Linguistics and Computer Science (BSLinCS)

This degree program provides a strong technical background and solid foundation in the core sciences and related mathematical disciplines for students planning to begin careers upon graduation and for those interested in graduate study in linguistics, computer science, or a combination of both.

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 312	Introduction to Programming	3
M 408C	Differential and Integral Calculus	4
LIN 306	Introduction to the Study of Language	3
LIN 313	Language and Computers	3
First-Year Signature Course (090)		3
	Hours	**16**
Semester 2		
C S 311	Discrete Mathematics for Computer Science	3
C S 314	Data Structures	3
U.S. History (060)		3
LIN 344K	Phonetics: The Production and Perception of Speech Sounds	3
Humanities (040)		3
	Hours	**15**
Year 2		
Semester 1		
C S 429	Computer Organization and Architecture	4
SDS 321	Introduction to Probability and Statistics	3
LIN 345	Language Change and Language Variation	3
Visual and Performing Arts (050)		3
GOV 310L	American and Texas Government	3
	Hours	**16**
Semester 2		
C S 439	Principles of Computer Systems	4
M 340L	Matrices and Matrix Calculations	3
LIN 372K	Sound Patterns: From Sound to Word	3
RHE 306	Rhetoric and Writing	3
	Hours	**13**
Year 3		
Semester 1		
C S 331	Algorithms and Complexity	3
Hours chosen from: Upper Division C S		3
LIN 372S	Syntax: From Word to Utterance	3
Foreign Language other than English, Intermediate Proficiency		6
	Hours	**15**
Semester 2		
Hours chosen from: Upper-division C S		3
LIN 371	Machine Learning for Text Analysis	3
Hours chosen from: BIO, CHEM, or PHY		3
Foreign Language other than English, Intermediate Proficiency		6
	Hours	**15**
Year 4		
Semester 1		
C S 371N	Natural Language Processing	3
Hours chosen from: Upper-division Linguistics		3
Free Elective		3
Hours chosen from: BIO, CHEM, or PHY		3
U.S. History (060)		3
	Hours	**15**
Semester 2		
LIN 372J	Meaning and Message	3
GOV 312L	Issues and Policies in American Government	3
Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)		3
Hours chosen from: Upper-division linguistics		3
Communication (010)		3
	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
Degree		
Mathematics		
Choose a sequence below:		4
Sequence 1:		
M 408C	Differential and Integral Calculus	
Sequence 2:		
M 408N	Differential Calculus for Science	
M 408S	Integral Calculus for Science	
M 340L	Matrices and Matrix Calculations	3
or M 341	Linear Algebra and Matrix Theory	
SDS 321	Introduction to Probability and Statistics	3
or M 362K	Probability I	
Computer Science		
C S 311	Discrete Mathematics for Computer Science	3
or C S 311H	Discrete Mathematics for Computer Science: Honors	
C S 331	Algorithms and Complexity	3
or C S 331H	Algorithms and Complexity: Honors	
C S 312	Introduction to Programming	3
C S 314	Data Structures	3
or C S 314H	Data Structures: Honors	
Hours chosen from:		8
C S 429	Computer Organization and Architecture	
or C S 429H	Computer Organization and Architecture: Honors	
C S 439	Principles of Computer Systems	
or C S 439H	Principles of Computer Systems: Honors	
C S 371N	Natural Language Processing	3
Hours chosen from: Upper-division C S, including at least one of the following courses		6
C S 371R	Information Retrieval and Web Search	
C S 342	Neural Networks	
C S 342S	Introduction to Speech and Audio Processing	

C S 343	Artificial Intelligence	
C S 363M	Principles of Machine Learning I	
C S 363H	Principles of Machine Learning I: Honors	
C S 364M	Principles of Machine Learning II	
Linguistics		
Hours chosen from:		18
LIN 306	Introduction to the Study of Language (must take first year in program)	
LIN 313	Language and Computers (must take first year in program)	
LIN 344K	Phonetics: The Production and Perception of Speech Sounds	
LIN 345	Language Change and Language Variation	
LIN 372K	Sound Patterns: From Sound to Word	
LIN 372S	Syntax: From Word to Utterance	
LIN 372J	Meaning and Message	3
or LIN 350S	Word Meaning	
LIN 371	Machine Learning for Text Analysis (must be taken before C S 371N)	3
Hours chosen from:		6
LIN 353C	Introduction to Computational Linguistics	
LIN 350.15	Computational Semantics	
LIN 353D	Computational Discourse and Natural Language Generation	
Upper-division C S		
Secondary Science		
Hours chosen from a single sequence below:		6
Biology Sequence		
Choose a sequence below:		
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	
Chemistry Sequence		
Choose a sequence below:		
Sequence 1:		
CH 301	Principles of Chemistry I	
CH 302	Principles of Chemistry II	
Sequence 2:		
CH 301C	Foundations of Chemistry I	
CH 302C	Foundations of Chemistry II	
Physics Sequence		
Choose a sequence below:		
Sequence 1:		
PHY 303K	Engineering Physics I	
PHY 105M	Laboratory For Physics 302K, 303K, and 317K	
PHY 303L	Engineering Physics II	
PHY 105N	Laboratory For Physics 302L, 303L, and 317L	
Sequence 2:		
PHY 301	Mechanics	
PHY 101L	Laboratory for Physics 301	
PHY 316	Electricity and Magnetism	
PHY 116L	Laboratory for Physics 316	
Sequence 3:		
PHY 317K	General Physics I	
PHY 105M	Laboratory For Physics 302K, 303K, and 317K	
PHY 317L	General Physics II	
PHY 105N	Laboratory For Physics 302L, 303L, and 317L	
Sequence 4:		
PHY 302K	General Physics Technical Course: Mechanics, Heat, and Sound	
PHY 105M	Laboratory For Physics 302K, 303K, and 317K	
PHY 302L	General Physics Technical Course: Electricity and Magnetism, Light, Atomic and Nuclear Physics	
PHY 105N	Laboratory For Physics 302L, 303L, and 317L	
Subtotal		*75*
Liberal Arts		
English Literature (Humanities (040) may be counted)		
C L 315	World Literature	3
or E 303D	Plan II World Literature Part II	
or E 316L	British Literature	
or E 316M	American Literature	
or E 316N	World Literature	
or E 316P	Masterworks of Literature	
or T C 303D	Plan II World Literature Part II	
Foreign Language other than English, Intermediate Proficiency		6
Additional Social Science (may not also be counted toward Core Curriculum)		
Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)		3
Subtotal		*12*
Free Elective		6
Subtotal		*6*
General Education		
Remaining Core Curriculum (42 hours total)		27
Foreign Language other than English, Beginning Proficiency		
Subtotal		*27*
College Requirements - Liberal Arts		
College Requirements - Natural Sciences		
General University Requirements		
Total Hours		**120**

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. They need at least 39 semester hours of upper-division coursework; at least 60 hours, including 24 hours of upper-division coursework, must be completed in residence at the University. 17 hours of computer science upper-division coursework must be completed in residence.

Students must fulfill both the University's general requirements for graduation and the College of Liberal Arts and the College of Natural Sciences requirements. They 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.

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 the degree, except where equivalency is specified by state regulation.

Bachelor of Science in Linguistics and Computer Science (BSLINCS) students may not earn a bachelor's degree nor transcript-recognized minor or certificate in linguistics nor computer science.