Computational Linguistics, Analytics, Search and Informatics (CLASIC)

University of Colorado Boulder
303.492.2159
Fleming 283
294 UCB
Boulder, Colorado 80309

clasic_contact@colorado.edu
https://www.colorado.edu/linguistics/graduate-program/computational-linguistics-clasic-ms

This Handbook was last edited August 2019. It’s been checked for consistency, but errors may remain. If you find any, please let the Program Coordinator and the Director know. If there is a disagreement between any statement in this Handbook and the information on the Program website, the website is the authority. Current Graduate School guidelines override any that are referred to in this document.
CLASIC Graduate Student Handbook

This Handbook is a resource for you as a graduate student in the Computational Linguistics, Analytics, Search and Informatics Professional Master’s program, an interdisciplinary degree jointly offered by the Departments of Linguistics and Computer Science at the University of Colorado Boulder. **Those policies and requirements in effect at the time of your matriculation will apply to you during your course of study here.** If there are revisions to the requirements while you are enrolled, they will not apply to you retroactively unless you specifically make that request.

All students are bound by both Departmental requirements and **Graduate School requirements**, which are separate. Make sure you understand both sets. Authoritative information on Graduate School requirements is given in the Graduate School web pages and the Graduate School section of the University Catalog. Use the Catalog and the Handbook for the year you entered until you graduate, since together they govern your graduation requirements.

You can find additional general information by searching the University’s website. Current courses offerings are available in Campus Solutions registration. Course descriptions are provided in the online catalog, in the registration system and by individual instructors. Before registering for courses each semester, consult your advisor.

This handbook should answer your questions about the rules and requirements of the program for your degree. This information is also available on our website. In case you have questions or are unclear about the rules, it is best to talk to your advisor.
# Table of Contents

1. Introduction .......................................................................................................................... 4
2. Facilities ................................................................................................................................ 4
   2.1 Access ................................................................................................................................ 4
   2.2 Copy Machine ...................................................................................................................... 4
3. Goals of the CLASIC Program ............................................................................................ 4
4. Advising ................................................................................................................................. 5
5. The Professional Master’s Program ....................................................................................... 5
   5.1 CLASIC Curriculum ............................................................................................................. 5
   5.2 Course Load for M.S. Students ............................................................................................ 6
   5.3 Distance Courses ................................................................................................................ 7
   5.4 Masters Pass/Fail Courses .................................................................................................. 7
6. Resources for Research .......................................................................................................... 7
   6.1 Library Resources .............................................................................................................. 7
   6.2 Corpus Facilities ................................................................................................................. 7
   6.3 Affiliated Center .................................................................................................................. 7
   6.4 The Linguistic Circle .......................................................................................................... 8
   6.5 Computer Science Graduate Student Community ............................................................. 8
7. Student Affairs ..................................................................................................................... 8
   7.1 Information Sources ........................................................................................................... 8
   7.2 Mailboxes and Email .......................................................................................................... 8
   7.3 CLASIC Student Association .......................................................................................... 9
   7.4 Grievances ......................................................................................................................... 9
   7.5 Student Government: University Level .............................................................................. 9
8. Financial Aid ......................................................................................................................... 10
   8.1 University Financial Aid ..................................................................................................... 10
   8.2 Employment ....................................................................................................................... 10
   8.3 Employment from other Departments ............................................................................. 10
   8.4 Student Employment Office .............................................................................................. 10
   8.5 Residency .......................................................................................................................... 10
   8.6 Grades, Progress Toward the Degree and Financial Aid ...................................................... 11
   8.7 Part-time Study .................................................................................................................. 11
9. Grades and Course Credit .................................................................................................... 11
   9.1 Grades ............................................................................................................................... 11
   9.2 Credit Policies ................................................................................................................... 11
10. Graduation ............................................................................................................................ 11
10.1. Candidacy Application for an Advanced Degree ................................................................. 11
10.2. Applying for Graduation ........................................................................................................ 12
10.3. Sufficient Progress ................................................................................................................ 12
10.4. Independent Study ................................................................................................................ 12
1. Introduction
This handbook should answer your questions about the rules and requirements for your degree program. This information is also available on our website. In case you have questions or are unclear about the rules, it is best to talk to the Program Coordinator.

