THE COMPUTER SCIENCE PhD PROGRAM AT CARNEGIE MELLON UNIVERSITY

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Contents

1 Welcome

While this handbook is specific to your academic experience in our department, there are several other resources and offices graduate students are encouraged to consult during their tenure at Carnegie Mellon University. Information about The Word, the student handbook, the Office of Graduate and Postdoc Affairs, the Office of the Dean of Student Affairs and others are included in Appendices of this handbook.

2 Introduction

Carnegie Mellon's Computer Science PhD program aims to produce well-educated researchers, teachers, and future leaders in Computer Science. The PhD degree is a certification by the faculty that the student has a broad education in Computer Science and has performed original research in a topic at the forefront of the field.

This document is an informal description of the Computer Science PhD program; herein "we" refers to all the faculty and staff involved in the PhD program.

We are committed to the principle that students may achieve competence through a variety of methods, including courses, seminars, projects, and independent study. Our program is also unique in that we encourage and expect students to engage in research from their first day in the Department. To help students fulfill these requirements, we provide these educational opportunities:

- An active research environment
- The *Introductory Course For CS Doctoral Students*, intended to give an overview of the research interests of the faculty and to familiarize new students with the people and facilities of the Department
- A large number of *graduate courses*: regularly offered area courses in algorithms and complexity, artificial intelligence, computer systems, programming languages, and software systems; advanced graduate area courses; special topics courses; practicum courses; and reading seminars—together covering a broad range of areas in Computer Science

Students are encouraged to shape an educational program to suit their needs. Financial support and/or permission to continue in the PhD program depends on satisfactory progress each semester

2.1 Program Personnel

- Department Head: Srinvasan Seshan
- Director of the Doctoral Program: Venkatesan Guruswami
- Graduate Programs Manager: Deb Cavlovich
- TA Coordinator: Charlie Garrod
- Student Ombudspersons: Alex Wang and Pallavi Koppol

2.2 Academic Calendar

The Academic Calendar can be found at: `https://www.cmu.edu/hub/calendar/index.html`.

It provides information on all deadlines including registration dates, class start dates, add/drop deadlines, exam dates and more.

3 Overview of the Program

Carnegie Mellon's PhD in Computer Science is, above all, a research degree. When the faculty award a PhD, they certify that the student has a broad foundation in Computer Science, has advanced the field by performing significant original research, and has reported that work in a scholarly fashion.

Before embarking on original research, we expect students to acquire a body of technical knowledge that includes a familiarity with the breadth of Computer Science as well as a deep understanding of a specialized area.

- The Introductory Course For CS Doctoral Students is the first step in this process, exposing the student to the many ongoing research activities and projects in the Department and School.
- Next, through structured coursework the student gains a broad understanding of the fundamental research issues in major areas of Computer Science, and has the opportunity to gain a deep understanding in the student's area of specialization.
- Finally, the thesis work itself guarantees that the student understands the area well enough to advance the state of knowledge in the field.

Below we sketch the progress of a typical student through the program. Since the program is flexible, the careers of some students depart from this script at one or more points.

Around the start of October of the first year, each student is matched with a suitable advisor, who helps the student pursue directed research in an area of mutual interest. If the student's research interests change, they are free to change advisors at any time, subject to approval.

During the first two years of the program, the student begins to gain the foundation of knowledge that will allow their to go on and become an expert researcher in Computer Science, primarily through the following two ways:

- By mastering a body of graduate material, achieved by passing 72 university units worth of graduate courses. Seventy-two units is equivalent to six full-time (12-unit) courses.
- By learning how to organize and begin to carry out original research, achieved by participating in directed research. What constitutes directed research is decided individually between the student and their advisor.

Twice, usually during the first three or four years, the student serves as a teaching assistant. While teaching or taking courses, we expect students to spend at least half their time doing directed research.

Our environment provides a myriad of opportunities for students to hone their writing and speaking abilities and to maintain their programming skills. We expect students to satisfy their communications skills requirements within their first three years.

Each 12-unit course should require no more than a quarter of the student's time during any one semester. So, typically a student tries to complete all coursework by the end of two years, at which point the student becomes involved in full-time research and starts thinking about research directions for a thesis. As the student's thesis research direction becomes clear, the student writes a thesis proposal and assembles a thesis committee with help from the student's advisor. The student then completes and defends the thesis, and graduates.

3.1 Primary Components to Complete Degree

We require that each student:

- Participate in *directed research* and complete at least 24 units of research at CMU or at an internship.
- Pass 72 university units worth of *graduate courses*, with certain distribution requirements.
- Serve as a *teaching assistant* at least twice.
- Demonstrate oral and written *communication skills*.
- Write and orally defend a *thesis*, a significant piece of original research in a specialized area of Computer Science.

The PhD program provides each student with a periodic evaluation of their progress. Continuation in the PhD program is contingent on making satisfactory progress.

4 The Introductory Course For CS Doctoral Students

The Introductory Course For CS Doctoral Students (IC) is intended to provide a common starting point for the entering PhD students. It is organized as a short, intensive two week session that starts the week before the beginning of the fall semester with added lectures that may occur throughout the fall or following spring semester.

The IC's goals are:

- To orient students new to the Department, through introductions to people (faculty, staff, other students) and through social activities.
- To introduce students to various research and educational topics of current interest to the faculty.
- To give students an opportunity to find a suitable research advisor.
- To familiarize students with the computing facilities and environment at Carnegie Mellon.
- To introduce students to our community and define our equity, diversity and inclusion expectations.

These goals are fulfilled through a program of lectures, poster sessions, demonstrations, and tours of laboratories. Enough open hours are scheduled to allow students to meet with faculty individually to learn more about their research.Since all first-year graduate students are required to attend the IC, most regular graduate courses for all CS PhD students do not start until the intensive part of the IC is over.

5 Community Spirit

Our sense of community is well-known as a distinguishing aspect of doing computer science at Carnegie Mellon. It is one of the reasons many students choose to come here. The Computer Science Department is proud of our strong community spirit, which we foster through close working relationships between students and advisors, among faculty, and among students. Many working relationships turn into friendships for life.

People volunteer their time, energy, intellect, talent, and other skills to do many of the things that keep our environment running smoothly. These efforts include organizing seminars, maintaining software packages, serving on departmental committees, grading for a graduate course, planning and running social activities, giving tours, and hosting visitors.

6 Advisors

Except during their first month in the program, each student has a faculty advisor charged with guiding the education and monitoring the progress of the student through the program. This personal student-advisor relationship ensures that every student receives the necessary faculty mentoring. Throughout the program, the advisor is responsible for guiding the student's research and education.

Early in the program, the advisor guides the student along some research initiative and helps with strategic planning for courses and other educational activities. Later, the advisor helps to focus the student's research interests towards a thesis topic.

Toward the end of the program, the advisor chairs the student's thesis committee, and helps to select the other members of the committee. The advisor also provides the student with career advice.

6.1 How are Advisor–Advisee Matches Made?

After a little over a month at CMU, entering students are matched with faculty advisors by the "handshake" process. Students list faculty preferences and faculty list student preferences; a committee then matches each student with a faculty member, taking into consideration each of their preferences and other factors.

Students base their faculty preferences on research interests. They can learn about an individual faculty member's research interests by attending the faculty research presentations during the IC, by referring to the Department's Faculty Research Guide `https://csd.cmu.edu/research/faculty-research-guide`, and from meeting individually with different faculty members during their first month here.

There is flexibility in the kind of relationship a student has with their advisor. Some students work more closely with their advisors than any other faculty member, and some students work more closely with another faculty member on a particular research project. A few students have two co-advisors.

While it must be approved by the Director of the Doctoral Program, a request to switch advisors is routine and almost always granted for a student in good standing, especially during the early part of the degree program. It often results from an evolution of the student's research interests.

There are many faculty both within SCS and outside SCS who have advising privileges and can either function as sole advisors or co-advisors. Please see `http://www.cs.cmu.edu/~csd-grad/thesiscommittee.html` for a current list of people with advising privileges. Suggested additions to this list should be made by contacting the Department Head. A CSD faculty sponsor is required for anyone wishing to be added to the list.

7 Directed Research

Students and advisors have different ideas of what directed research means and how progress can be demonstrated. It is the responsibility of both the student and their advisor to formulate for each semester a set of reasonable goals, plans, and criteria for success in conducting directed research.

7.1 Directed Research Expectations All Students Should Meet

- During a student's first two years, they should be doing directed research at least half time; once all coursework is completed, and before doing thesis research, directed research should full time (except when teaching).
- We typically expect students to also use the summer semester to make progress on their PhD research. Students can either work on their research at CMU, as part of an internship at a company, or at another research center to make this progress.
- There are official course numbers associated with both directed research at CMU and internships. Active students (excludes, LOA and ABS status; Dual Degree Portugal students; and students on vacation semester) must enroll in these courses each semester and will receive a pass/fail grade.
- Active students are required to complete 24-48 units of Graduate Reading and Research each Fall, Spring and Summer semester.
- During any semester, students may substitute up to 36 units of Computer Science Practicum for these research units.
- Students typically substitute practicum units for research units 3-4 times during their PhD degree program.
- Substituting more than 4 times requires approval from the PhD program director.
- International students must consult with Office of International Education (OIE) for eligibility before seeking an internship/practicum or signing an offer contract.

Note that neither research or practicum units count towards the 72 unit coursework requirement.

Advisors are individually responsible for adequately supervising this portion of the PhD program.

8 Evaluation of Student's Progress

Evaluation and feedback on a student's progress are important both to the student and to the faculty. Students need information on their overall progress to make long-range plans. The faculty need to make evaluations to advise students, to make support decisions, and to write recommendations to potential employers.

8.1 Doctoral Student Review

The faculty hold a *Doctoral Student Review* (DSR) meeting[1]twice a year at the end of the semester to make a formal evaluation of each student in the PhD program.

The purpose of having the advising faculty meet together to discuss all the students is to ensure uniformity and consistency in evaluating across all the different areas, by all the different advisors, throughout the years of the PhD program in CSD as it inevitably changes.

