Major: Computer Science

To apply for admission to the Bachelor of Science in Computer Science the student must have earned a grade of C- or better in entry-level courses C S 312 and C S 311/C S 311H within two attempts and earned a C- or better in entry-level course C S 314/C S 314H within only one attempt. Upon enrollment at The University of Texas at Austin, all remaining entry-level courses must be taken in residence.

It is recommended that students complete all of the entry-level courses in residence at the University. However, students may request that transfer courses taken prior to enrollment at The University of Texas at Austin be approved as substitutes for the entry-level courses. The letter grades for approved transfer courses will be used in combination with entry-level courses taken in residence to calculate the grade point average required for admission to the major. Students must earn a grade point average of at least 2.00 in all courses taken in residence, and a C- or better in [Computer Science 312](#), [311/311H](#), and [314/314H](#).

A student who is not admitted to the major may submit an appeal to the department through their advisor.

Students should consult advisors in the College of Natural Sciences Department of Computer Science for information about admission to the major.