Program Coordinator
Ann Marie Ladd is the CLASIC’s Program Coordinator, a part-time position. She is your first point of contact any time you have questions, problems, or need some help in any matter related to your studies.

Contact information:
Email address: clasic_contact@colorado.edu
Phone: 303-492-2159
Office: FLMG 283
Office Hours: Typically, 12pm – 5pm Mondays & Fridays and 10am – 3pm Tuesday & Wednesday.

2. Facilities
2.1 Access
Students have access to some of the CLASIC’s rooms in Fleming. These rooms are not study rooms.
- 280 – copy machine
- 281 – small group meeting space
- 286 – faculty office and lab meeting space

Cynthia Clark, in the Linguistics Department, orders keys for new students with an active Buff OneCard. She will email you when your key is ready for pick-up at Access Services in Folsom Stadium.

2.2 Copy Machine
Students may use the program’s copy machine located in Fleming 280. Use of the copy machine is for academic purposes only. You should not copy books or any other material that violates copyright laws.

3. Goals of the CLASIC Program
The Computational Linguistics, Analytics, Search and Informatics Professional Master’s Degree (CLASIC) is a unique interdisciplinary degree between the Departments of Linguistics and Computer Science. The field of computational linguistics, or natural language processing, is burgeoning and has fantastic career opportunities at Google, Facebook, Amazon, Apple, and more.

The program is intended to:
- Provide a solid foundation in computer science, data-driven linguistics and natural language processing graduate course work.
- Educate graduates to be specialists in the application of computers to the processing of natural languages, such as English, Chinese, Arabic and Urdu.
- Teach validated machine learning approaches, including deep learning, either with or without linguistic annotation as training data, and extend them to new domains and new genres as well as new linguistic phenomena using appropriate evaluation methodologies.
- Prepare students for jobs in the field of computational linguistics, also known as text analytics, natural language processing, and informatics, a field critical to the success of mainstream global businesses who compete for employees qualified to address these needs.
Coursework Alone is not Sufficient for a Degree
Students are expected to take responsibility for their own education. You are encouraged to seek advice from faculty members and make requests concerning special interests or plans (e.g., individual study with faculty members). Students are also encouraged to interact with each other and with faculty members. Your own work, through research, reading, attending scholarly talks, participating in scholarly meetings, an internship and interacting with other computational linguists, is important for building up the intellectual curiosity and knowledge expected of a holder of an advanced degree.

4. Advising
Your advisor helps make sure that you are taking the proper courses, both in terms of the program and University requirements and in terms of your career goals. You should also talk to your advisor about any issues you have that may be affecting your work. If the problem is not one that your advisor can help you to handle, he or she will help you to find the resources you need.

Advisors:
Susan.Brown@colorado.edu, Associate Director
Martha.Palmer@colorado.edu, Director

The Record of Progress
The Record of Progress is a checklist of requirements to help you keep track of your progress and record decisions about your individual plan of study. At the time of the first conference, your advisor begins filling out the Record of Progress form. The form is consulted and updated at each subsequent advising session.

5. The Professional Master’s Program
The CLASIC program is 32 semester hours of courses. Students complete the two-year degree with a capstone project that runs in conjunction with an internship or CU Boulder based research project. As part of the capstone, students are evaluated by their employer or industry project manager. Students prepare a technical report on the completed project that the program directors and project leader jointly evaluate. Students do not write a thesis or take a final examination.

Students may choose to take more than two years to complete the degree. One should consult with the Directors if thinking about this option.

The CLASIC Professional MS requires 32 credit hours of coursework. This includes 8 required courses for 23 credit hours and 3 elective courses for 9 credit hours of electives. The CLASIC Curriculum is below and found online. These courses include courses required by the Breadth Requirement *.