The meeting consists of two parts, one in which subsets of the faculty from different research areas (Artificial Intelligence, Computer Systems, Programming Languages, Software Systems, and Theory) meet, and the other in which the all advising faculty meet.

The faculty measure each student's progress against the goal of completing the PhD program in a reasonable period of time. The evaluation considers all components of the program using indicators and information sources described below.

Through a *Doctoral Student Review* letter the faculty inform students of the results of this evaluation, which may include specific recommendations for future work or requirements that must be met for continued participation in the program.

8.2 Components and Indicators

In their evaluation, the faculty consider the following components, though naturally only some of these components will be applicable in any given semester and they are not equally important at every stage of a student's career.

- *Courses taken*: Evaluated by the course instructor—brief prose evaluation/summary grade.
- *Directed research*: Evaluated by research supervisor and other collaborating faculty.
- *Teaching*: Evaluated by the course instructor and two different teaching evaluation forms (one filled out by the course instructor and the other filled out by students, where appropriate).
- *Skills*: Writing and speaking, evaluated by relevant faculty and forms.

- *Thesis*: Status summarized by the thesis advisor and commented on by members of the thesis committee.
- *Departmental/community service*: Reported by the student and evaluated by relevant faculty.
- *Other*: Lectures given, papers written, etc. Evaluated by cognizant faculty.

The faculty's primary source of information about the student is the student's advisor and the student statement. The advisor is responsible for assembling the above information and presenting it at the faculty meeting. The student should make sure the advisor is informed about participation in activities and research progress made during the semester. Each student is asked to submit a summary of this information to the faculty at the end of each semester—the *Student Statement for Doctoral Student Review* at `https://dsr.csd.cmu.edu`. This statement is used as student input to the evaluation process and as factual information on activities and becomes part of the internal student record. It is strongly recommended that the student and advisor meet prior to the faculty meeting to review the information provided in this statement.

8.3 Recommendations

Based on the above information, the faculty decide whether a student is making satisfactory progress in the PhD program. If so, the faculty usually suggest goals for the student to achieve over the next semester. If not, the faculty make more rigid demands of the student; these may be long-term (e.g., finish your thesis research over the next 3 semesters) or short-term (e.g., select and complete one or more specific courses next semester; prepare a thesis proposal by the next Doctoral Student Review).

Ultimately, permission to continue in the PhD program is contingent on whether or not the student continues to make satisfactory progress toward the degree. If a student is not making satisfactory progress, the faculty may choose to drop the student from the program.

The faculty also decide whether financial support should be continued for each student. Termination of support does not always mean termination from the program, details regarding termination of support are provided in the student's evaluation letter.

8.4 Grades

Since the PhD program is not based solely on conventional academic courses, it is difficult to associate grades with a student's accomplishments. Also, for students who complete the program, grades are largely irrelevant. However, passing grade for graduate courses is B- or better. Graduates are judged primarily on their professional achievements and the experience they have gained during the program, and on the basis of recommendations from members of the faculty.

The PhD program keeps an internal record of various information about a student's performance, such as final grades given in some graduate courses. This information is used at the *Doctoral Student Review* meeting. This information does not go on the student's university transcript.

Once the required coursework is completed, students must register for a blanket course (e.g., "Reading and Research") covering all their program activities for that semester, for which they receive a Pass/No Pass grade.

CSD PhD students may formally register for graduate or undergraduate courses in other departments. However, they must register for these courses with pass/fail grading. A form to request pass/fail grading is available for download from the Hub: `https://www.cmu.edu/hub/docs/pass-fail.pdf`

Process for Appealing Final Grades: Final grades will be changed only in exceptional circumstances and only with the approval of the instructor and the department, unit or program. Grading is a matter of sound discretion of the instructor and final grades are rarely changed without the consent of the instructor who assigned the grade.

The following circumstances are the unusual exceptions that may warrant a grade appeal: (a) the final grade assigned for a course is based on manifest error (e.g. a clear error such as arithmetic error in computing a grade or failure to grade one of the answers on an exam), or (b) the faculty or staff member who assigned the grade did so in violation of a University policy. `https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html`

8.5 Course Drop, Add, Withdraw procedures

Students taking undergraduate and Master's level courses must follow the procedures and deadlines for adding, dropping, or withdrawing from courses as identified on the academic calendar.

- Information can be found at: `https://www.cmu.edu/hub/registrar/course-changes/index.html`
- There is a separate calendar for doctoral level courses, which is available at: `https://www.cmu.edu/hub/calendar/index.html`

9 Course Requirements

Every student must complete 72 university units (typically 6 classes) worth of graduate courses. In addition, we have defined *five breadth subject areas* (listed below) in computer science. To ensure that students acquire sufficient exposure to basic knowledge concepts, we require that students take at least one class from four of these subject areas. Students can use the remaining two courses (24 elective units) to gain more depth in the student's particular area of research.

9.1 Five Breadth Subject Areas

Each student must pass one *approved* course from four of these areas:

- Algorithms and Complexity
- Artificial Intelligence
- Computer Systems
- Programming Languages
- Software Systems

Only certain classes in each area fulfill this requirement. However, each area provides multiple approved courses. The approved breadth courses are 12 university units each. The list of currently approved classes in each area is available at `https://www.cs.cmu.edu/~csd-grad/breadth.html`. Note that there may be classes beyond this list that can satisfy the breadth requirement for an area. You should contact the Area Advocate available at `https://www.cs.cmu.edu/~csd-grad/areaadvocates.html` to determine if there are alternative classes for an area in a particular semester.

We attempt to schedule these courses so that students can satisfy their breadth requirement in a one-year period; however, since we expect students to be engaged in directed research at least half-time, a typical student should plan to satisfy their breadth requirement over a two-year period.

9.2 Breadth Course Substitution

Substitution is when a student takes a non-breadth PhD level course instead of a breadth course. For example, if a student took courses in compilers and computer architecture already, instead of taking one of our Computer Systems breadth courses, they might wish to use a different Systems Area course, with approval from the area advocate, to satisfy the Computer Systems area requirement. In essence, substitution gives the student another free elective, where the choice is somewhat limited to courses within the area.

9.3 Twenty-Four Elective Units

Students must also take 24 university units worth of elective courses, at least 12 of which are from graduate courses offered by the School of Computer Science (not just the Computer Science Department); the other 12 may be from graduate courses offered by the rest of the University. These graduate courses must be level 700 or above.

Students may use electives to gain additional depth of knowledge in the student's research area, e.g., to complement their directed research or to prepare them for choosing a thesis topic. Students may also use electives to gain additional breadth of knowledge in an area outside of the student's research area.

Though students typically take courses to satisfy the elective units requirement, there are three other means of passing these units: doing an internal project, carrying out an external project, or teaching a graduate course. In some areas such as algorithms, it might make more sense to take advanced courses; in other areas such as software systems, it might make more sense to do a project. For those who like to reinforce knowledge by teaching, we provide the opportunity to obtain elective credit by being a teaching assistant.

We strongly advise students to choose electives in consultation with their advisor. The student and their advisor are both responsible for making sure that through these 24 elective units the student gains new knowledge, perhaps to fill gaps or to prepare for thesis research. They are also responsible for balancing how a student fulfills these units (through courses, projects, or teaching), taking into consideration the student's career goals, the student's strengths and weaknesses in research, teaching, communication skills, and programming ability. Students are free to take more than the required number of elective units.

9.4 Transfer Courses and PCHE

The Computer Science Department does not generally accept transfer credit from institutions other than Carnegie Mellon to count toward degree attainment.

Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program with the Pittsburgh Council on Higher Education (PCHE) and Cross-registration, which might be allowed as an elective selection with confirmation that the course is a PhD level course and approval from Doctoral Program Director.

The Carnegie Mellon University transcript will include information on such courses as follows: Carnegie Mellon courses and courses taken through the university's cross-registration program will have grades recorded on the transcript and be factored into the QPA for programs that use QPA. All other courses will be recorded on this transcript indicating where the course was taken, but without grades. Such courses will not be taken into account for academic actions, honors or QPA calculations. (Note: suspended students may take courses elsewhere; however, they may receive transfer credit only if their college's and department's policies allow this.)

10 Teaching Requirement

The ability to teach is an important skill for all scientists, not only for those who plan to teach after completing their degrees. Teaching skills include the ability to communicate technical material ranging from elementary to advanced, and to communicate technical material to audiences ranging from general to specialized. Thus, we expect students to develop and exercise teaching skills as part of their graduate education.

Students have ample opportunities to present advanced material while working on research projects, by participating in research seminars and by giving practice conference talks. To gain experience in presenting more elementary material, we require that all graduate students help teach two courses. The norm is for students to teach one introductory-level undergraduate course and one advanced-level undergraduate course. Current policy (which is subject to change from semester to semester) is that graduate breadth courses in the Computer Science Department with an enrollment of 20 or more are also eligible for TA credit. *In particular, courses in other units in the School of Computer Science, or advanced graduate courses are* ***not*** *eligible for satisfying the teaching requirement.*

It is important that **all** teaching that is to count towards the teaching requirement must be assigned and approved **in advance** by the TA Coordinator. Students' preferences will be taken into account, but cannot always be honored.

We encourage students to teach more than twice. At the semi-annual evaluation of students the faculty give special recognition to those who do an outstanding job as a TA and to those who teach beyond the required load. The School of Computer Science offers a TA workshop which we encourage students to take advantage of.

General information about TA-ing can be found at: `https://www.ugrad.cs.cmu.edu/ta/general.html`

10.1 Evaluation and Certification of English Fluency for Instructors

Graduate students are required to have a certain level of fluency in English before they can instruct in Pennsylvania, as required by the English Fluency in Higher Education Act of 1990. Through this Act, all institutions of higher education in the state are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns.

The full university policy can be reviewed at: `https://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html`

The fluency of all student instructional personnel will be rated by Language Support in the Student Academic Success Center to determine at what level of responsibility the student can TA.

