ML

MACHINE LEARNING
D E P A R T M E N T

2020-2021
Graduate Student Handbook

PhD in Machine Learning Program

Last revision date (December 14, 2020)

Note: The information contained in this graduate handbook template focuses on the resources and locations available at the Carnegie Mellon Pittsburgh Campus.
It should be adjusted appropriately for other CMU locations

Welcome to CMU's Ph.D. program in Machine Learning, and to the Machine Learning Department. We are proud to be the world's first Ph.D. program in Machine Learning, with a deep and diverse pool of students and researchers who study all aspects of machine learning, from its theoretical basis, to new algorithms and problem framings, to novel applications. We are also proud of our graduates, many of whom have gone on to become professors at other universities, to start their own companies, or to join top research laboratories elsewhere. We are sure you will find your time in the Ph.D. program rewarding and we look forward to getting to know you.

This book will introduce you to the Ph.D. program as well as a static text document can, and you should certainly read it. But we urge you also to get to know its people - our students, faculty and staff have a wealth of knowledge and practical advice which they are happy to share, and they look forward to learning from you as well. When our students graduate, most look back to find that they have learned a tremendous amount here, but that beyond the technical expertise they have gained, they have made lifelong friends and contacts, who will continue to be colleagues throughout their careers. We look forward to welcoming you into our department family.

Table of Contents

Mission of the Department

Machine Learning is a scientific field addressing the question "How can we design machines that automatically improve through experience?" We study learning from many kinds of experience: predicting which medical patients will respond to which treatments by analyzing experience captured in databases of online medical records, or building mobile robots that learn to navigate and manipulate their environment through experience gained from their sensors, or designing computer aids for scientific discovery that combine initial scientific hypotheses with new experimental data to automatically produce refined scientific hypotheses.

To tackle these problems, we develop new algorithms and new theories of learning processes that characterize the fundamental nature of the computations and experience sufficient for successful learning in machines and in humans.

The mission of the Machine Learning Department is to help lead the development of the discipline of machine learning, by performing leading research in this field, by developing and propagating a model academic curriculum for the field, and by helping society to benefit from the knowledge gained by the field.

We are committed to the principle that students can achieve competence through a variety of methods, including courses, seminars, projects, and independent and guided research. Our curricula are designed to give students the tools they need to solve real-world problems by using advanced machine learning techniques and developing their own learning algorithms. We are dedicated to providing exceptional training for future leaders in the field.

Degrees Offered
PhD in Machine Learning
Joint PhD in Machine Learning and Public Policy
Joint PhD in Neural Computation and Machine Learning
Joint PhD in Statistics and Machine Learning
Master's in Machine Learning Research (on the way to the PhD)
Primary Master's in Machine Learning
Fifth-Year Master's in Machine Learning
Secondary Master's in Machine Learning
Master's in Machine Learning – Applied Study

Graduate Student Handbook

While this handbook is specific to your academic experience in the 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 Graduate Education Office, the Office of the Dean of Student Affairs and others are included in Appendix A of this handbook.

If you would like a printed copy of this handbook, please request from your Program Administrator.

University Policies & Expectations

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: www.cmu.edu/student-affairs/theword//index.html
- ☐ Academic Integrity Policy: (https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html)
- ☐ University Policies Website: www.cmu.edu/policies/
- ☐ Graduate Education Website: http://www.cmu.edu/graduate/policies/index.html

Please see Appendix A for additional information about The Word and University resources.

STATEMENT OF ASSURANCE POLICY

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 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 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 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: https://www.cmu.edu/student-affairs/theword/.

Department Resources

Department Personnel
- Martial Hebert, Dean of School of Computer Science (SCS)
- Robert Frederking, Associate Dean for Doctoral Programs, SCS
- David Garlan, Associate Dean for Master's Programs, SCS
- Roni Rosenfeld, Department Head, Machine Learning Department (ML)
- Tom Mitchell, Director, Doctoral Programs in ML

- Katerina Fragkiadaki, Director, Master's Programs in ML
- Matt Gormley, Director, Undergraduate Programs in ML
- Diane Stidle, PhD Programs Administrator
- Dorothy Holland-Minkley, Master's and Undergraduate Programs Administrator
- ML Core Faculty
- ML Affiliated Faculty
- ML Related Faculty
- Russ O'Lare, Business Manager
- Kelly Widmaier, Associate Business Manager
- Alison Chiocchi, Employment Processes Manager
- Christina Melucci, Assistant to the Dept. Head, ML

The PhD Director serves as ombudsmen for graduate students to assist with academic or personal situations where a confidential sounding board and/or an intermediary can be helpful. Examples of situations where students are encouraged to seek advice or assistance include:

- Difficulty in communications with advisor, particularly when those difficulties may lead to considering changing advisors or leaving the program
- Conflict with other group members that is difficult to resolve within the group
- Issues related to diversity or the departmental climate for those in groups who are historically underrepresented in science, or
- Personal concerns that interfere significantly with the ability to make timely progress in research or program requirements. These might be due to health, family or financial challenges.