5.1. CLASIC Curriculum
Core Linguistics Courses - 2 of these 3 classes + any advisor approved LING class (9 credits)
LING 5030: Phonetics
LING 5420: Morphology and Syntax (alt: LING 6450)
LING 5430: Semantics and Pragmatics
Core Computer Science Courses - 2 classes (6 credits)
choose 2 (6 credits) of 8 CS areas *
Artificial Intelligence area is covered by CSCI/LING 5832: NLP, a Core CLASIC noted below

Recommendation:
CSCI 5417: Information Retrieval Systems (alt: CSCI 5817)
CSCI 5454: Design and Analysis of Algorithms (alt: CSCI 5444, or CSCI 5714)
CSCI 5535: Fundamental Concepts of Programming Languages
CSCI 5606: Principles of Numerical Computation (alt: CSCI 5646)
CSCI 5839: User-Centered Design & Development 1

CLASIC Capstone - 1 class (2 credits)
CSCI 5140/LING 5140: Capstone Project

Core CLASIC - 5 courses; 3 required & 2 electives (15 credits)
CSCI/LING 5832: Natural Language Processing
CSCI 7000/LING 7800: Computational Lexical Semantics
LING/CSCI 7565: Computational Phonology and Morphology

Examples of Electives, choose two:
CSCI 5352 Network Analysis and Modeling
CSCI 5502 Data Mining
CSCI 5622 Machine Learning
CSCI 6302 Speech recognition and synthesis
CSCI 6622 Advanced Machine Learning
CSCI 7000 Inference, Models and Simulation for Complex Systems
CSCI 7222: Topics in non-symbolic AI; Probabilistic Models of Human and Machine Intelligence
CSCI 7222 Topics in non-symbolic AI: Representation Learning for Language
LING 5200 Computational Corps Linguistics
LING 5800 Machine Learning and Linguistics
LING 6300/3800 Formal Models of Linguistics
LING 6520 Topics in Comparative Linguistics: Computational Grammars
PHIL 5440 Topics in Logic
PHIL 5460 Modal Logic

Or any Core Courses not taken

*CLASIC students are required to take courses in 3 of the 9 different CS areas to fulfill the breadth requirement. One area is Artificial Intelligence and is satisfied by taking the required Core CLASIC course CSCI/LING 5832: Natural Language Processing. So, students are required to take a course in 2 of the remaining 8 areas. The purpose of this requirement is to assure the breadth of your knowledge in Computer Science.

5.2. Course Load for M.S. Students
Six to 9 hours is a normal semester course load. All courses taken towards the degree must be at the 5000 level or higher. Most students complete the course work for the MS in two years.
Students should enroll in all their courses as a Boulder campus student.
5.3. Distance Courses
There is no limit on the number of distance classes a graduate student may take. International students may need to confirm with ISSS before enrolling in distance sections.

5.4. Masters Pass/Fail Courses
No graduate courses may be taken for Pass/Fail credit. This includes graduate courses which are transferred into the program. You can take courses for No Credit, but they will not count towards your degree.

6. Resources for Research
6.1. Library Resources
The University's Norlin Library has an excellent general collection of linguistics books, which are fully accessible in Norlin's open stacks. Books may be checked out or portions photocopied at copy machines available in Norlin. Items that Norlin does not have may be obtained through Interlibrary Loan. You may also notify the Linguistics Department Library Liaison, Zygmunt Frajzyngier, if you need something that is unavailable so that he can advise the Library to buy it for future use. The University Libraries website has a search engine as well as a wide variety of databases and electronic journals: https://www.colorado.edu/libraries/. From off-campus, you will need to use the VPN utility so that you can access electronic databases and journals that are licensed for use solely by CU faculty, staff, and students.

6.2. Corpus Facilities
CU Boulder is an institutional subscriber to the Linguistics Data Consortium or LDC, http://www.ldc.upenn.edu, which gives it access to a variety of speech and text corpora (transcriptions and digital recordings of spoken language as well as collected newswire, broadcast news talk shows and weblogs in multiple languages). We also subscribe to COCA at BYU. To access COCA, users just need to create an account with the @colorado.edu email, and there should be no issues as long as users are logging in from on campus or using the VPN which will be authenticated with the Libraries’ IP addresses.

These corpora are used in certain courses as well as for individual research. Many LDC corpora are already available to CLASIC students. See current holdings on the Corpus Listing page of the CU Linguistics website, https://verbs.colorado.edu/CUCorpusInfo/. See current LDC holdings on the LDC's catalog page. For more information consult with Ghazaleh Kazeminejad, the Linguistics Department’s corpus manager.