In addition to administering the International Teaching Assistant (ITA) Test (a mandatory screening test for any non-native speaker of English), Language

Support in the Student Academic Success Center helps teaching assistants who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon.

Visit the Student Academic Success Center website for additional information: `https://www.cmu.edu/student-success/`

11 Written and Oral Communication Skills

To be a well-rounded computer scientist each student should have not just basic knowledge, but also the abilities

- To communicate technical ideas clearly in writing
- To communicate technical ideas clearly orally

We also expect students to be able to program, but there is no formal checkpoint to certify programming skills. It is left up to the advisor and student to make sure the student has the necessary skills.

11.1 Writing Skills Requirement

11.1.1 The Writing Skills Document

To satisfy the written communication skill requirement the student must write a solo-authored technical blog post on current research and have it approved by a 3-person committee. Once approval is logged it will be posted to the `http://www.cs.cmu.edu/~csd-phd-blog/.`

It is strongly suggested that the writing skills be completed by the end of the 3rd year in the doctoral program. In any case, **the writing skills requirement must be completed before the thesis proposal**. The writing skills cannot be the thesis proposal, though it might inform a future thesis proposal.

The following describes the intended audience, content, and writing format required of a blog post submission:

- **Target audience**: The post should be written at a level so that any interested advanced computer science student finding the blog can get something useful out of it. A good yardstick might be your fellow CSD doctoral students who are not necessarily in your own research area.
- **Suggested length**: Around 2500 words (it can be shorter; the length should really just be whatever is necessary to get the main ideas across in a concise, clear, and understandable way). The post should not be longer than 5000 words.
- **Content**: The blog post must present a self-contained, cogent, and engaging narrative on some recent research, including a blend of scientific (high-level) and technical exposition.

  - The post can describe the student's own published or accepted research (this will probably be the most common option), or it can summarize an interesting recent line of work in the student's research area (however, the post shouldn't be an opinion piece beyond choice of what to summarize or emphasize).
  - Figures/images/tables that add to exposition and enhance understanding are strongly encouraged.
  - Bibliography optional but inline references to attributions made in the text should be given.

- **Format**: The post should build off the provided template file, available from the public git repository `https://github.com/cmu-csd-phd/csd-blog`, along with detailed instructions (in the README file) on the workflow for downloading the necessary files, building the blog post, and submitting it for review and final posting. It should contain metadata including category and keywords (the categories are to be chosen from a fixed set provided in the template, but keywords are free-flowing).

11.1.2 Benefits of the blog post format of writing skills requirement

Main Benefits: Graduating students need to be able to write well.

- Technical content and high-level explanations are both required elements
- Quality is ensured through committee and public eyes
- Student gets visibility for the post as its single author, and their work gets noted outside usual publication circles
- The broad target audience cultivates ability to communicate outside of bubble
- Blog post format gives experience in an increasingly prevalent form of modern communication

Ancillary Benefits: Publicity

- Easy to search for and convenient to read
- Department and School can point to blog to show off student research
- Students can point to blog to advertise their work
- Can help point people in other areas who might be interested in topics relating to the post related work, which could potentially lead to collaborations.

11.1.3 Composition of writing skills committee

You must obtain written final approval of the blog post content from:

- One CSD tenure-track/research faculty member.
- One SCS or CSD tenure-track/research faculty member.
- One doctoral student who has already passed their writing skills.

The PhD advisor(s) of the student should not serve as a reviewer. A co-author on the work(s) upon which the blog post is based also should not act as a reviewer (though, if required, they can provide informal feedback on initial drafts of the post to the student).

11.1.4 Process to satisfy the writing requirement

It is anticipated that the whole process should comfortably fit within a semester, and in fact typically over a shorter duration.

- Choose topic of the blog post
- Gather committee agreeing to review your topic in a timely fashion, subject to above requirement on committee composition. Make sure the committee is aware of the bounded timeframe of the process and their schedule permits providing feedback in a timely fashion.
- Read over the README file on the git repository dedicated to the writing skills `https://github.com/cmu-csd-phd/csd-blog` and make sure you understand the steps and workflow of the process.
- Prepare initial draft of post and send it to committee
- Committee approves unanimously or suggests revisions:
  - In case of approval:
    * Get the writing skills blog approval form signed by the committee and email it to the Graduate Programs Manager who keeps copies in their file and indicates in their records that the requirement has been successfully fulfilled.
    * Follow the instructions in the README and submit a pull request to get the blog post, with public committee approval, posted on the CSD PhD blog site.
  - Non-approval means "not yet pass" and should come with feedback for iteration.
    * Unless there are major issues such as the topic itself no longer being considered viable, or a big pivot in the focus with respect to original intent, this should be a fast and efficient iteration: feedback and revisions should be able to happen within about

2 weeks (maybe longer for the initial draft), perhaps even same day if quick/minor edits)

* Iterate based on feedback as necessary, until post is approved.

11.1.5 Committee criteria for evaluation of post

Here are some (possibly overlapping) criteria for the committee to consider when evaluating the post:

- Scientific exposition (w.r.t target audience)
  - Why is this interesting?
  - What is the main challenge? Eg: intellectual difficulty, aesthetics, usefulness?
  - What is this connected to, and how does it fit within the big picture of work in the field?
  - What are the main high-level ideas?
- Technical exposition (w.r.t target audience)
  - What are the specific contributions?
  - What are the main details?
  - What obstacles are overcome and how?
  - What might it enable going forward?
  - Mathematical writing/experimental design?
- Overall structure + flow
  - English: paragraphs, sentences
  - Clarity of proofs, arguments, deductions, etc.
- Placing into broader context
  - Related work
  - Connection to motivation
- Additional criteria the committee feels is appropriate, to be included in feedback to the author to incorporate

If the post is not yet accepted, feedback should include actionable criticism. If the topic remains viable, then that criticism should reference some subset of the criteria listed above.

Doctoral students who entered the program prior to fall 2021 may opt to use the previous writing skills process to satisfy the requirement. Please refer to the graduate program web page for Writing Skills and the handbook for the year in which you entered the CSD PhD program to utilize that option.

11.1.6 Resources to Help with Technical Writing

Here are some additional resources that can help to develop and improve one's written communication skills:

- Computer Science PhD students are welcome to enroll in the undergraduate communications course, required of undergraduate majors, to enhance their writing skills; however, taking the course *d*oes not satisfy the written communication skills requirement.
- The Student Academic Success Center provides personalized help with writing for all CMU students. You can work one-on-one with communication experts who can teach you new strategies for communicating research, proposals, presentations, essays, and applications. They work with all CMU students, from first-year undergraduates through PhD students publishing papers and dissertations.
- "Mathematical Writing" by Donald E. Knuth, Tracy Larrabee, and Paul M. Roberts
- A potentially useful book is *BUGS in Writing*. It is specifically for computer science and is organized around the most common mistakes the authors make.
- *On Writing Well*, by William Zinsser is generally about writing nonfiction, and is full of excellent advice (online version). As is *The Elements of Style*, by William Strunk Jr. and E.B. White (online version).
- For more math-y papers (but with good general advice about technical writing): "How to write Mathematics" by Paul Halmos, "How to Write a Clear Math Paper: Some 21st Century Tips" by Igor Pak.

11.2 Speaking Skills

The Department and School provide many opportunities for students to practice their speaking skills. Here are just a few:

- Research area seminar series (AI, CS, Logic, POP, PS, Theory)
- Research unit seminar series (MLD, HCII, LTI, Robotics)
- Regular lunchtime talks (e.g., SDI lunch, Graduate Student Seminar Series)
- Research area group meetings (e.g., Machine Learning, Theory)
- Recitations, tutorials, and guest lectures (as a teaching assistant)

To satisfy the oral communication skill requirement each student should give a public talk at Carnegie Mellon. The talk is scheduled so that members of a standing committee, the *Speakers Club*, can attend, evaluate the student's talk, and provide oral and written feedback to the student.

This talk must be accessible to a general computer science audience. It should be advertised as "In Partial Fulfillment of the Speaking Requirement" so the audience knows what kind of feedback the student is seeking and so all interested and available Speakers Club members can mark their calendars accordingly.

Students should be able to use existing forums (e.g., those listed above) to give their talk, and thereby avoid having to schedule a special talk. Of course it is acceptable if the student wants to schedule a special time and date, but the student should take care to ensure that an audience beyond the three required members of the Speakers Club (two faculty and one student) is present at the talk. The Speakers Club "robot" helps students schedule their talks, ensures a quorum of Speakers Club members is met, and reminds Speakers Club members of their responsibility and commitment to attend talks. Due to contention for popular times (especially the Student Seminar Series), talks must be scheduled at least three weeks in advance.

All Speakers Club members are welcome to attend the advertised talk. Immediately after the talk, those members in attendance confer among themselves (with the student absent) about the talk. They also each fill out a Speaking Review Form, available from the Graduate Programs Manager. If at least two faculty members and one graduate student member of the Speakers Club grade the student's talk to be "Good" or better, then the student passes. If not, the student will be required to give another talk. After a decision has been made, one of the attending faculty members volunteers to discuss the feedback and outcome privately with the student.

After the talk, when the student passes, they take all signed forms to the Graduate Programs Manager who keeps copies in the student's file and marks in the student's records the completion of this requirement. Much of this part of the process is like what happens after a thesis proposal presentation or thesis defense; the focus here, however, is on oral communication skills.

As with writing, speaking well takes practice. Satisfying this requirement might take a few tries on the student's part. For students who are naturally good speakers or are already experienced speakers, one try may suffice. No stigma is attached to those who have to try more than once.

12 The Thesis Process

12.1 Thesis

The thesis must describe a piece of original research work and must describe it well. It is evidence of proficiency, high attainment, and ability to do research in a specialized area of computer science, which the Department relies upon to certify the qualifications of the new PhD.

Furthermore, it is the most important basis on which the scientific community judges the initial achievement and potential of that individual.