Upon the student's request, information shared will be kept in confidence, as long as no laws require otherwise. Should help be needed from additional sources, the student would be asked before sharing confidential information.

In the event that a difficulty cannot be resolved within the department, please see the grievance procedures for resolving difficult matters, which are available here: https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html

Students can also confer with Angie Lusk, alusk@andrew.cmu.edu, the SCS Student Affairs contact. Angie Lusk is listed as an emergency contact for all graduate students in SCS, since she serves as a liaison, and students are particularly welcomed to reach out to her with inter-departmental concerns.

Department Information

The Machine Learning Department is located on the 8th floor of Gates Hillman Center (GHC).

Location of multi-function printers, available to those with a CS account, and printing etiquette is found here: http://www.cs.cmu.edu/~help/printing/index.html

Information about public computer clusters and printers can be found at:
http://www.cs.cmu.edu/~help/printing/index.html

The department's fax machine is located in the PhD Program Administrator's office, GHC 8001.

Office keys: Please see your Program Administrator for a key if you have assigned office space.

Mailboxes are located on the 8th floor of GHC. If you need to send a package you will have to go to the US Post Office, located in the basement of the Cohen University Center (CUC).

There is a bin for outgoing mail that the post office will pick up. Please make sure it is campus mail or stamped mail only. If you have department sponsored mail, it will require filling out a form with the correct charge string.

To have packages delivered to you, please use the following address:

> Your Name
> Machine Learning Dept.
> Gates Hillman, 8008
> Carnegie Mellon University
> 4902 Forbes Ave.
> Pittsburgh, PA 15213

If this full address is too long, you can use the following truncated address:

> Your Name
> School of Computer Science – MLD   *[Omit this line if necessary]*
> Carnegie Mellon University – GHC 8008
> 4902 Forbes Ave.
> Pittsburgh, PA 15213

Department Office/Building Security, Repairs and Services
Please contact Jamie Gregory or Paul Stockhausen (building@cs.cmu.edu) for reporting damages, needed repairs, security concerns for routine items. For immediate security concerns, please contact the CMU Campus Police at 412-268-2323

Department Graduate Student Committees
Department committees consist of the Doctoral Review Committee (DRC) PhD & MS Admissions Committees, Open House Committee, Presentation Skills Committee, Social Committee, PhD Student Retreat Committee and Wellness Network.

We also have a student representative for the department for the University Graduate Student Assembly (GSA).

Department Seminars

The Machine Learning Department sponsors seminars by researchers from within and outside Carnegie Mellon, which are attended by faculty, staff and graduate students. Students are encouraged to meet and interact with visiting scholars. This is an extremely important opportunity both to get a sense of the academic projects that are pursued outside of Carnegie Mellon and to get to know the leaders of such projects. This applies not only to seminars directly relevant to a student's research interests: the seminars provide an opportunity to widen one's perspective on the field.

We currently have the following seminar series:

- ML/Duolingo Seminars
- ML Special Seminars

Academic Calendar

The Academic Calendar can be found at https://www.cmu.edu/hub/calendar/index.html and provides information on all deadlines including registration dates, class start dates, add/drop deadlines, exam dates and more.

PhD Program in Machine Learning

The PhD program is run by the Machine Learning Department (MLD) which is part of Carnegie Mellon's School of Computer Science. This program builds on MLD's world-class faculty, which includes a number of faculty with cross-appointments in diverse areas ranging from Statistics, to Language Technologies, to Robotics, to the Tepper Business School.

Degree Attainment

ML PhD Degree Requirements
To complete the degree of Doctor of Philosophy in Machine Learning, we require that each student

- Participate in directed research and/or practicum
- Complete the (7) 12 unit courses listed in the ML PhD Course Requirements section
- Serve as a teaching assistant (TA) at least twice for Machine Learning Department courses
- Demonstrate professional presentation skills & writing skills
- Write and orally defend a thesis describing a significant piece of original research in an area of Machine Learning.

ML PhD Course Requirements

The four set core and two menu core courses together provide a foundation in machine learning, statistics, probability, algorithms, and AI, while the elective can be used to deepen the student's knowledge in their chosen subfield.