6.3. Affiliated Center
The Center for Computational Language and Education Research (CLEAR)
There is a lab in the Affiliated Center. Students may become involved in this lab by consulting with the faculty director.
• Computational Semantics Lab, Martha Palmer, director

CLEAR is dedicated to advancing Human Language Technology. It conducts research and development which informs theoretical questions in human language technology. The Center projects include: adaptive assessment and intervention for reading difficulties; the development of increasingly rich linguistic annotation schemes that can serve as training and evaluation data for machine learning; information extraction and natural language understanding using semantic role labeling and co-reference resolution; spoken language processing and dialog understanding; and human-computer interaction using animated agents or customizable interfaces. These projects have led to a wide variety of systems including some for language acquisition skills, tutoring and therapy, tools for question answering and navigating the web, and for learning and presentation of science topics ranging from plate tectonics to acoustics.
6.4. The Linguistic Circle is a series of approximately weekly meetings and colloquia. Faculty, advanced students, and visiting scholars speak on current research. In the spring, as part of the PhD proseminar, LingCircle presentations discuss graduate-school-survival skills and career development strategies.

6.5 Computer Science Graduate Student Community

Computer Science Colloquia
Students are encouraged to attend as many of the talks in the colloquium series as possible. The talks cover a wide range of research topics and may provide some familiarity with people and projects.

One of the primary points of contact for the graduate student community is Slack. Slack is a free messaging service that can be used in a browser or downloaded as an app. Sign up for a Slack account for https://boulder-cs-grads.slack.com/ with your Colorado email address.

Channels address topics like:
- #courses: Great place to ask questions about if a professor is highly recommended, the amount of work associated with a course, etc.
- #housing: Find a roommate or ask recommendations on neighborhoods.
- #freefood: Not super active, but pretty self-explanatory
- #games: Board game nights that might semi-spontaneously get organized
- #gsa_planning: Get involved with our Graduate Student Association and planning events
- #intramurals: Organizes teams and team captains for the university recreational sports league

New channels are created all the time for various interests, students of a particular course, upcoming events etc.

Outside of Slack, Computer Science and CSGSA also organize a few community events every semester. Reoccurring ones include:
- Welcome back event: Usually at the start of the semester as a chance to meet new students and chat with old friends
- Friendsgiving: A potluck a few weeks before Thanksgiving
- Winter Celebration: In early December, this is the fanciest event of the year featuring a catered meal with live performances from students and faculty
- Graduate Student Research Expo: Students present research in the form of posters and talks
- Spring Picnic: In May, the department hands out awards and provides free-food

These events are usually advertised on Slack and via the department mailing lists: cs-phd@lists.colorado.edu and cs-ms@lists.colorado.edu

If you want to get involved in planning events or you have an idea for an event that you would like to see happen, you should contact the CSGSA (csgsa@colorado.edu)

7. Student Affairs

7.1. Information Sources
The University of Colorado website provides a vast array of resources pertaining to student life, from transportation to technology services. Consult this page for a complete listing of information sources: http://www.colorado.edu/audience/students.

7.2. Mailboxes and Email
Graduate student mailboxes are in the hallway near the Department of Linguistics’ main office, Hellems 290. Students should check their boxes as well as their university email regularly for Department and Graduate School announcements.
Students are responsible for keeping the CLASIC Program Coordinator informed of changes in their contact information.

7.3. CLASIC Student Association
Students are added to the CLEAR Computational Semantics (The Center for Computational Language and Education Research) mailing list and are encouraged to attend as many of the regular Wednesday 10:30am meetings as possible in Fleming 279. Students are also added to a computer science email list which notifies you of forums for talks that cover a wide range of research topics.

You are encouraged to attend these meetings and talks which may provide some familiarity with people and projects. Meetings are not held most of the summer. Watch for email announcements for details.

Anyone who is so motivated is welcome to start a CLASIC student association.

7.4. Grievances
Grievances, whether related to individual courses or Program actions, should be brought first to the attention of your advisor or the Directors. If a grievance is not resolved informally to your satisfaction in this way, you may address a formal appeal to the faculty, which will then be considered by a specially appointed committee. Further appeal to the Graduate School may also be made (see the Graduate School Rules for details). The Ombuds Office offers confidential counsel to students at any stage of a grievance.