12.2 Thesis Committee

The student's advisor chairs the thesis committee. All other committee members, including the external member, should be agreed upon before the thesis proposal presentation. Members of the student's committee must accept the responsibility of meeting with the student regularly to ensure that the research is progressing in the right direction.

The Thesis Committee must consist of at least one Computer Science Department faculty, two members of SCS faculty, and/or other approved faculty and an external committee member. Please see `http://www.cs.cmu.edu/~csd-grad/thesiscommittee.html` for a current list of people with advising privileges. Thesis committees and any changes to committees are subject to departmental approval.

Please remember thesis committee members (including the Chair) must be physically present for the thesis proposal (at least two) and defense (at least three).

12.3 Thesis Proposal

The student submits a written proposal to the faculty. The student also orally presents the thesis proposal to interested faculty and students in a public colloquium.

A thesis proposal should:

- Explain the basic idea of the thesis topic (e.g., the problem to be solved and the approach to solving it)
- Argue why that topic is interesting (e.g., what contributions to the field would be made in carrying out the proposed work)
- State what kind of results have already been obtained and what further results are expected
- Argue that these results are obtainable within a reasonable amount of time

- Demonstrate the student's personal qualifications for doing the proposed work

The main purpose of the thesis proposal is to convince the faculty that the chosen thesis topic is significant and that the student's approach has a reasonable chance of success. A thesis proposal gives the faculty the opportunity to pass such judgment at the start of the work and not at the end. We want to minimize the chance that a thesis will be turned down when almost completed. We expect students to present their thesis proposals as early as possible, not halfway through writing the thesis. A thesis proposal should be short, about 15–20 pages.

A thesis proposal should *not* be:

- A dry run for the thesis
- A summary or abstract of the thesis
- The first chapter or part of the thesis
- A technical report
- A survey of the field
- An annotated bibliography

Any included list of references or bibliography should serve the purpose of supporting the assessment of the state of the art and the student's personal qualifications.

To provide ample notice to the public, at least two weeks in advance of the oral presentation, students should provide the Graduate Programs Manager with one hardcopy of the thesis proposal, an on-line copy of the proposal's abstract, and a list of the thesis committee members, including the external member. The Graduate Programs Manager posts the public announcement of the thesis proposal presentation.

Please remember that at least two thesis committee members (including the Chair) must be physically present for the thesis proposal.

A more extensive checklist is available online with specific information on the thesis proposal `https://www.cs.cmu.edu/~csd-grad/tp.checklist.html`

Upon completion of the thesis proposal the student must complete a Doctoral Candidate Contractual Agreement Form provided by the Graduate Programs Manager.

12.4 Thesis Defense

The student's thesis committee decides whether to accept the thesis based on its content and the outcome of the *thesis defense*, which is a public presentation describing the contributions of the thesis.

At least one week in advance of the oral presentation, students must provide the Graduate Programs Manager with:

- One hard copy of the thesis abstract
- A digital copy of the abstract in text format .rtf, .txt, or .docx, *(No .pdf please)*
- A list of all thesis committee members

The Graduate Programs Manager posts the public announcement of the thesis defense.

Before the thesis defense, the entire thesis committee is expected to have read the entire thesis, to have given comments to the candidate, and to have given approval for scheduling the public defense. This means that a copy of the complete thesis document should be provided to the whole thesis committee a minimum six weeks in advance of any proposed date for the defense. Significant deviations from this rule must be approved by the Director of the Doctoral Program. Committee members should meet briefly before the thesis presentation to discuss any issues.

The presentation by the candidate is normally about 45 minutes, followed by a question-and-answer period which may be as long as needed. Please remember that at least three thesis committee members (including the Chair) must be physically present for the thesis defense. The thesis committee chair (advisor) determines who may ask questions and in what order and brings the discussion to a close at the appropriate time. The question-and-answer period is followed by a closed-door session attended by only the members of the thesis committee. The options of the committee are:

- To approve without corrections
- To approve subject to minor changes, to be approved later by the thesis chair only
- To require a resubmission after major changes and re-approval of the entire committee
- Not to approve the thesis

All members of the committee are required to sign a Final Oral Examination card, indicating that the student has passed the thesis oral examination. In addition, the thesis committee chair, the Department Head, and the Dean sign a final certification sheet when the student submits the final version of the thesis.

A more extensive checklist is available online with specific information on the thesis defense https://www.cs.cmu.edu/~csd-grad/oral.checklist.html.

Every student must read and adhere to these more detailed process rules.

12.5 Degree Attainment

After the presentation of an acceptable thesis proposal, and satisfying all other requirements except for the dissertation and its oral defense, students are regarded as in "all but dissertation" (ABD) status.

12.5.1 Time to Degree:

Students who began in the PhD program prior to June 1, 2011, once ABD status is achieved, must complete all remaining requirements for the PhD within a maximum of seven full academic years, unless terminated earlier by conferral of the degree or by academic or administrative action.

As outlined in the Doctoral Student Status Policy https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html

Students who began in the PhD program after June 1, 2011 will complete all requirements for the PhD degree within a maximum of ten years from original matriculation as a doctoral student, or less if required by a more restrictive department or college policy.

Once this time-to-degree limit has lapsed, the person may resume work towards a doctoral degree only if newly admitted to a currently offered doctoral degree program under criteria determined by that program.

Under extraordinary circumstances, such as leave of absence, military or public service, family or parental leave, or temporary disability, a school or college may, upon the relevant department's recommendation and with the written approval of the dean, defer the lapse of All But Dissertation status for a period commensurate with the duration of that interruption.

Students, who are pursuing the PhD degree as part-time students for all semesters of their program, as approved by their program, may also appeal to their program or department for extension of the time to degree limit.

12.5.2 ABD and ABS Status

An ABD candidate may choose to continue as a regular student *In Residence*, or to be *In Absentia* (ABS).

Please see the University policy, which sets forth a definition of All But Dissertation (ABD) status, time limits on doctoral candidacy status, a definition of being In Residence and In Absentia for candidates and the tuition and fees charged for candidates in each status.

The ABD Status Agreement Form can be found at: https://www.cmu.edu/hub/docs/abd-status-agree.pdf

https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html

12.6 Master's Degree

We are happy to grant any student a *Master of Science in Computer Science - Research* degree once they have passed all 72 course units, passed at least one of the two communication skills requirements, and taught at least once. No Master's Degree will be granted if you have received a Master's Degree in another area of SCS. You must make your request in writing or via email to the Graduate Programs Manager.

12.7 Other Time Estimates

The following table indicates estimates for approximately when students should have finished each requirement. Overall, we expect students to complete the program within 5–6 years, depending on background, research area, and dissertation research.

These figures are meant to be suggestive, not prescriptive. We present them so that all faculty and students can develop a shared image of the expectations of the program.

COMPONENT	INTENSITY	COMPLETION TIME
Introductory Course (IC)	full time	$2 + 2$ weeks
Breadth Courses	each 1/4 time	by end of year 2
Elective Courses	each 1/4 time	by end of year 2
Writing Skills	variable	by end of year 3
Teaching	1/2 time	by end of year 4
Speaking Skills	variable	by end of year 4
Thesis Proposal	1/2 time	by end of year 4
Thesis	full time	by end of year 5 (or 6)

Students are expected to be working on research every semester with intensity at least 1/2 time throughout their time at CMU. In addition, it is expected that students volunteer within the department and school throughout their time at CMU.

12.8 Graduation Certification

The Graduate Programs Manager maintains a checklist of procedures for scheduling the thesis oral presentation and completing the other requirements for graduation. The Graduate Programs Manager certifies fulfillment of requirements for graduation only when the final version of the thesis has been approved by the thesis committee, the Department Head, and the Dean. Students are not allowed to participate in commencement exercises unless final certification has been made.

If the final copy of the thesis is not submitted within one year of the thesis defense, the faculty may require a second defense before making a final certification.

13 Student Financial Support

13.1 Academic Year Support

The Department aims to allow students as much freedom as is possible in choosing research directions, subject to the interests and expertise of the faculty who are available to oversee the work. Thus, the PhD program generally decides which funding source to use to support a student *after* the student has chosen an advisor or research area.

On occasion, the PhD program is able to obtain an individual fellowship for a student through external sources. We also encourage students to seek their own external funding since often the award is prestigious (e.g., NSF or Hertz) or the source provides an opportunity to make professional connections (e.g., an industrial fellowship).

If a student receives and external fellowship/scholarship, they must notify the Graduate Programs Manager. The Department supplements the stipends of students with an outside fellowship to meet (and usually exceed) the stipends of students with internal funding. To any student whose spouse or qualifying domestic partner earns less than $200 per month, the Department pays a dependency allowance that is 10% of the student's SCS monthly stipend per dependent.

13.2 Summer Support

There is summer support available for many students, particularly for those working on their dissertation. However, we believe it is also good for students to gain experience in industry for one or two summers during their career here at Carnegie Mellon. Faculty and staff will provide help in finding suitable summer employment.

13.3 Conference and Travel Support

The department encourages students to travel to conferences and workshops to enhance their professional and career development.

If a student wants to attend a conference or workshop, the student's advisor or research sponsor should support the trip through either a research contract or a discretionary account.

If no such funding is available to the student, then limited departmental funds may be available upon request from the department. Since departmental funds are limited, some requests may not be approved, and some may not receive full funding; however, the department will try to support a student's travel as much as possible.

Funding is usually available to a student for no more than one departmentally-sponsored trip per year.

To obtain travel support, the student and their faculty advisor/research sponsor must first agree that the student should take the trip. Then *in advance*

of the trip the student should get a Student Travel Authorization Form: https://www.cs.cmu.edu/~csd-grad/Student_Travel_Auth.pdf, and then the advisor/research sponsor's signature (on the Faculty Research Sponsor line). The faculty member must either (i) indicate the amount of support the student may receive and its source (be sure the charge number is filled in!), or (ii) state that no funds are available from any research or discretionary account.

