## Computer Science + Linguistics, BSLAS

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

- **Minimum hours required for graduation:** 120 hours

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

### Required Computer Science Coursework

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 100</td>
<td>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.)</td>
<td>1</td>
</tr>
<tr>
<td>CS 124</td>
<td>Introduction to Computer Science I</td>
<td>3</td>
</tr>
<tr>
<td>CS 128</td>
<td>Introduction to Computer Science II</td>
<td>3</td>
</tr>
<tr>
<td>CS 173</td>
<td>Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 225</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CS 222</td>
<td>Software Design Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

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
- CS 421 Programming Languages & Compilers

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 221 or MATH 220</td>
<td>Calculus</td>
<td>4-5</td>
</tr>
<tr>
<td>MATH 225 or MATH 257</td>
<td>Introductory Matrix Theory</td>
<td>2 or 3</td>
</tr>
<tr>
<td>MATH 231</td>
<td>Calculus II</td>
<td>3</td>
</tr>
</tbody>
</table>

### Required Linguistics Coursework - Minimum of 24 hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 100</td>
<td>Intro to Language Science</td>
<td>3</td>
</tr>
<tr>
<td>LING 301</td>
<td>Elements of Syntax</td>
<td>3</td>
</tr>
<tr>
<td>LING 307</td>
<td>Elmnts Semantics &amp; Pragmatics</td>
<td>3</td>
</tr>
<tr>
<td>LING 406</td>
<td>Introduction to Computational Linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>

### Advanced Coursework: select at least three of the following 9

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRST 415</td>
<td>Machine Translation: History and Applications</td>
<td>3</td>
</tr>
<tr>
<td>LING 490</td>
<td>Special Topics in Linguistics (Check with advisor for appropriate topics. May be repeated to meet this requirement if topics vary)</td>
<td>3</td>
</tr>
<tr>
<td>CS 446</td>
<td>Machine Learning</td>
<td>3</td>
</tr>
</tbody>
</table>

### Linguistics Breadth Course 3

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

### Computer Science + Linguistics, BSLAS

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

- An ability to apply knowledge of computing and mathematics appropriate to the discipline.
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- An ability to function effectively on teams to accomplish a common goal.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.
- An ability to communicate effectively with a range of audiences.
- An ability to analyze the local and global impact of computing on individuals, organizations, and society.
- An ability to use current techniques, skills, and tools necessary for professional development.
- 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.
- An ability to apply design and development principles in the construction of software systems of varying complexity.
- An ability to apply knowledge of linguistics appropriate to the discipline.
- 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
Linguistics Department webpage

Computer Science
Computer Science website

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
(academic@cs.illinois.edu)

linguistics advising: https://linguistics.illinois.edu/academics/undergraduate-program/undergraduate-advising (https://linguistics.illinois.edu/academics/undergraduate-program/undergraduate-advising/)

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

Information listed in this catalog is current as of 09/2023