For grade grievances, if discussions between the instructor and the student have not led to any resolution of the problem, the student shall have the option of making a formal written appeal to the Director. The appeal must be submitted within 45 days of the end of the academic term in which the course was taken, and it must specify the remedy desired by the student. The Director or a designee will meet (together or separately) with the student and with the faculty member who taught the course. If the Director/designee is unable to broker a solution mutually acceptable to both student and instructor, then the Director shall appoint an ad hoc Grade Appeals Committee, which will review the dispute. This committee shall consist of at least three impartial faculty members competent in the subject matter of the course in question. The Director will provide the committee with the student’s appeal and a written response from the faculty member. Within 45 days, the committee will submit a report and recommendation to the Director, and the Director will recommend to the instructor either (1) that the originally assigned grade stand; or (2) that a new grade be assigned. In cases where a change of grade is recommended and the instructor does not wish to accept the recommendation of his/her colleagues, the Director shall forward the written materials associated with the appeal to the Dean of the College.

Refer to the Graduate School Rules. To communicate concerns related to academic issues or academic conflicts, please refer to the Graduate Student Grievance Process and Procedures, revised 2019.

7.5. Student Government: University Level
The interests of all university graduate students are represented by the United Government of Graduate Students (UGGS). UGGS deals with topics including health insurance, childcare, employment, and campus security, as well as social programming. Linguistics and Computer Science graduate students elect representatives to the UGGS each year. The representatives must attend meetings regularly for the Department graduate students to receive activity funds from UGGS. Find out who your representatives are each year.
8 Financial Aid

8.1. University Financial Aid
To receive University financial aid, domestic students must complete the Free Application for Federal Student Aid (FAFSA) form, available from the Office of Financial Aid and on the FAFSA website. Additional information about financial aid may be found here, http://www.colorado.edu/finaid, and here, Aid for Professional Students, https://www.colorado.edu/financialaid/aid-graduate-professional-students. The Graduate School has funding information including National Fellowship Opportunities at, https://www.colorado.edu/graduateschool/graduate-student-funding.

8.2. Employment
Students in the Professional MS programs are not eligible for Teaching Assistantships (TAs), Research Assistantships (RAs), or Graduate Part-Time Instructor (GPTI) appointments. Part-time hourly jobs as graders or for individual professors may be possible once you've arrived on campus. There are usually grading positions available each semester. If you are interested in grading for a computer science course, contact Rajshree Shrestha, Computer Science Senior Graduate Advisor.

8.3. Employment from other Departments
There are occasional opportunities for part-time hourly jobs in other programs, particularly in the Program for Writing and Rhetoric and in foreign language departments.

8.4. Student Employment Office
Remember to check out the Student Employment Office for on-campus and off-campus opportunities. International students can work a certain number of hours per month and must consult with the International Student and Scholar Services Office (ISSS).

8.5. Residency
U.S. citizens and Green Card holders may establish Colorado residency, and are expected to do so, if possible, since financial aid sources cannot reliably cover non-resident tuition. It takes 12 months (minimum) to establish residency. To have your residency status approved, you should register to vote in Colorado, register your car here, obtain a Colorado driver’s license, and pay taxes as a Colorado resident (and as a non-resident of whatever state you used to live in).

Some of these requirements mean that you must take steps when you first move to the state. It is best if they are started before the first day of classes your first semester here. Your application for residency may not be accepted if you start this procedure later than the first day of classes. You must complete all the above steps. In addition, you should keep rent receipts. The actual application should be submitted in the spring of your first year because it takes a while to get it approved.

To be granted residency status for tuition purposes, you must apply to the Tuition Classification Office by submitting a Tuition Classification form before the relevant deadline. Information about petitioning for in-state tuition classification, including deadlines, is in the Tuition Classification Guidelines available online https://www.colorado.edu/registrar/students/state-residency or at the Tuition Classification Office in the Office of the Registrar, Regent Administration Center, Rm. 101. Be sure to check the deadlines in order to obtain your resident classification as soon as possible!

International students cannot become Colorado state residents unless they are already qualified permanent residents of the United States.
8.6. Grades, Progress Toward the Degree and Financial Aid –
The Graduate School requires a 3.00 GPA for students. If you are not making acceptable progress or meeting the registration requirement, you can petition to be allowed to retain financial aid that has already been awarded to you, but this will only work for a semester or two at the most. Financial aid is very unlikely to be given to students who have several incomplete course grades or who are otherwise not making satisfactory progress towards the degree.