If no faculty support is available, the student should submit the signed form to the Associate Department Head – Finance and Administration for approval of departmental sponsorship. The maximum to be reimbursed will be $200 plus the registration fee, if only attending the conference or workshop; $600 plus registration fee, if presenting a paper.

University Funding: Conference Funding is a funding application process provided by the GSA and the Provost?s Office for students, student work groups or groups to attend a conference, whether as a participant or as a presenter. The process is managed by the the Office of Graduate and Postdoc Affairs. Students can find more information about the application process and deadlines at: https://www.cmu.edu/graduate/professional-development/index.html

13.4 Employment Eligibility Verification

If you are receiving a stipend, are a TA or are planning to have a paid position with CMU then Employment Eligibility Verification is Required.

Form I-9 must be completed within 3 business days of beginning work for any type of compensation (stipend or employment).

To ensure compliance with federal law, Carnegie Mellon University maintains the *Employment Eligibility Verification (I-9) Policy* covering the university's I-9 and E-Verify requirements: https://www.cmu.edu/hr/assets/hr/restrict/employment-eligibility-verification-policy.pdf

- Every individual receiving a stipend from CMU or employed by CMU must comply with the I-9 Policy by completing the Form I-9 within three business days following the first day of stipend start date/employment.
- Individuals who expect to work on a federally funded project are further responsible for an E-Verify Processing Request Form to the Office of Human Resources if required.

For more information and to schedule an appointment:

- See CMU's Guidance for Completing the Form I-9 Requirements: : https://www.cmu.edu/hr/assets/recruiting/restrict/i-9-guidance.pdf
- Visit the Human Resources Service website to learn more about Form I-9 and E-Verify: https://www.cmu.edu/hr/service-center/new-faculty-staff/i-9-e-verify/index.html
- To schedule an appointment to complete the Form I-9: https://go.oncehub.com/I9Appointment

13.5 Consulting and Outside Employment

Consulting is a privilege, not a right. We grant this privilege for one of two reasons:

- The consulting task is relevant to the student's thesis work or a Carnegie Mellon research project.
- The student has exceptional financial obligations.

Consulting is normally limited to a maximum of 8 hours per week.

A student who wishes to consult should obtain permission from their advisor and the Director of the Doctoral Program, and fill out an approval form, available from the Graduate Programs Manager.

We may require that students limit outside employment in order to be in compliance with university and government rules.

13.6 University Funding Sources

Not an exhaustive list:

- Graduate students who find themselves in need of immediate funds for emergency situations should contact the Office of the Dean of Student Affairs, to inquire about the types of emergency funding available to enrolled students.
- **GuSH Research Funding** is a source of small research grant funds provided by the Graduate Student Assembly (GSA) and the Provost's Office and managed by the Office of Graduate and Postdoc Affairs. Students can find more information about the application process and deadlines at: `https://www.cmu.edu/graduate/professional-development/research-funding/index.html`.

14 Leave of Absence and Withdrawal

14.1 Leave of Absence

Students who wish to leave the program temporarily may request a leave of absence (LoA) by submitting a request to the Director of the Doctoral Program. Leaves are initially granted for a period of no more than one year, but an extension of up to one additional year may be granted under exceptional circumstances. When an extension is granted, the conditions for return must be negotiated with the advisor and the Director of the Doctoral Program prior to returning to the program. Students must be in good standing in order to be granted a leave of absence.

Students on leave of absence should contact the Graduate Programs Manager two months prior to the end of the leave to indicate their plans. While a leave can

in principle start at any time, university regulations allows students to return only at the beginning of a semester (usually in late August or in January).

University Policy for Leave of Absence: `https://www.cmu.edu/policies/student-and-student-life/student-leave.html`

University process for Leave of Absence: `https://www.cmu.edu/hub/registrar/leaves-and-withdrawals/`

14.2 Withdrawal

Students considering withdrawing from the program should contact the Director of the Doctoral Program and submit the withdrawal for to the Graduate Programs Manager.

University policy for withdrawal: `https://www.cmu.edu/hub/registrar/leaves-and-withdrawals/`

University process for withdrawal:
`https://www.cmu.edu/policies/student-and-student-life/withdrawal-of-a-degree.html`

15 Points of Contact

Students and advisors enjoy a close working relationship in our program. If students have problems, whether related to their research or not, they should feel free to speak to their advisors. If doing so is awkward or if students simply want a second opinion, they should feel free to discuss any issues with either:

- The Director of the Doctoral Program
- or The Graduate Programs Manager

Additional contacts for specific issues are listed in the following subsections.

15.1 Area Advocates

Issues regarding course requirements and substituting classes should be directed to the appropriate Breadth Area Advocate.

Current Area Advocates are listed at: `https://www.cs.cmu.edu/~csd-grad/areaadvocates.html`

15.2 The Doctoral Review Committee

The Doctoral Review Committee is the official advisory committee to the Director of the PhD program and the Department Head. While the structure and contents of the PhD program are still discussed by the faculty and students as a whole, the DRC makes sure that the program's design is implemented and rules abided by properly. In this sense the DRC is also an oversight committee.

The DRC monitors all courses. It regularly asks students to evaluate courses and their instructors. It keeps statistics and data about all past and present CS

PhD students, discusses issues and problems that are specific to CS PhD students, and makes minor policy decisions that do not require the attention of all the faculty and students.

The DRC is also something like a senate since the student representatives speak for all the students and the faculty representatives speak for all the faculty.

`https://www.cs.cmu.edu/afs/cs/academic/committee/drc/drc.html`

Authentication is required to access the DRC webpage.

15.3 Student Ombudspersons

If a student feels that none of the above avenues are appropriate for hearing about their problem, they can turn to the PhD program's *ombudspersons* either individually or as a pair.

An ombudsperson's role and responsibilities are:

- To meet with students and listen to their problems
- To give advice, perhaps suggesting someone else to talk to or suggesting the next step to take
- To act as an informal resource – in particular, students may discuss concerns or issues with ombudspersons without committing to any formal university process
- To keep conversations confidential

Ombudspersons are supposed to be friendly, approachable, mature, good listeners, in their third year or higher (i.e., should "know the ropes" so to speak), and reasonable (of course!).

If a student feels uncomfortable approaching either the Director of Doctoral Programs or the Graduate Programs Manager about any concerns, then the ombudspersons (either individually or as a pair) would be the perfect people to turn to.

An ombudsperson is different from student DRC members since the DRC is an official committee. If a student has a personal problem (e.g., with their advisor), it may not be appropriate to talk to a student DRC representative about it (unless as just a friend).

For issues a student feels rise to, or are determined to require, formal university processes graduate students can find detailed information in the Summary of Graduate Student Appeal and Grievance Procedures on the Graduate Education Resource webpage:

`https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html`

15.4 Disability Services

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical and programmatic campus access to all events and information within the Carnegie Mellon community. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Sections 503 and 504 of the Rehabilitation Act of 1973.

Students who would like to receive accommodations can begin the process through the Disability Resources online portal or email access@andrew.cmu.edu to begin the interactive accommodation process.

For more information please see `http://www.cmu.edu/education-office/disability-resources/`. Students with disabilities are encouraged to self-identify with Office of Disability Resources by contacting Catherine Getchel, 412-268-6121, getchell@cmu.edu to access the services available at the university and initiate a request for accommodations.

16 University Policies & Expectations

All policies not explicitly covered in this document adhere to university policies. These policies include the status of All But Dissertation (ABD) and In Absentia students, academic disciplinary actions, and grievance procedures.

It is the responsibility of each member of the Carnegie Mellon community to be familiar with university policies and guidelines. In addition to this departmental graduate student handbook the following resources are available to assist you in understanding community expectations:

- The Word/Student Handbook: `https://www.cmu.edu/student-affairs/theword/index.html`
- University Policies Website: `https://www.cmu.edu/policies/`
- University Vision, Mission and Values: `https://www.cmu.edu/about/mission.html`
- University Policy on Grades: `https://www.cmu.edu/policies/student-and-student-life/grading.html`
- Graduate Education Website: `https://www.cmu.edu/graduate/policies/index.html`

16.1 The Carnegie Mellon Code

Students at Carnegie Mellon, because they are members of an academic community dedicated to the achievement of excellence, are expected to meet the highest standards of personal, ethical and moral conduct possible.

These standards require personal integrity, a commitment to honesty without compromise, as well as truth without equivocation and a willingness to place the good of the community above the good of the self. Obligations once undertaken must be met, commitments kept.

As members of the Carnegie Mellon community, individuals are expected to uphold the standards of the community in addition to holding others accountable for said standards. It is rare that the life of a student in an academic community can be so private that it will not affect the community as a whole or that the above standards do not apply.

The discovery, advancement and communication of knowledge are not possible without a commitment to these standards. Creativity cannot exist without acknowledgment of the creativity of others. New knowledge cannot be developed without credit for prior knowledge. Without the ability to trust that these principles will be observed, an academic community cannot exist.

The commitment of its faculty, staff and students to these standards contributes to the high respect in which the Carnegie Mellon degree is held. Students must not destroy that respect by their failure to meet these standards. Students who cannot meet them should voluntarily withdraw from the university. The Carnegie Mellon Code can also be found on-line at: `http://www.cmu.edu/student-affairs/theword/code.html`.

16.2 Academic Integrity

- University Academic Integrity Website - Please review the University expectations at: `https://www.cmu.edu/policies/student-and-student-life/index.html`
- Academic Integrity Policy - please review the entire policy at: `https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html`
- University-wide Protocol for Graduate Students: `https://www.cmu.edu/student-affairs/ocsi/academic-integrity/grads.html`

16.3 Degree and Enrollment Verification and Transcripts

Enrollment Services is the only University office that can provide an official letter of enrollment, official transcript and enrollment verification.

Degree or Enrollment Verification: `https://www.cmu.edu/hub/registrar/student-records/verifications/index.html`

Transcripts: `https://www.cmu.edu/hub/registrar/student-records/transcripts/index.html`.