Set Core

All students take **all four** courses from the following Set Core:

- 10-715 Advanced Introduction to Machine Learning
- 10-716 Advanced Machine Learning: Theory and Methods
- 10-718 Data Analysis
- 36-705 Intermediate Statistics

Menu* Core

Students take their **choice of two** courses from the following Menu Core:

- 10-703 Deep Reinforcement Learning *or* 10-707 Topics in Deep Learning
- 10-708 Probabilistic Graphical Models
- 10-725 Convex Optimization
- 10-805 Machine Learning with Large Datasets *or* 15-826 Multimedia Databases and Data Mining
- 15-750 Algorithms *or* 15-853 Algorithms in the Real World
- 15-780 Graduate AI
- 36-707 Regression Analysis
- 36-709 Advanced Statistical Theory I
- 36-710 Advanced Statistical Theory II

Note: The Menu Core courses must be chosen from two different lines (e.g., if 15-750 Algorithms is taken, then 15-853 Algorithms in the Real World may not be the second Menu Core course).

*Students in the Statistics & ML joint program must choose two of the Menu of Core courses with a prefix in a department that is not their home department. Thus, Statistics joint students should choose two 10- and 15- prefix courses, and Machine Learning joint students should choose two 36- and 15- courses. Students accepted to the Statistics & ML joint program before Spring 2021 are grandfathered and follow the previous rules.

Elective

PhD students must take **one elective**, which may be any course at the 700 or higher level in the School of Computer Science or Department of Statistics and Data Science (36-xxx), including additional courses from the Menu Core, or other courses by approval. The elective is chosen in consultation with the student's advisor, with courses outside SCS or Statistics and Data Science also needing approval from the Director of the program.

Note: All courses, including the electives, must be 12 units or greater. Two 6-unit mini courses can count as a single 12-unit elective.

Directed Research

Research is the fundamental part of the PhD program. PhD students will work on research with their faculty advisor. The advisor has the option to give a letter grade or pass/fail grade for research courses. The default grade is a "P" pass which converts to "S" satisfactory on your transcript. The units with S grade are counted toward degree requirements but are not included in your GPA.

Different students, and different 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. Advisors are individually responsible for adequately supervising this portion of the graduate program.

During a PhD student's first two years, you should be working on directed research at least half time; once all coursework is completed, your directed research increases to full time (except when serving as a teaching assistant).

Registering for Directed Research

There are official course numbers associated with directed research at CMU, 10-920 for PhD students. Active PhD students (excludes Leave of Absence and All But Dissertation in Absentia status) are required to complete 24-36 units of Graduate Reading and Research each Fall, Spring and Summer semester unless waived by the Director.

Summer Research

During the summer semester, PhD students may choose to either secure an external summer internship or continue research with their advisor. A student must discuss their summer plans with their advisor and register for the appropriate course. A student must register for the Reading & Research course if staying to continue research with their advisor or one of the internship courses if going on a summer external internship. The student's advisor will determine the pass/fail grade for the semester. The Practicum course, PhD Internship and the Reading & Research courses will count towards the program research requirements but will not count toward coursework.

External Internship Opportunities

The Machine Learning Department recognizes that an external internship can be a valuable educational and research experience, especially if access to proprietary data is required for the student's research. We will allow PhD students to accept up to four external internships during their Ph.D. studies. Interning more than 4 times requires approval from the Ph.D. program Director.

You must discuss your plans for an internship with your advisor for approval. The summer semester is the optimal time for an internship. Internships during the academic year are rare -- the only way to complete an internship during the academic year is to take a Leave of Absence or to adhere to the department rules for Consulting. If your research resulting from the internship is not complete at the end you may extend that internship in order to complete your research by following the department consulting policy.

International students are required to consult with the Office of International Education for eligibility before seeking an internship or signing an offer contract. The dates of the internship must be within the dates of the semester, as determined by the university.

Registering for External Internships

There are official course numbers associated with external internships. Your faculty advisor will assign a pass/fail grade that will count towards your program research requirements. Advisors are individually responsible for adequately supervising this portion of the program.

10-935 Practicum course – If internship will be within the dates defined in the semester by the university.

10-936, Section I, PhD Internship course (summer semester only)
If PhD students will end their internship after the summer semester end date but before the fall classes begin they must use the extended PhD timeline as set by the university for PhD students.

Resources to Help Search for an External Internship

- Department Internship announcements
- University Career Fairs
- [Career and Professional Development Center](#)

Proficiencies in Teaching, Research, Presentation and Writing Skills

Teaching Requirement

Each PhD candidate must participate in two terms of instruction, either through teaching assistant (TA) duties or serving as the instructor for a class to fulfill the teaching requirement. For a student to be considered for a Teaching Assistant (TA) position for one of our courses, they should have previously taken that course or a similar course.

