

COMPUTER SCIENCE + LINGUISTICS, BSLAS

for the degree of Bachelor of Science in Liberal Arts & Sciences Major in
Computer Science + Linguistics

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Please see the computer science advisor as well as the linguistics
advisor.

A Major Plan of Study Form must be completed and submitted to the
LAS Student Affairs Office by the beginning of the fifth semester (60-75
hours).

General education: Students must complete the Campus General
Education (<https://courses.illinois.edu/>) requirements including the
campus general education language requirement.

Minimum required major and supporting course work: Normally equates
to 66 hours. At least 12 hours of 300- and 400-level course work in the
major must be taken on this campus.

Minimum hours required for graduation: 120 hours

Code	Title	Hours
Required Computer Science Coursework		
CS 100	Computer Science Orientation (recommended; CS 100 is an orientation course aimed at first-year students, so students who declare the major after the freshman year are not required to complete it.)	1
CS 124	Introduction to Computer Science I	3
CS 128	Introduction to Computer Science II	3
CS 173	Discrete Structures	3
CS 225	Data Structures	4
CS 222	Software Design Lab	1
Choose one of the following combinations		8-11
CS 233 & CS 341	Computer Architecture and System Programming	
OR		
CS 340	Introduction to Computer Systems & two CS courses at the 400 level above CS 403, excluding CS 421 and CS 491. These two courses must be distinct from all other courses used to fulfill program requirements or options.	
Choose one of the following:		
STAT 200	Statistical Analysis	
STAT 212	Biostatistics	
CS 361	Probability & Statistics for Computer Science	
CS 374	Introduction to Algorithms & Models of Computation	4
CS 421	Programming Languages & Compilers	3

Mathematics (may also fulfill the General Education Quantitative Reasoning I and II requirements)

MATH 221 or MATH 220	Calculus I Calculus	4-5
MATH 225 or MATH 257	Introductory Matrix Theory Linear Algebra with Computational Applications	2 or 3
MATH 231	Calculus II	3

Required Linguistics Coursework - Minimum of 24 hours

LING 100	Intro to Language Science	3
LING 301	Elements of Syntax	3
LING 307	Elmnts Semantics & Pragmatics	3
LING 406	Introduction to Computational Linguistics	3

Advanced Coursework- select at least three of the following 9

TRST 415	Machine Translation: History and Applications	
LING 490	Special Topics in Linguistics (Check with advisor for appropriate topics. May be repeated to meet this requirement if topics vary)	
CS 446	Machine Learning	

Linguistics Breadth Course 3

Any 200-level or higher Linguistics Course (with the exception of
ESL and language courses)

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Sample Sequence

*This sample sequence is intended to be used only as a guide for degree
completion. All students should work individually with their academic
advisors to decide the actual course selection and sequence that works
best for them based on their academic preparation and goals. Enrichment
programming such as study abroad, minors, internships, and so on may
impact the structure of this four-year plan. Course availability is not
guaranteed during the semester indicated in the sample sequence.*

*Students must fulfill their Language Other Than English requirement by
successfully completing a fourth level of a language other than English. For
more information see the corresponding section on the Degree and General
Education Requirements page ([http://catalog.illinois.edu/general-
information/degree-general-education-requirements/](http://catalog.illinois.edu/general-information/degree-general-education-requirements/)).*

First Year

First Semester	Hours	Second Semester	Hours
Free elective course		1 CS 128	3
CS 100		1 CS 173	3
LING 100		3 200 - 400 level Linguistics Breadth course	3
CS 124		3 MATH 220 (or MATH 221)	4
Composition I or General Education course		4 General Education Course or Composition I	3

Free elective course	2		
	14		16
Second Year			
First Semester	Hours	Second Semester	Hours
CS 222		1 STAT 200 (or STAT 212 or CS 361)	3
CS 225		4 CS 233 (or CS 340)	3
MATH 225 (or MATH 257)		3 MATH 231	3
General Education course		3 General Education Course	3
Language Other Than English (3rd level)		4 Language Other Than English (4th level)	4
	15		16
Third Year			
First Semester	Hours	Second Semester	Hours
CS 341 (or CS 400-level course)		4 CS 374	4
LING 301		3 CS 400-level course or Free elective course	3
TRST 415		3 LING 307	3
General Education Course		3 General Education Course	3
General Education Course		3 General Education Course	3
	16		16
Fourth Year			
First Semester	Hours	Second Semester	Hours
CS 421		3 CS 446	3
LING 406		3 LING 490	3
General Education Course		3 Free elective course	3
Free elective course		3 Free elective course	2
Free elective course		2 Free elective course	2
	14		13
Total Hours 120			

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1. An ability to apply knowledge of computing and mathematics appropriate to the discipline.
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
4. An ability to function effectively on teams to accomplish a common goal.

5. An understanding of professional, ethical, legal, security and social issues and responsibilities.
6. An ability to communicate effectively with a range of audiences.
7. An ability to analyze the local and global impact of computing on individuals, organizations, and society.
8. A recognition of the need for and an ability to engage in continuing professional development.
9. An ability to use current techniques, skills, and tools necessary for computing practice.
10. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.
11. An ability to apply design and development principles in the construction of software systems of varying complexity.
12. An ability to apply knowledge of linguistics appropriate to the discipline.
13. An ability to analyze a problem, and identify and define the computing as well as the linguistics requirements appropriate to its solution.
14. An ability to design, implement, and evaluate a computational linguistics-based system, process, component, or program to meet desired text processing needs.
15. An ability to analyze the local and global impact of computing, language, as well as language technologies on individuals, organizations, and society.
16. An ability to use current linguistics and computational techniques, skills, and tools necessary for computational linguistics practice.
17. An understanding of Linguistics and Computer Science sufficient to be able to apply computational processes to solve problems naturally arising in language.

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CS + X Degree Information (<https://cs.illinois.edu/academics/undergraduate/degree-program-options/cs-x-degree-programs/#requirements>)

CS + Linguistics Information (<https://linguistics.illinois.edu/academics/undergraduate-program/degrees-offered/cs-linguistics/>)
Linguistics Department website (<https://linguistics.illinois.edu/>)
Computer Science website (<https://cs.illinois.edu/>)

College of Liberal Arts & Sciences

Liberal Arts & Sciences catalog page (<http://catalog.illinois.edu/schools/las/academic-units/>)

Liberal Arts & Sciences website (<https://las.illinois.edu/>)

Grainger College of Engineering

Grainger College of Engineering website

Admissions

Overview of College Admissions & Requirements: Liberal Arts & Sciences (<http://catalog.illinois.edu/schools/las/academic-units/>)

Computer Science email (undergrad@cs.illinois.edu)

Linguistics Advising website (<https://linguistics.illinois.edu/academics/undergraduate-program/undergraduate-advising/>)

Please see the computer science advisor as well as the linguistics advisor.