## CLASIC Curriculum (32 credits)

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<tr>
<th>Curriculum with requisites and recommendations</th>
<th>3/1/2022</th>
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### Requirements

Students must complete at least 32 hours of approved graduate study, including a 2-credit capstone course focused on a publishable research project, which will run in conjunction with an internship or a CU-based research project.

As part of the capstone, students will be evaluated by their employer or industry project manager. Students will also prepare a technical report on the completed project that the program directors and project leader will jointly evaluate.

A minimum course grade is a B and a minimum GPA for graduation is a 3.0.

To fulfill core requirements defined below, students must take graduate breadth courses in 3 different breadth bins. This includes core Computer Science (bins 1 & 3) and core CLASIC (bin 2).

### Core Linguistics Courses - 2 of these 3 + one other advisor approved LING course, 9 credits

- LING 5030: Phonetics
- LING 5420: Morphology and Syntax (alt: LING 6450)
- LING 5430: Semantics and Pragmatics
- One other advisor approved LING course; LING 5000-, LING 6000- or LING 7000-level

### Core Computer Science Courses - 2 courses, 6 credits

Required to take graduate breadth courses in the 3 different breadth bins, one from each BIN. The BINS are updated every two years.

#### Bin 2 is fulfilled with CSCI/LING 5832, Natural Language Processing (NLP), a Core CLASIC course noted below.

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<th>Requisites</th>
<th>Recommended: Prerequisites</th>
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#### Bin 1 (choose one) Recommendations:

- CSCI 5454: Design and Analysis of Algorithms (alt: CSCI 5444, or CSCI 5714)
- CSCI 5606: Principles of Numerical Computation (alt: CSCI 5646)

#### Bin 2 (choose one) Recommendations:

- CSCI 5253 Datacenter Scale Computing – Methods, Systems and Techniques
- CSCI 5448 Object-Oriented Analysis and Design
- CSCI 5535: Fundamental Concepts of Programming Languages

Breadth bins:

- CSCI 2270 or equivalent
- CSCI 3656 & 3 semesters of calculus or equivalent.
- CSCI 5273
- CSCI 3155 or instructor consent required
### CLASIC Capstone - 1 course, 2 credits

<table>
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<th>Course</th>
<th>Credits</th>
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<tr>
<td>LING/CSCI 5140</td>
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### Core CLASIC Courses - 5 total; 3 required & 2 electives, 15 credits

#### Required for everyone:
- CSCI/LING 5832: Natural Language Processing (satisfies Bin 2 requirement)

#### Choose two of the following:
- CSCI 7000/LING 7800: Current Topics in Computer Science, Computational Lexical Semantics
- CSCI 7000/LING 7800: Current Topics in Computer Science, Computational Models of Discourse
- LING/CSCI 7565: Computational Phonology and Morphology
- LING 5410 and LING 5420

#### Electives - choose two of the following. Must be advisor approved.

##### Recommendations:
- CSCI 5352 Network Analysis and Modeling
- CSCI 5502 Data Mining
- CSCI 5622 Machine Learning
- CSCI 5922 Neural Networks and Deep Learning
- CSCI 6622 Advanced Machine Learning
- CSCI 7000 Current Topics in CS, Inference, Models and Simulation for Complex Systems
- CSCI 7222 Topics in Nonsymbolic Artificial Intelligence
- LING 5200 Introduction to Computational Corpus Linguistics
- LING 5800 Open Topics in Linguistics; Machine Learning and Linguistics
- LING 5622 or instructor consent required
- LING 6300/3800 Topics in Language Use; Formal Models of Linguistics
- LING 6520 Topics in Comparative Linguistics: Computational Grammars
- LING 5410 and LING 5420 and LING 5570
- PHIL 5440 Topics in Logic
- PHIL 5460 Modal Logic
- Any other CSCI or LING course at the 5000-, 6000- or 7000-level
- Any Core course listed above (not already taken)

Visit the computer science department website for a full list of course options in each of the 3 breadth bins. Updated every two years.

https://www.colorado.edu/cs/academics/graduate-programs/bin-breadth-courses