If the student's native language is not English, they will be required to receive International Teaching Assistant (ITA) certification: https://www.cmu.edu/icc/language-certification/index.html

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 Pennsylvania are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns.

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. For additional information: https://www.cmu.edu/icc/language-training/index.html.

The full university policy on English fluency can be reviewed at:
http://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html. The fluency of all instructional personnel will be determined by each department.

The Eberly Center for Teaching Excellence is a resource for TA and instructor training and included in the section *Additional University Resources, Appendix A*.

The responsibilities of a TA vary with different courses. Examples are:

- Help design homework assignments and other instructional materials
- Give recitations
- Grading
- Help with organizing poster sessions (if applicable)
- Advise small groups of students for class projects (if applicable)
- Hold office hours for individual tutoring

Writing Skills Requirement
In order to satisfy the Writing Skills requirement the student must be the first author on a paper. The quality of the paper must be such that if submitted to a major conference or journal it has the possibility of acceptance. It doesn't have to actually be submitted. The student must have a Review Committee of two reviewers.

The Review Committee consists of one faculty from Carnegie Mellon, who may be the faculty advisor, and one PhD student who is not a co-author on the paper. If the Faculty Reviewer is a co-author, they must explicitly indicate the student's contribution to the writing. The Review Committee fills out the Writing Skills Review Form and must unanimously approve the paper to satisfy the requirement. If the student fails, the evaluators give guidance on the necessary revisions and the student tries again.

A ML PhD student may waive the writing skills requirement if the student already has a first author paper accepted at a top ML conference/journal since these papers already went through peer review.

Conferences: AISTATS, AAAI, COLT, ICML, ICLR, KDD, NeurIPS, etc.
Journals: JMLR, Machine Learning

To waive the Writing Skills requirement based on this criterion, please fill out the Writing Skills Waiver form and send to your program administrator.

The Research Matching Process in MLD
Carnegie Mellon is a research institution. We are strongly committed to scientific excellence, both in research and education. In particular, we believe that a close personal interaction among students, faculty, and staff is of the utmost importance for educating the next generation of leaders in academia and industry. MLD students are therefore matched to a faculty advisor in the beginning of the program who will guide their research and advise them in academic matters.

Initial Matching to Advisors

Students participate in all MLD Faculty Research talks and any other relevant SCS faculty talks during Orientation. Contact and schedule a meeting with the faculty that you are potentially interested in as an advisor.

Meet with many faculty, not just one, to ensure you have more than one option in case the first option doesn't work out. You will probably need to meet a faculty several times before you both feel comfortable choosing to work together. You should also talk with their current students to see what their advising style is so you can see if that is right for you. Attending their research group meeting would be a good idea. Having a good personal connection with your advisor is really important.

A matching form will be sent out to the PhD students to list who they would like as their advisor/co-advisors, and a form will also be sent to faculty to list who they would like as their advisee. You should inform the faculty member that you plan to list them on your form and get confirmation that they are considering you as an advisee. **You are able to submit your matching form anytime up until the deadline of October 31st.**

Once the student form and faculty form are received, the department will review the proposed match and confirm faculty financial support for the student. Once MLD confirms the match to both student and faculty, you are able to begin/continue working with that advisor. Official matches won't be announced to the ML community until after the October 31st deadline.

Here are some suggestions of topics to discuss when meeting with potential advisers:

- What is their advising style (e.g., more hands-on or hands-off)
- How often do they meet their students 1:1
  - If not very often, what's the primary source of mentorship for junior students (e.g. senior phd / post doc)?
- What do they expect from students when evaluating whether they are making satisfactory progress toward the PhD degree?
- Their views on you collaborating part-time on independent projects with other faculty/students
- Does their funding put any constraints on the type of work you can perform as their advisee?
  - Faculty often fund students from research grants that have a particular research focus, and some grants require specific deliverables.
- What is their expectation on the balance between coursework and research in the first year? (Is it true that coursework could take more than 50% of my time?)
- Their policy on summer internships (frequency/venue/topic)
- A video / some guidelines on what to ask to your potential advisor

What does co-advising by two faculty mean?

The ideal scenario for co-advising is that both advisors are interested in working together with you on research. They might work in the same or different areas. This means the three of you would be collaborating on the same research. A typical advantage of having co-advisors is that you will have two faculty to collaborate with on your research. A possible disadvantage is that if one or both of your advisors is very busy, you might "fall through the cracks" because each assumes you can still meet with the other. It is important that the co-advisors meet jointly with you, to assure their advice is consistent.