8.7. Part-time Study
Students admitted to the graduate program are expected to work steadily toward completion of their degree requirements. Part-time students are not discouraged, especially for students with jobs.

9 Grades and Course Credit

9.1. Grades
Graduate School grades are somewhat inflated as compared to most undergraduate grades. Although professors vary in their grading policies, the following is a rough guide as to how grades in M.S. level courses are likely to be interpreted by people evaluating your transcript, e.g., for admission to the Ph.D.:
A: encouragement to doctoral-level study in the field
A-: cautious encouragement to doctoral-level study in the field
B+: good M.S.-level work, cautious about whether study beyond the M.S. is appropriate
B: acceptable M.S.-level work, study beyond the M.S. is probably not appropriate
B-: minimal passing work, study beyond the M.S. is strongly discouraged, and it is likely that you are not in the appropriate field of study.

The Graduate School does not accept courses with grades below C toward the M.S. The Graduate School also has strict requirements for the cumulative grade point average (GPA). Students in the Graduate School must maintain a cumulative GPA of 3.0 (B) in all courses taken, whether graduate or undergraduate. Students whose cumulative average falls below 3.0 are placed on probation by the Graduate School and will be suspended if their GPA does not reach 3.0 within the time specified by the notice of probation. Students may take a Leave of Absence from graduate study, if personal circumstances are making it difficult to maintain a GPA of 3.0. Discuss this option with your advisor if you are having problems. See the University Catalog, Graduate School, subsection on Credit Policies for additional information about academic probation and suspension, provisions for removal of grades below B by retaking a course (grade replacement), I (incomplete) grades, and the Leave of Absence Program.

9.2. Credit Policies
See the University Catalog, Graduate School, subsection on Credit Policies for additional information about academic probation and suspension, provisions for removal of grades below B by retaking a course (grade replacement), I (incomplete) grades, and the Leave of Absence Program.

10 Graduation

10.1. Candidacy Application for an Advanced Degree
In order to graduate, you must complete an Application for Candidacy the semester you intend to graduate. When completing the Candidacy Application, check the Degree Plan II (non-thesis, no exam, degree plan). After your advisor signs the completed form, give the form to the Program Coordinator who will obtain the Director’s signature before sending to the Graduate School for approval.
The filing Graduation Deadlines are listed online (Master’s Graduation: Without Thesis). The Program Coordinator will send an email reminder at the beginning of each term to those anticipated to graduate.

10.2. Applying for Graduation
In order to graduate, students also must officially Apply. In one’s MyCUInfo portal, click on the student tab and then select the ‘Apply for Graduation’ link in the middle of the page. Follow the instructions to apply for the semester you plan to graduate. If you do not graduate in the semester you plan to, you will have to go to your myCUInfo and apply for the next semester you plan to graduate. The filing deadlines are listed online. You must do this at the beginning of the semester in which you plan to graduate.

10.3. Sufficient Progress
All students should note that the Program is given the authority to drop any student who fails to make sufficient progress toward a degree. The definition of sufficient progress is left to the Program. CLASIC will take no action under this authority without first informing you of what you must do to resume adequate progress and giving you a fair amount of time to satisfy those requirements. The best way to avoid problems is to maintain regular contact with your faculty advisor.
If you decide not to take any courses in a particular semester, you should apply for a Leave of Absence, to ensure you will be able to register for the next semester. See the Registrar’s office for more details. Failure to register or sign up for a Leave of Absence will result in being dropped from the program. i.e., you would have to reapply and be accepted again to resume your studies.

10.4. Independent Study
CLASIC students may take up to 3 hours of independent study during their academic career. Independent study should be work in an area where the program does not offer a formal course or go more in-depth into a field.

If a faculty member agrees to set up an individual study with you, an Individual Study Contract (obtainable online, see Enrollment Procedures at bottom of page) must be completed and submitted to the CLASIC Director or Associate Director for approval. Individual study is not to be used to duplicate existing courses (e.g. in a semester in which they are not offered). Two or more students may also participate together in the same independent study.