16.4 Withdrawal of Degree

The university reserves the right to withdraw a degree even though it has been granted should there be discovery that the work upon which it was based or the academic records in support of it had been falsified. In such a case, the degree will be withdrawn promptly upon discovery of the falsification. The complete reference to this university policy is available at: `https://www.cmu.edu/policies/student-and-student-life/withdrawal-of-a-degree.html` Please see Appendices E through H for additional information about The Word `https://www.cmu.edu/student-affairs/theword/` and University resources.

16.5 Carnegie Mellon University Statement of Assurance

Carnegie Mellon University does not discriminate in admission, employment or administration of its programs or activities on the basis of race, color, national origin, sex, handicap or disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status or genetic information. Furthermore, Carnegie Mellon University does not discriminate and is required not to discriminate in violation of federal, state or local laws or executive orders.

Inquiries concerning the application of and compliance with this statement should be directed to the university ombudsman, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-1018. Obtain general information about Carnegie Mellon University by calling 412-268-2000.

Carnegie Mellon University publishes an annual campus security and fire safety report describing the university's security, alcohol and drug, sexual assault and fire safety policies, and containing statistics about the number and type of crimes committed on the campus, and the number and cause of fires in campus residence facilities during the preceding three years. You can obtain a copy by contacting the Carnegie Mellon Police Department at 412-268-2323. The annual security and fire safety report also is available online at `https://www.cmu.edu/police/annualreports/`.

Information regarding the application of Title IX, including to admission and employment decisions, the sexual misconduct grievance procedures and process, including how to file a report or a complaint of sex discrimination, how to file a report of sexual harassment, and how the university responds to such reports is available at `https://www.cmu.edu/title-ix/`. The Title IX coordinator may be reached at 5000 Forbes Ave., 140 Cyert Hall, Pittsburgh, PA 15213; 412-268-7125; or tix@cmu.edu.

The Statement of Assurance can also be found on-line at: `https://www.cmu.edu/policies/administrative-and-governance/statement-of-assurance.html`.

16.6 Safeguarding Educational Equity

Policy Against Sexual Harassment and Sexual Assault

The University prohibits sex-based discrimination, sexual harassment, sexual assault, dating/ domestic violence and stalking. The University also prohibits retaliation against individuals who bring forward such concerns or allegations in good faith. The University's Sexual Misconduct Policy is available at `https://www.cmu.edu/policies/administrative-and-governance/sexual-misconduct/index.html`. The University's Policy Against Retaliation is available at `https://www.cmu.edu/policies/administrative-and-governance/whistleblower.html`.

If you have been impacted by any of these issues, you are encouraged to make contact with any of the following resources:

- Office of Title IX Initiatives, http://www.cmu.edu/title-ix/, 412-268-7125, tix@cmu.edu.
- University Police, 412-268-2323

Additional resources and information can be found at: `https://www.cmu.edu/title-ix/resources-and-information/resources.html`

Maternity Accommodation Protocol

`https://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html`

Students whose anticipated delivery date is during the course of the semester may consider taking time away from their coursework and/or research responsibilities. All female students who give birth to a child while engaged in coursework or research are eligible to take either a short-term absence or formal leave of absence. Students in course work should consider either working with their course instructor to receive incomplete grades, or elect to drop to part-time status or to take a semester leave of absence. Students engaged in research must work with their faculty to develop plans for the research for the time they are away.

Students are encouraged to consult with relevant university faculty and staff as soon as possible as they begin making plans regarding time away. Students must contact the Office of the Dean of Student Affairs to register for Maternity Accommodations. Students will complete an information form and meet with a member of the Dean's Office staff to determine resources and procedures appropriate for the individual student. Planning for the student's discussion with her academic contact(s) (advisor, associate dean, etc.) may be reviewed during this meeting.

Doctoral students who receive an academic stipend funded by Carnegie Mellon are eligible to continue to receive stipend funding for up to six (6) weeks during a Short-Term Maternity Accommodation or a Formal Leave of Absence. Continued academic stipend funding may be extended by two (2) weeks, for a

total of eight (8) weeks, if an absence longer than six weeks is medically necessary. To receive this support students must be registered with the Office of the Dean of Student Affairs for a Maternity Accommodation.

Consensual Intimate Relationship Policy Regarding Undergraduate Students

`https://www.cmu.edu/policies/student-and-student-life/consensual-relationships.html`

This policy addresses the circumstances in which romantic, sexual or amorous relationships/interactions with undergraduate students, even if consensual, are inappropriate and prohibited. The purpose of this policy is to assure healthy professional relationships. This policy is not intended to discourage consensual intimate relationships unless there is a conflicting professional relationship in which one party has authority over the other as in the policy.

16.7 Change of Address

`https://www.cmu.edu/hub/registrar/student-records/personal-information.html`

Students are responsible for notifying the department and HUB of all address changes in a timely manner. Students will be held responsible for any failure to receive official college notices due to not having a correct address on file; F-1 students may jeopardize their status if address information is not kept current. Students can change their address using SIO, which is available via the HUB website.

[1] "Many people have asked me why this evaluation meeting is called Black Friday, especially when at Columbia its usually been held on Thursday. The reason is shrouded in the fog of computer history but I'd like to share it with you.We have to return to CMU in 1971 where I met weekly with a faculty-student committee which was revising the PhD program. One Saturday night my wife, Pamela, and I were watching Chilly Billy's Thriller Theatre on TV and we saw a Grade B horror movie about the dead returning every hundred years called Black Sunday. The following week the Committee decided to create a twice-a-year meeting to monitor the progress of our PhD students and scheduled the first meeting on a Friday. When I notified the CS Department, I casually referred to this as the Black Friday meeting. The name stuck and when I brought the idea to Columbia, we continued to use it." – Joseph Traub, CSD Department Head 1971-79

Appendices

A Other PhD Degree Specializations

Students admitted to the PhD Program in Computer Science may also enroll in one of three alternate degree or specialization programs in the Computer Science Department: the Algorithms, Combinatorics, and Optimization (ACO) degree; the Pure and Applied Logic (PAL) degree; and the Center for Neural Basis of Cognition (CNBC) certificate training program. Note that students must be admitted to those programs and that their degree requirements differ from the Computer Science PhD program.

A.1 Algorithms, Combinatorics, and Optimization

The PhD Program in Algorithms, Combinatorics and Optimization is an interdisciplinary program administered jointly by the department of Computer Science, the department of Mathematical Sciences, and the Operations Research group in Tepper School of Business (TSB). The purpose of the program is to bring together the strengths of the participating departments in topics such as algorithm design, graph theory, combinatorial optimization, integer programming, polyhedral theory, analysis of heuristics, and number theory.

Course of Study: For details regarding the program requirements, see the ACO web page at `https://www.cmu.edu/math/aco/index.html` Completion of all degree requirements earns the student a PhD in Algorithms, Combinatorics, and Optimization.

A.2 Pure and Applied Logic

The Pure and Applied Logic Program is joint with the Carnegie Mellon Mathematics and Philosophy Departments. Carnegie Mellon has a large and active group of faculty whose research and teaching interests span all aspects of logic, with a particularly strong concentration in foundational aspects of computing. This Logic Community has an established record of collaborations in pursuing theoretical research, conducting major implementation projects, and running colloquia and workshops.

Course of Study: CS/PAL students are admitted through their home department (Computer Science). They may choose to specialize in Pure and Applied Logic any time after their first year, though the expectation is that a mutual decision is reached by the end of their first year. CS/PAL students fulfill all the normal CS PhD program requirements; however, rather than take 24 units of elective courses, they must take 48 elective units. CS/PAL students should choose their elective courses from a list of regularly offered courses in Pure and Applied Logic. Since some of these courses are taught in the Mathematics or Philosophy Departments, CS students must still ensure that they meet the requirement that at least 12 units of electives are taken from the School of Computer Science. CS/PAL students are also expected to participate in the activities of the Carnegie Mellon Logic Community, such as relevant seminars and colloquia.

Completion of all degree requirements earns the student a PhD in Computer Science: Pure and Applied Logic. More information about the PAL program is available at `http://logic.cmu.edu`.

A.3 Center for Neural Basis of Cognition Training Program

The CNBC Training Program is an interdisciplinary PhD and postdoctoral certificate training program operated jointly with several academic departments at Carnegie Mellon and the University of Pittsburgh. Other affiliated departments at CMU are Biological Sciences, Machine Learning, Psychology, Robotics, and Statistics. Affiliated departments at the University of Pittsburgh are Mathematics, Neurobiology, Neuroscience, and Psychology.

The CNBC option for Computer Science PhD students allows them to combine intensive training in CS with a broad exposure to cognitive science, neural computation, and other disciplines that touch on problems of higher brain function.

Course of Study: CS/CNBC students are admitted through their home department (Computer Science) and fulfill the normal CS PhD program requirements. In addition, they are required to take a sequence of CNBC core courses in neurophysiology, systems neuroscience, computational neuroscience, and cognitive neuroscience. The CNBC core courses take the place of the three elective course unit requirement in CS. CS/CNBC students also participate in a research seminar series and experience a lab rotation.

Because of the extra time required to complete the CNBC requirements, students may apply for one year of financial support from the CNBC. In addition, CS/CNBC students are given an annual travel allowance to help them attend conferences and workshops.

Completion of all degree requirements earns the student a PhD in Computer Science plus an additional certificate in the "Neural Basis of Cognition." More information about the CNBC option is available at `http://www.cnbc.cmu.edu/`.

B Dual Degree Program with Portugal

Since Fall 2007 the department also offers a dual degree program in cooperation with several Portuguese universities. The regulations are essentially the same as given in this document, except that some requirements can be fulfilled in an affiliated program in Portugal. For more information, see
`http://www.csd.cs.cmu.edu/education/phd/portugal.html`.

C Self-Defined Interdisciplinary PhD Programs

We encourage students to follow their interests and to pursue interdisciplinary contacts as appropriate for their program of research and study. The doctoral program is broad and flexible, so usually we can find ways to accommodate these interests. However, there are times when a student's research goes so far afield that an interdisciplinary PhD would be more appropriate. The department accommodates these students by allowing a self-defined interdisciplinary PhD program.