Advisor relationship

Besides the research fit, the quality of your relationship with your advisor is one of the biggest factors in determining your quality of life during grad school. You should think about whether your prospective advisor seems like someone you would feel comfortable approaching with any problem. Being able to communicate openly about anything on your mind with your advisor makes the PhD journey much more enjoyable and less stressful.

If you are having issues with your advisor, there are people in the department to talk to that may be able to help navigate the relationship. You are encouraged to contact any of the following for help: PhD Program Director, PhD Program Administrator, a member of the Wellness Network (members) or Doctoral Review Committee.

Of course whomever you have as your advisor, you are welcome to collaborate with other students, faculty and postdocs, as many students do. But you must also keep up your primary research responsibilities, and keep your advisor informed of any such collaborations.

Your First Year
The ML Department realizes that the transition to a PhD program can put students into new situations they haven't been in before. To help with this transition, as of the 2020/2021 academic year, the Department is instituting a new policy: each first year student meets 1-on-1 with the PhD Program Director in December and in May of their first year. The point of these meetings is to give each student an opportunity to discuss, confidentially, their own experiences and reflections about how things are going, and to raise any questions and concerns they might have.

Examples of things to discuss in this confidential meeting include:

- How is coursework going? Are you able to keep up? Happy with your coursework-research balance?
- Have you had a chance to launch your research? Are you happy with your work and plans?
- How is your relationship with your advisor? Are you two well-aligned in your research interests and style of working together?
- Are you happy overall with your PhD life so far? Are you happy with your interactions with other students, staff, faculty? Finding interesting things to do in Pittsburgh?

- Is there anything causing you stress that the department might be able to help with?

Again, these are just possible topics, anything goes.

Role of the Advisor

The faculty advisor is a student's primary contact, both in research and in academic matters. Typically, a student has strong interests in the research area of the faculty advisor and will closely collaborate with the faculty member. The advisor is typically the primary person directing the student's research, and is also expected to provide financial support (stipend and tuition) for the student.

MLD Process for Switching to a New Advisor

While most PhD students in MLD stay with the same advisor throughout their time at CMU, a significant fraction (15-20%) choose to switch advisors along the way. Some students find that they would like to switch advisors due to a change in their research interests (so that a different advisor makes more sense), or due to stylistic mismatch (e.g., mismatched expectations about frequency of meeting, or working style, etc).   The ML Department supports changing advisors when appropriate, but expects that you will first discuss any issues with your current advisor, and try to work them out. Switching to another advisor is not considered negatively or to be a failure.

We recommend the following process for students who are considering an advisor switch:

1. Speak with your advisor about the issue that's on your mind. Surprisingly to many students, advisors may be totally unaware of issues that are troubling you. So speak with them, and try to work it out. If your research interests are changing to a topic outside their expertise, explain this to your advisor, and suggest that you'd like to talk with other faculty in your area of interest (perhaps take an independent study course with another faculty to see how that interest develops). If it is a stylistic difference, such as feeling your advisor is demanding more progress than you can make, but not spending enough time to help you progress, speak up. You might tell them something like "When we started working together, I was expecting we'd be meeting weekly and going over my code together, but that's not happening and I feel I need that in order to make the kind of progress you're requesting." As an opposite example, you might feel that your advisor is micromanaging you, and you would rather have more autonomy in conducting your research. Again, you should start by bringing this up to the advisor. It might be awkward, but you owe it to yourself and your advisor to discuss whatever is making you think about switching. Many problems are solvable, once identified and discussed!

2. If you can't work out the issue with your advisor, then let your advisor know that you would like to explore other possible advisors (or a co-advisor if appropriate), and meet with other faculty you'd like to work with (remember that all SCS faculty have automatic advising privileges in all SCS PhD programs). In the meantime, most students would continue to work with their current advisor who is funding their work. In addition, feel free to reach out to the MLD wellness network, and other people (e.g., Ph.D. Program Director) if you feel comfortable discussing this issue with them. If at any point in the year you find a new advisor you like, who is willing and able to take you on as a funded student, then you should notify the PhD Program Administrator, who will verify the arrangement, have it approved by the Program Director, and notify all involved, after which you can immediately start working with your new advisor.

3. If step 2 doesn't work out, then you may join the fall semester advisor-matching process along with the new incoming students. This is usually the best time to look for a new advisor, because it's the time when advisors are looking for new students. However, switching need not happen only through the fall semester matching process: see last sentence of point 2. No matter which option is pursued, please keep your advisor informed so that it is not a surprise.

Throughout, keep in mind that we live in an imperfect world with imperfect people. Faculty are not perfect, and can be unaware of the issues that are on your mind. So try first to resolve any issues that come up with your current advisor, but if you find you cannot, then feel free to look for a new one. There is no provably correct process for changing advisors, and no guarantee that you will be more successful with a new advisor. The department recommends the three steps above as an informal process that has worked well for many students.

