

**The Ohio State University  
College of Arts and Sciences  
Department of Linguistics  
Computational Analysis of Language Certificate Types 1b (CAOL1B-CR) & 2 (CAOL2-CR)**

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**Coordinating Advisors**

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Dr. Liz McCullough; [mccullough.136@osu.edu](mailto:mccullough.136@osu.edu)  
<http://www.ling.osu.edu>

This 12 credit-hour undergraduate certificate will train students in basic concepts and methods of computational linguistics. It will introduce students to various tasks involved when computers process human speech and text, including speech recognition, text-to-speech conversion, machine translation, automated text analysis, and natural language generation. Since computational linguistics is at the intersection of computer science and linguistics, the certificate will give students a basic understanding of both domains.

The certificate is divided into two tracks, reflecting different kinds of preparation for a career in language technologies. Track A focuses on concepts and does not require computer programming. Track B includes both concepts and techniques and requires basic computer programming, which can be developed through certificate coursework.

*Note: Some courses below have prerequisites outside of the certificate program. Please consult the course catalog prior to enrolling.*

**Prerequisite for Track A & B (1 course; 3 CH)**

Choose one of the following:

Ling 2000(H): Introduction to Linguistics  
English 3271: Structure of the English Language

**TRACK A - Choose one course in each of the following areas:**

**1. Linguistic Analysis (1 course; 3 CH)**

Ling 2001: Language and Formal Reasoning  
Ling 4100: Phonetics  
Ling 4200: Syntax  
Ling 4300: Phonology  
Ling 4350: Morphology  
Ling 4400: Linguistic Meaning

**2. Core Course (1 course; 3 CH)**

Ling 3802(H): Language and Computers

**3. Language and Technology (1 course; 3 CH)**

Ling 3801: Code Making and Code Breaking  
Ling 3803: Ethics of Language Technology

**4. Methods and Tools (1 course; 3 CH)**

Ling 2051(H): Analyzing the Sounds of Language  
Ling 5050: Technical Tools for Linguists  
Ling 3804: AI Models of Language

**TRACK B - Choose one course in each of the following areas:**

**1. Linguistic Analysis/Human Language Tech (1 course; 3 CH)**

Ling 3802(H): Language and Computers  
Ling 3803: Ethics of Language Technology  
Ling 3804: AI Models of Language  
Ling 4100: Phonetics  
Ling 4200: Syntax  
Ling 4300: Phonology  
Ling 4350: Morphology  
Ling 4400: Linguistic Meaning

**2. Core Course (1 course; 3 CH)**

Ling 5801: Computational Linguistics 1

**3. Computational Linguistics Methods & Tools (1 course; 3 CH)**

Ling 5050: Technical Tools for Linguists\*  
Ling 5802: Computational Linguistics 2  
Ling 5803: Computational Semantics  
CSE 3521: Survey of Artificial Intelligence 1  
CSE 5525: Foundations of Speech and Language Processing

**4. Elective (1 course; 3 CH)**

Choose one additional course from group 1 or 3.

*\*For students without a background in computer programming, this course is strongly recommended prior to taking Ling 5801.*

**Certificate in Computational Linguistics program guidelines:**

Credit hours required: Minimum of 12 credits.

Overlap with courses in degree

- The certificate must be in a different subject than the major.
- Max 50% overlap with major, minor, other certificate, or GE.

Grades required

- Minimum C- for a course to be counted on the certificate.
- Minimum 2.00 cumulative GPA for all certificate course work.

X193 credits: Not permitted.

Declaring the certificate

In order to declare the certificate, students must meet with Liz McCullough, coordinating advisor, prior to the filing of the certificate completion paperwork and/or graduation application. Please email [mccullough.136@osu.edu](mailto:mccullough.136@osu.edu) to make an appointment.

Approval of coursework

Students should obtain a signed certificate program form from the Department of Linguistics that outlines their coursework. If a student's coursework changes after this form has been completed, additional approval(s) may be required. Please email Liz McCullough at [mccullough.136@osu.edu](mailto:mccullough.136@osu.edu) for further guidance.

College of Arts and Sciences Curriculum and Assessment Services  
306 Dulles Hall, 230 Annie & John Glenn Ave.  
<http://artsandsciences.osu.edu>  
Appr CAA 4-21-21  
Update 6-9-21  
Update 04-09-2025 RLS