HUMAN LANGUAGE TECHNOLOGY - GRADUATE CERTIFICATE

The explosive growth of the web and the vast improvements in computing power in the last decade have led to a strong need for education and research in human language technology. Human language technology is an interdisciplinary field that includes the following key technological and scientific areas:

- Computer speech recognition and understanding
- Natural language understanding and generation
- Text-based information retrieval
- Web-based dialog agents

CU Boulder’s interdisciplinary certificate in human language technology, offered jointly by the Institute of Cognitive Science; the Department of Computer Science; the Department of Linguistics; and the Department of Speech, Language and Hearing Sciences, provides a rich and broad background for students interested in computational tools for human language processing.

To learn more about the certificate, visit the Institute of Cognitive Science (https://www.colorado.edu/ics/graduate-programs/human-language-technology-certificate/) website.

**Required Courses and Credits**

The curriculum for the certificate consists of five different courses, as shown in the course table below. Three of these five required courses must be taken at the graduate level.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Programming</strong></td>
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<td></td>
<td>One semester of programming required (waived for those with programming background).</td>
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<tr>
<td>CSCI 1300</td>
<td>Computer Science 1: Starting Computing</td>
<td>4</td>
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<td></td>
<td><strong>Core Courses</strong></td>
<td>9</td>
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<tr>
<td></td>
<td>Choose three core courses from the list below; at least two must be outside the student’s home department and college.</td>
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<tr>
<td>CSCI 5832</td>
<td>Natural Language Processing</td>
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<tr>
<td>CSCI 6302</td>
<td>Speech Recognition and Synthesis</td>
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<td></td>
<td><strong>Human Communication</strong></td>
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<td>SLHS 2010</td>
<td>Science of Human Communication</td>
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<tr>
<td>LING 5030</td>
<td>Linguistic Phonetics</td>
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<tr>
<td>LING 5420</td>
<td>Morphology and Syntax</td>
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<tr>
<td>LING 7800</td>
<td>Open Topics in Linguistics</td>
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<td></td>
<td><strong>Optional Course</strong></td>
<td>3</td>
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<td></td>
<td>Choose one from the optional course list (or two if programming was waived). Extra courses from the core list (beyond the required three) can also be counted as optional courses.</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 16

1 For a full list of core and optional courses, visit the ICS website (https://www.colorado.edu/ics/graduate-programs/human-language-technology-certificate/).