Please note that the department guarantees your financial support as long as you remain in good academic standing, and this applies whether or not you switch advisors. Of course, a faculty member must be able to fund you over the coming semesters and years before they are allowed to take you on as an advisee, so make sure to check this with them before you proceed. But once a new advisor asserts and the department confirms that they are willing and financially able to take you on, the department will work out any necessary transitional funding arrangements.

Rules for the MLD PhD Thesis Committee (applicable to all ML PhDs)

The thesis committee should be assembled by the student and their advisor, and approved by the PhD Program Director. It must include:

- At least one MLD Core Faculty member
- At least one additional MLD Core or Affiliated Faculty member
- At least one External Member, usually meaning external to CMU
- A total of at least four members, including the advisor who is the committee chair

PhD Thesis Proposal

ML PhD students are expected to present their thesis proposal during their third or fourth year. Typically, the proposal is completed by the beginning of the fourth year. Fulfilling the requirement involves writing and orally presenting a proposal, and obtaining advice and approval from the thesis committee. Students should meet with the thesis committee members at least once to discuss the proposed work before the proposal.

Generally, a thesis proposal will be approximately 15 pages plus references, and will include (a) a clear statement of the research problem and proposed research, (b) a discussion of related research and how the proposed work fits into the field, (c) a description of the technical approach, (d) preliminary research results that demonstrate the proposed research is plausible and worthwhile, (e) a discussion of research issues to be pursued, and (f) a tentative schedule for completing the work.

Of course, in a proposal it is impossible to predict precisely which research issues will be solved in the future. Nevertheless, the proposal should include a list of specific research directions and questions that are likely to be addressed, and for each of these an assessment indicating what could be a baseline approach, and a discussion of ideas for pursuing the issue, along with an assessment of what will be easy versus difficult. The student needs to show that the proposed research will be original and interesting, and that it is likely to succeed. During the later thesis defense, the student will *not* be required to show that he or she has done everything that was proposed. In this sense, the proposal is an opportunity to present the student's best current ideas about the thesis research and obtain some useful early feedback from experts in the research area. The proposal need not have answers to every question it raises, but it should bring up a good list of questions that will drive the research.

Students should allocate at least 2.5 hours for the proposal presentation and examination. The presentation by the candidate is normally about 45 minutes. In addition to the student, at least two committee members, one of whom is the Chair, must be physically present at CMU for the proposal (during the COVID-19 crisis, this requirement will be waived); other committee members may attend by teleconference.

The thesis proposal is a public presentation and must be announced two weeks prior to the talk. It is the candidate's responsibility to ensure that the proposal information is sent to the PhD Programs Administrator at least two weeks before the presentation. The draft thesis proposal document should be sent to the thesis committee members at least one month prior to the proposal presentation; committee members may require the document earlier, in some cases.

All But Dissertation (ABD) Policy

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 "all but dissertation."

The policy is explained at http://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html.

PhD Thesis

Normally, the thesis dissertation is completed during the student's fifth year. The thesis must describe a significant piece of original research work. It is evidence of proficiency, high attainment, and ability to do research in a specialized area of Machine Learning.

The final thesis defense is a public presentation and must be announced two weeks prior to the talk. It is the candidate's responsibility to ensure that the proposal information is sent to the PhD Programs Administrator at least two weeks before the presentation.

Work with the PhD Programs Administrator to determine timing so as to avoid department and class conflicts. Contact your thesis committee to get their availability. The date should be scheduled two months in advance. You should send a draft of the thesis to your committee about one month before you plan to defend. Your committee should get back to you with their approval to defend before the announcement goes out, two weeks before your defense date.

Students should allocate at least 3 hours for the thesis defense and examination. In addition to the student, at least two committee members, one of whom is the Chair, must be physically present at CMU for the defense. All committee members must either be in attendance or attend by teleconference.

The presentation by the candidate is normally about 45 minutes. 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 and any interested faculty members. If the student passes the oral presentation, 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 yellow Final Oral Examination card to indicate 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 after final approval of the thesis by the thesis committee and student has submitted the final version to the PhD Programs Administrator.

If the student fails to pass either the oral or the written defense, the faculty will discuss their status by the next end-of-semester meeting.

Doctoral Student Review

Every semester, in May and December, the entire faculty of the department meet to collectively discuss, evaluate, and formulate advice for every doctoral candidate. The result of the meeting

is a determination of the student's status in the program (instead of a grade) and feedback about progress and performance.