A student interested in a self-defined PhD sets it up between Computer Science and another academic department. The student must draw up a description of the area in which they wish to work and a proposed academic plan, which typically includes coursework, a description of the qualifier (if any), and how the thesis will be approved. The student then must put together a program committee consisting of faculty from both departments who will agree to oversee the student's progress through the program; this committee acts as the student's department. Finally, the program must be approved by the DRC and by the equivalent committee of the other department.

The process of setting up an interdisciplinary PhD is not easy and can easily take a year or two. The process by which an interdisciplinary PhD is created is unfamiliar to most other departments and is not well-defined by the university itself, so it may take significant effort to define an interdisciplinary degree and have it be recognized in all participating departments. It is therefore in most students' interests to stay within the Computer Science program; once coursework is done, there are few limitations on a Computer Science PhD student's course of study, thereby giving the student nearly the same flexibility achievable through a self-defined program.

D Key offices for Graduate Student Support

D.1 Office of Graduate and Postdoc Affairs

`https://www.cmu.edu/graduate/` E-Mail: grad-ed@cmu.edu

The Office of Graduate and Postdoc Affairs provides central support for all master?s and doctoral students, as well as academic programs, with a focus on supporting graduate student success at Carnegie Mellon.

Examples of resources offered through the Graduate Education Office include- but are not limited to:

- Website with university resources, contact information for CMU programs and services, calendar of events related to graduate students
- Bi-monthly email to all graduate students with information on activities, resources and opportunities
- Professional Development Seminars and Workshops
- GSA/Provost Conference Funding Grants
- GSA/Provost Small Research Grants (GuSH)
- Consultations on all issues related to the graduate student experience

The Office of Graduate and Postdoc Affairs also works with the colleges and departments by informing and assisting in developing policy and procedures relevant to graduate students and working with departments on issues related to graduate students. Additionally we partner with many other offices and organizations, such as the Graduate Student Assembly, to support the holistic graduate student educational experience.

D.2 Office of the Dean of Students

`http://www.cmu.edu/student-affairs/dean`

The Office of the Dean provides central leadership of the meta-curricular experience at Carnegie Mellon including the coordination of student support. Vice President of Student Affairs and Dean of Students Gina Casalegno leads the Division of Student Affairs which includes the offices and departments listed below (not an exhaustive list):

- Athletics, Physical Education and Recreation
- Career and Professional Development Center (CPDC)
- Center for Student Diversity and Inclusion
- Cohon University Center
- Counseling & Psychological Services (CaPS)
- Dining Services
- Office of Community Standards and Integrity (OCSI)
- Office of Student Leadership, Involvement, and Civic Engagement (SLICE)
- University Health Services (UHS)
- Wellness Initiatives

Graduate students will find the enrollment information for Domestic Partner Registration and Maternity Accommodations in the Office of the Dean of Students or on their website. This Office also manages the Student Emergency Support Funding process. There are three forms of support funding for enrolled students: emergency student loans, maternity loans, and the Tartan Emergency Support Fund. These funds are made available through generous gifts of alumni and friends of the university as well as support from student organizations, Undergraduate Student Senate and the Graduate Student Assembly. Students will be provided with additional information about the various types of funding during a consultation meeting with a member of the Dean of Students team. Tuition costs are not eligible for Student Emergency Support Funding.

Additional resources for graduate students include College Liaisons and the Student Support Resources Team. College Liaisons are senior members of the Division of Student Affairs who work with departments and colleges addressing student concerns across a wide range of issues. College Liaisons are identified on the student SIO page in the Important Contacts list. The Student Support Resources team offers an additional level of support for students who are navigating any of a wide range of life events. Student Support Resources staff members work in partnership with campus and community resources to provide coordination of care and support appropriate to each student's situation.

D.3 Center for Student Diversity & Inclusion

`https://www.cmu.edu/student-diversity/`

Diversity and inclusion have a singular place among the values of Carnegie Mellon University. The Center for Student Diversity & Inclusion actively cultivates a strong, diverse and inclusive community capable of living out these values and advancing research, creativity, learning and development that changes the world.

The Center offers resources to enhance an inclusive and transformative student experience in dimensions such as access, success, campus climate and intergroup dialogue. Additionally, the Center supports and connects historically underrepresented students and those who are first in their family to attend college in a setting where students' differences and talents are appreciated and reinforced, both at the graduate and undergraduate level. Initiatives coordinated by the Center include, but are not limited to:

- First generation/first in family to attend college programs
- LGBTQ+ Initiatives
- Race and ethnically-focused programs, including Inter-University Graduate Students of Color Series (SOC) and PhD SOC Network
- Women's empowerment programs, including Graduate Women's Gatherings (GWGs)
- Transgender and non-binary student programs

D.4 Assistance for Individuals with Disabilities

`http://www.cmu.edu/education-office/disability-resources/`

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical and programmatic campus access to all events and information within the Carnegie Mellon community. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Sections 503 and 504 of the Rehabilitation Act of 1973. Students who would like to receive accommodations can begin the process through Disability Resources secure online portal or email access@andrew.cmu.edu to begin the interactive accommodation process.

Students with disabilities are encouraged to self-identify with the Office of Disability Resources and request needed accommodations.?Any questions about the process can be directed to access@andrew.cmu.edu or call 412) 268-6121.

D.5 Eberly Center for Teaching Excellence & Educational Innovation

http://www.cmu.edu/teaching

We offer a wide variety of confidential, consultation services and professional development programs to support graduate students as teaching assistants or instructors of record during their time at Carnegie Mellon University and as future faculty members at other institutions. Regardless of one's current or future teaching context and duties, our goal is to disseminate evidence-based teaching strategies in ways that are accessible and actionable. Programs and services include campus-wide Graduate Student Instructor Orientation events and our Future Faculty Program, both of which are designed to help participants be effective and efficient in their teaching roles. The Eberly Center also assists departments in creating and conducting customized programs to meet the specific needs of their graduate student instructors. Specific information about Eberly Center support for graduate students is found at: http://www.cmu.edu/teaching/graduatestudentsupport/index.html.

D.6 Graduate Student Assembly (GSA)

http://www.cmu.edu/stugov/gsa/index.html

The Graduate Student Assembly (GSA) is the branch of Carnegie Mellon Student Government that represents, and advocates for the diverse interests of all graduate students at CMU. GSA is composed of representatives from the different graduate programs and departments who want to improve the graduate student experience at the different levels of the university. GSA is funded by the Student Activities Fee from all graduate students. GSA passes legislation, allocates student activities funding, advocates for legislative action locally and in Washington D.C. on behalf of graduate student issues and needs, and otherwise acts on behalf of all graduate student interests. Our recent accomplishments are a testament to GSA making a difference, and steps to implementing the vision laid out by the strategic plan. https://www.cmu.edu/stugov/gsa/About-the-GSA/Strategic-Plan.html

GSA offers an expanding suite of social programming on and off-campus to bring graduate students from different departments together and build a sense of community. GSA is the host of the Graduate Student Lounge on the 3rd floor of the Cohon University Center ? a great place to study or meet up with friends. GSA also maintains a website of graduate student resources on and off-campus. Through GSA's continued funding for professional development and research conferences, the GSA/Provost Conference Funding Program and GSA/Provost GuSH Research Grants are able to run, as managed by the Graduate Education Office. As we move forward, GSA will continue to rely on your feedback to improve the graduate student experience at CMU. Feel free to contact us at

gsa@cmu.edu to get involved, stop by our office in the Cohon University Center Room 304 or become a representative for your department.

D.7 Office of International Education (OIE)

`http://www.cmu.edu/oie/`

Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. The Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars, as well the repository for study abroad opportunities and advisement. OIE provides many services including: advising on personal, immigration, study abroad, academic, and social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; international education and statistics on international students in the United States; posting pertinent information to students through email and the OIE website, and conducting orientation and pre-departure programs.

D.8 Veterans and Military Community

`http://www.cmu.edu/veterans/`

Military veterans are a vital part of the Carnegie Mellon University community. Graduate students can find information on applying for veteran education benefits, campus services, veteran's groups at CMU, and non-educational resources through the Veterans and Military Community website. There are also links and connections to veteran resource in the Pittsburgh community. The ROTC and Veteran Affairs Coordinator can be reached at uro-vaedbenefits@andrew.cmu.edu, 412-268-8747.

D.9 Carnegie Mellon Ethics Hotline

`https://www.cmu.edu/hr/resources/ethics-hotline.html`

The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to areas below:

- Academic and Student Life
- Bias Reporting
- Environmental Health and Safety
- Financial Matters

- High-Risk Incident
- Human Resource Related
- Information Systems
- Research
- Threat of Business Interruption
- Threat of Violence or Physical Harm
- Title IX

Students, faculty and staff can anonymously file a report by calling 877-700-7050 or visiting ?`http://www.reportit.net` (user name: tartans; password: plaid). All submissions are reported to appropriate university personnel.

The hotline is NOT an emergency service. For emergencies, call University Police at 412-268-2323.

D.10 Policy Against Retaliation

It is the policy of Carnegie Mellon University to protect from retaliation any individual who makes a good faith report of a suspected violation of any applicable law or regulation, university Policy or procedure, any contractual obligation of the university, and any report made pursuant to the Carnegie Mellon University Code of Business Ethics and Conduct.?

Additional details regarding the Policy Against Retaliation are available at `https://www.cmu.edu/policies/administrative-and-governance/whistleblower.html`

E Key Offices for Academic & Research Support

E.1 Computing and Information Resources

`http://www.cmu.edu/computing`

Computing Services maintains and supports computing resources for the campus community, including the campus wired and wireless networks, printing, computer labs, file storage, email and software catalog. As members of this community, we are all responsible for the security of these shared resources. Be sure to review the Safe Computing (`https://www.cmu.edu/computing/safe/`) section and the University Computing Policy (`https://www.cmu.edu/policies/information-technology/computing.html`)

Visit the Computing Services website (`https://www.cmu.edu/computing/`) to learn more. For assistance the Computing Services Help Center is available at 412-268-4357 (HELP) or it-help@cmu.edu.

