CLASIC Curriculum (32 credits)

Curriculum with requisites and recommendations | 3/1/2022

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).

	Requisites:	***Recommended:*** *Prerequisites*
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		LING 5420
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.		
	Breadth bins	
Bin 1 (choose one) **Recommendations:**		
CSCI 5454: Design and Analysis of Algorithms (alt: CSCI 5444, or CSCI 5714)		CSCI 2270 or equivalent
CSCI 5606: Principles of Numerical Computation (alt: CSCI 5646)		CSCI 3656 & 3 semesters of calculus or equivalent.
Bin 3 (choose one) **Recommendations:**		
CSCI 5253 Datacenter Scale Computing – Methods, Systems and Techniques		CSCI 5273
CSCI 5448 Object-Oriented Analysis and Design		
CSCI 5535: Fundamental Concepts of Programming Languages		CSCI 3155 or instructor consent required

CLASIC Capstone - 1 course, 2 credits		
LING/CSCI 5140 Capstone Project		
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 3104 and APPM 3570
CSCI 5502 Data Mining		
CSCI 5622 Machine Learning	see **A**	see **B**
A-CSCI 3104 and CSCI 2820 or APPM 3310 or MATH 2130 or CSCI 3022 or APPM 4570 or APPM 3570 or STAT 4250 or MATH 3510 or CVEN 3227 or ECEN 3810 or ECON 3818 or MCEN 4120		
B-A strong foundation in probability, statistics, multivariate calculus, and linear algebra is highly recommended.		
CSCI 5922 Neural Networks and Deep Learning		
CSCI 6622 Advanced Machine Learning		CSCI 5622 or instructor consent required
CSCI 7000 Current Topics in CS, Inference, Models and Simulation for Complex Systems		
CSCI 7222 Topics in Nonsymbolic Artificial Intelligence		CSCI 5622 or instructor consent required
LING 5200 Introduction to Computational Corps Linguistics		
LING 5800 Open Topics in Linguistics; Machine Learning and Linguistics		
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		
https://www.colorado.edu/cs/academics/graduate-programs/bin-breadth-courses		
for a full list of course options in each of the 3 breadth bins. Updated every two years.		