Purpose of the Review

It is the aim of the faculty that every doctoral candidate succeeds. Everyone admitted to the program is believed to be capable of completing their doctoral studies and obtaining a Ph.D. This biannual review helps to ensure that success.

The purpose of the review is to provide individualized advice and guidance to Ph.D. students so that they know what is expected of them in the coming semester and overall.

It is not the purpose of the review to eliminate candidates from the program; this may rarely occur as a consequence but it is never an objective.

Discussion of all Doctoral students

The majority of doctoral candidates are making satisfactory progress toward their Ph.D. Any difficulties must be reviewed, yet the faculty discusses every case to learn about significant developments, see what strategies are working and not, and to stay informed about everyone.

The faculty's primary source of information about the student is the student's advisor but through courses, committees, and research many of the faculty will have knowledge and perspective to impart. It is also helpful to the advisor to learn about the student from different perspectives.

Faculty Participation

By having all the faculty meet together to discuss all of the students we help to ensure uniformity and consistency in the evaluation by all of the different advisors. The faculty measure each student's progress against the goal of completing the program in a reasonable period of time. In their evaluation, the faculty consider courses taken, directed research, teaching if applicable, skill, development, papers written and lectures.

It is the responsibility of the faculty to advise and evaluate all candidates in the department. The collective nature of the review serves several purposes. The faculty and students function as a collaborative research community with knowledge and experience dispersed among the members so it makes sense to get diverse input about student activities. It is also important to have the faculty well-informed about students to help identify and foster continuing collaboration. Additionally, participation helps faculty to learn and become better advisors.

Advice and support is guaranteed, not by the individual advisor, but by the department (the faculty body). All students making satisfactory progress will receive financial support, regardless of advisor funding and similarly all students will have a doctoral advisor even if their current advisor cannot continue for any reason.

Lastly the review expresses the perspective of faculty and their consent on the advice given, so all must be able to participate in the review process.

Importance to the Department and University

The overarching goals of the faculty when advising Ph.D. students are to produce high-quality research and to graduate highly successful Ph.D. students. The number and success of a faculty member's PhD graduates is a major part of their reputation, and thus their own career success. The faculty truly want their advisees to have successful Ph.D. careers, both before and after graduation.

Similarly, the success of the departments within SCS, and the university as a whole, is judged in part by the production of successful Ph.D. graduates. Thus the departments have an interest in promoting the production of successful Ph.D. graduates, and ensuring a consistent and high level of academic quality. In order to achieve these goals, it is crucial for departments to evaluate Ph.D. students carefully, consistently, and fairly.

What happens in the Review Meeting

The meeting is held in closed session with the faculty who advise students, the Ph.D. chairperson, and the Ph.D. program administrator attending. To the greatest extent possible faculty attend in person for the entire meeting.

The discussion proceeds by annual cohort, alternating semester between seniority and reverse-seniority order, alphabetical within cohort.

The graduate student database is accessible by all faculty and during the meeting each student's record in turn is projected for common reference. The draft letter and the student statement are viewable.

The advisor is responsible for assembling information about the case and presenting it. The student should make sure their advisor is informed about participation in activities and research progress made during the semester. This can be in advisor meetings and through the online student statement.

For each student:

- present the case, initially by the advisor or designated proxy
- view the student statement and draft letter
- discuss the case with emphasis on progress
- identify any areas of concern
- formulate specific advice
- determine expected or required activities or accomplishments
- decide on status

The faculty review the student's previous semester's coursework and research progress and the student's next semester's plans to ensure that the student is making satisfactory progress. The evaluation of a student's progress in directed research often depends on the student having produced some tangible result; examples include the implementation of pieces of a software system, a written report on research explorations, an annotated bibliography in a major area, or, as part of preparation for doing research, a passing grade in a graduate course (beyond the required core courses and electives).

It is quite common for a dozen or more faculty to contribute to the discussion and advice for any one student. The student's advisor speaks first but others, particularly committee members, course instructors, and research collaborators offer their thoughts.

The faculty decide whether a student is making satisfactory progress in the 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.

Ultimately, permission to continue in the program is contingent on whether or not the student continues to make satisfactory progress toward their degree. If a student is not making satisfactory progress, the faculty may choose to terminate the student in the program. This only happens after an N-1 warning letter and continuing lack of progress towards requirements prescribed by the faculty.

The review is serious and the tone is of constructive discussion of how to help students to succeed. Natural moments of humor almost always regard the foibles of the faculty itself.

There is very little complaining, and no insulting or demeaning is tolerated. This is not a venue for gossip or rumor, evaluation focuses on the facts of the case. Faculty hold each other to a high standard and the chair keeps the discussion positive.