E.2 Student Academic Success Center

`https://www.cmu.edu/student-success/`

Student Academic Support Programs

Tartan Scholars

- The Tartan Scholars program was created to provide support for limited resourced students through an intentional first year undergraduate experience with the goals of enhancing the cohort's skill and community building through a lens of self -authorship, growth mindset, and a sense of belonging. As part of the Student Academic Success Center, Tartan Scholars are invited to join the University and participate in summer initiatives and pre-orientation activities prior to their first year at the University.
- There are opportunities for graduate students to serve as accountability, learning, or development partners, workshop facilitators, and presenters. Contact Diane Hightower at ddhighto@andrew.cmu.edu for more details.

Learning Support

- **Supplemental Instruction**: Supplemental Instruction (SI) is an academic support model that utilizes peer-assisted study sessions. The SI program provides regularly scheduled review sessions on course materials outside the classroom. SI is a non-remedial approach to learning as the program targets high-risk courses and is available in select courses based on data related to past student performance and feasibility.

- **Peer Tutoring**: Weekly Tutoring Appointments are offered in a one-on-one and small group format to students from any discipline who need assistance with a course that may not be supported by our other services. Weekly appointments give students the opportunity to interact regularly with the same tutor to facilitate deeper understanding of concepts. Students can register online through the Student Academic Success website.

- **Academic Coaching**: Academic Coaching provides holistic one-on-one peer support and group workshops to help students find and implement their conditions for success. We assist students in improving time management, productive habits, organization, stress management, and study skills. Students will request support through the Academic Success Center website and attend in-person meetings or meet using video and audio conferencing technology to provide all students with support.

- **"Just in Time" Workshops**: The Student Academic Success team is available to partner with instructors and departments to identify skills or concepts that would benefit from supplemental offerings (workshops, boot camps) to support students? academic success and learning. We are eager to help convene and coordinate outside of the classroom skill-building opportunities that can be open to any student interested in building skill or reinforcing course concept mastery.

- **Study Partners**: Support for students to create and benefit from their own study groups: The Student Academic Success team assists students in forming and benefiting from peer study groups, whereby all students can reap the benefits of peer-to-peer learning, student agency, and collaboration skill development. Staff from the Student Academic Success Center will be made available to instructors and students to assist with the formation of peer-led study groups. This level of support is open to any course where the instructor requests or agrees such support is appropriate and students are interested in both leading and participating.

Language and Cross-cultural Support

More than 60% of graduate students at Carnegie Mellon are international students, and others are nonnative speakers of English who have attended high school or undergraduate programs in the US. Many of these students want to hone their language and cross-cultural skills for academic and professional success. Students can choose from sessions on

- how to give a strong presentation,

- writing academic emails,

- expectations and strategies for clear academic writing,

- how to talk about yourself as a professional in the U.S.,

- developing clearer pronunciation,

- using accurate grammar,
- building fluency, and more.
- Students can make an appointment with a Language Development Specialist to get individualized coaching on language or cross-cultural issues.

The Student Academic Success Center is also charged with certifying the language of International Teaching Assistants (ITAs), ensuring that nonnative English speakers have the language proficiency needed to succeed as teaching assistants in the Carnegie Mellon classroom. Students preparing to do an ITA Certification should plan to take classes offered by the language support team at the SASC from the beginning of their first semester. Start by contacting the language support team at the SASC website or attend a Language Support Orientation at the SASC or in your department.

E.3 University Libraries

`https://www.library.cmu.edu`

The University Libraries offers a wide range of information resources and services supporting graduate students in course-work, research, teaching, and publishing. The library licenses and purchases books, journals, media and other needed materials in various formats. Library liaisons, consultants and information specialists provide in-depth and professional assistance and advice in all-things information - including locating and obtaining specific resources, providing specialized research support, advanced training in the use and management of data. Sign up for workshops and hands-on topic-specific sessions such as data visualization with Tableau, cleaning data with OpenRefine, and getting started with Zotero. Weekly drop-in hours for Digital Humanities and for Research Data Research Management are scheduled during the academic year. Start at the library home page to find the books, journals and databases you need; to identify and reach out to the library liaison in your field; to sign up for scheduled workshops; and to connect with consultants in scholarly publishing, research data management, and digital humanities.

E.4 Research at CMU

`http://www.cmu.edu/research/`

The primary purpose of research at the university is the advancement of knowledge in all fields in which the university is active. Research is regarded as one of the university's major contributions to society and as an essential element in education, particularly at the graduate level and in faculty development. Research activities are governed by several university policies. Guidance and more is found by visiting the Research at Carnegie Mellon website.

E.5 Office of Research Integrity & Compliance

`http://www.cmu.edu/research-compliance/index.html`

The Office of Research Integrity & Compliance (ORIC) is designed to support research at Carnegie Mellon University. The staff work with researchers to ensure research is conducted with integrity and in accordance with federal and Pennsylvania regulation. ORIC assists researchers with human subject research, conflicts of interest, responsible conduct of research, export controls, intellectual property rights and regulations, and institutional animal care & use. ORIC also consults on, advises about and handles allegations of research misconduct.

F Key Offices for Health, Wellness & Safety

F.1 Counseling & Psychological Services

`https://www.cmu.edu/counseling/`

Counseling & Psychological Services (CaPS) affords the opportunity for students to talk privately about issues that are significant for them in a safe, confidential setting. Students sometimes feel uncertain about why they are feeling upset and perhaps confused about how to deal with those feelings. An initial consultation with a CaPS therapist will clarify options and provide a recommendation to the appropriate mental health resource at Carnegie Mellon or the larger Pittsburgh community. CaPS also provides workshops and group sessions specifically for graduate students on campus. CaPS services are provided at no cost. Appointments can be made in person or by telephone, 412-268-2922.

F.2 Health Services

`http://www.cmu.edu/HealthServices/`

University Health Services (UHS) is staffed by physicians, advanced practice clinicians and registered nurses who provide general medical care, allergy injections, first aid, gynecological care and contraception as well as on-site pharmaceuticals. The CMU Student Insurance Plan covers most visit fees to see the physicians and advanced practice clinicians & nurse visits. Fees for prescription medications, laboratory tests, diagnostic procedures and referral to the emergency room or specialists are the student's responsibility and students should review the UHS website and their insurance plan for detailed information about the university health insurance requirement and fees.

UHS also has a registered dietician and health promotion specialists on staff to assist students in addressing nutrition, drug and alcohol and other healthy lifestyle issues. In addition to providing direct health care, UHS administers the Student Health Insurance Program. The Student Health Insurance plan offers a

high level of coverage in a wide network of health care providers and hospitals. Appointments can be made by visiting UHS's website, walk-in, or by telephone, 412-268-2157.

F.3 Campus Wellness

`https://www.cmu.edu/wellness/`

At Carnegie Mellon, we believe our individual and collective well-being is rooted in healthy connections to each other and to campus resources. The university provides a wide variety of wellness, mindfulness and connectedness initiatives and resources designed to help students thrive inside and outside the classroom. The *BeWell@CMU* e-newsletter seeks to be a comprehensive resource for CMU regarding all wellness-inspired events, announcements and professional and personal development opportunities. Sign up for the Be Well monthly newsletter via `https://bit.ly/BeWellNewsletter` or by contacting the Program Director for Student Affairs Wellness Initiatives, at alusk@andrew.cmu.edu.

F.4 Religious and Spiritual Life Initiatives (RSLI)

`www.cmu.edu/student-affairs/spirituality`

Carnegie Mellon is committed to the holistic growth of our students, including creating opportunities for spiritual and religious practice and exploration. We have relationships with local houses of worship from various traditions and many of these groups are members of CMU's Council of Religious Advisors. We also offer programs and initiatives that cross traditional religious boundaries in order to increase knowledge of and appreciation for the full diversity of the worldview traditions. Our RSLI staff are here to support students across the spectrum of religious and spiritual practice and would be more than happy to help you make a connection into a community of faith during your time at CMU.

F.5 University Police

`http://http://www.cmu.edu/police/`

412-268-2323 (emergency only), 412-268-6232 (non-emergency)

The University Police Department is located at 300 South Craig Street, Room 199 (entrance is on Filmore Street). The department's services include police patrols and call response, criminal investigations, shuttle and escort services (additional information included in the Parking and Transportation section of The WORD, see below), fixed officer and foot officer patrols, event security, and crime prevention and education programming. Visit the department's website for additional information about the staff, escort and shuttle, emergency

phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

Carnegie Mellon University publishes an annual campus security and fire safety report describing the university's security, alcohol and drug, sexual assault, and fire safety policies and containing statistics about the number and type of crimes committed on the campus and the number and cause of fires in campus residence facilities during the preceding three years. Graduate students can obtain a copy by contacting the University Police Department at 412-268-6232. The annual security and fire safety report is also available online at `http://www.cmu.edu/police/annualreports`.

F.6 Shuttle & Escort Service

Parking and Transportation coordinates the Shuttle Service and Escort Service provided for CMU students, faculty, and community. The Shuttle & Escort website: `https://www.cmu.edu/parking/shuttle/index.html` has full information about these services, stops, routes, tracking and schedules.

G The WORD

`http://www.cmu.edu/student-affairs/theword/`

The WORD is Carnegie Mellon University?s student handbook and serves as the foundation for the department (and sometimes college) handbook. The WORD contains university-wide academic policy information and resources, community policies and resources, and describes the university level procedures used to review possible violations of these standard.

It is designed to provide all students with the tools, guidance, and insights to help you achieve your full potential as a member of the Carnegie Mellon community. Information about the following is included in The WORD (not an exhaustive list) and graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at: `http://www.cmu.edu/policies/`.

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University appendices D through G last updated: August 2020 - Graduate Education Office