The faculty limits any discussion or comment on personal lives. Personal circumstances change for better and for worse, times can be easy or hard, events can be happy or sad. The faculty recognizes that it is not fully aware of these details and cannot fairly understand or account them, certainly not for all students equally and fairly. The review focuses on public not private persona and particularly on academic performance. Advisors do not share known private information without prior permission and only when relevant to the evaluation.

Progress Status

The status indicates whether the faculty agrees the student is making reasonable progress, doing well, and on track. The highest status is Satisfactory and students should strive to maintain satisfactory progress throughout their doctoral studies. Each semester may be different in activities and accomplishment, but all may be satisfactory in the evaluation of the faculty. The faculty will assign a status that will be communicated in the student's semiannual review letter.

The codes we use are:

SP (satisfactory progress) means the faculty have determined that progress toward the PhD is satisfactory. This is the highest status that can be received.

USP (unsatisfactory progress) means the faculty have determined that progress is unsatisfactory. The letter will explain how progress is deficient and give instructions for how to return to satisfactory progress.

N-2 (imminent N-1 without improvement; not used by all departments) means the faculty has determined that there are significant problems with the current rate of progress. The student is

in danger of receiving an N-1 letter in the next review period unless progress in the program is improved. The letter will contain specific steps for how to return to SP standing.

N-1 (continuation not guaranteed beyond the coming semester) means the faculty has determined that there are significant problems with current level of progress. You may not be allowed to continue in the program past the next semester unless you satisfy specific conditions that will be given in the letter. The N-1 letter gives the student one semester and instructions on how to make satisfactory progress.

M-2-M (month-to-month) may rarely be applied to manage and guide student progress with monthly milestones. Like N-1 but in this case continuation is not guaranteed beyond the coming month.

Your Doctoral Review Letter

The status indicates whether the faculty agrees the student is making reasonable progress, doing well, and on track. The highest status is Satisfactory and students should strive to maintain satisfactory progress throughout their doctoral studies. Each semester may be different in activities and accomplishment, but all may be satisfactory in the evaluation of the faculty. The faculty will assign a status that will be communicated in the student's semiannual review letter.

The codes we use are:

SP (satisfactory progress) means the faculty have determined that progress toward the PhD is satisfactory. This is the highest status that can be received.

USP (unsatisfactory progress) means the faculty have determined that progress is unsatisfactory. The letter will explain how progress is deficient and give instructions for how to return to satisfactory progress.

N-2 (imminent N-1 without improvement; not used by all departments) means the faculty has determined that there are significant problems with the current rate of progress. The student is in danger of receiving an N-1 letter in the next review period unless progress in the program is improved. The letter will contain specific steps for how to return to SP standing.

N-1 (continuation not guaranteed beyond the coming semester) means the faculty has determined that there are significant problems with current level of progress. You may not be allowed to continue in the program past the next semester unless you satisfy specific conditions

that will be given in the letter. The N-1 letter gives the student one semester and instructions on how to make satisfactory progress.

M-2-M (month-to-month) may rarely be applied to manage and guide student progress with monthly milestones. Like N-1 but in this case continuation is not guaranteed beyond the coming month.

History of the Doctoral Review

A review of student progress each semester has been part of doctoral programs in SCS for over 40 years. The review until recently has been referred to as Black Friday.

Professor Joe Traub, the second chair of the Department of Computer Science at Carnegie Mellon and founding chair of the Columbia computer science department recalls the origin of the term: http://www.cs.columbia.edu/~traub/html/body_25th_anniversary_talk.html

As noted the Doctoral Student Review is not dark and it is not always on Friday. A more suitable name has been created.

Is there a better way?

In most departments the evaluation of progress is made by the student's advisor, who usually knows the student and their work the best. That advisor may seek advice from other faculty or rely on collaborators or committees for information and evaluation, or maybe not. There may be rare circumstances where privacy and insulation may be beneficial—and an advisor can always ask for it—but, in general and overall, broader participation has many benefits to the student, faculty and program.

In some degree programs, letter grades suffice for feedback. Doctoral studies are more individual and varied. We strive for a more nuanced and reasonable approach to evaluate progress and to set expectations.

Students with concerns about the review can raise them with their advisor or the Ph.D. chair and they will be heard and addressed.

Residency Requirements and Program Milestones

The university requires PhD students to have a minimum of one year in residency on a CMU campus. However in order to reach your program milestones we estimate your residency would be a minimum of 3-4 years. If milestones are not met, it will be discussed at the Doctoral Student Review where you will be informed of needed requirements.

- **By the end of the third year**, coursework, presentation skills, writing skills and TA requirement should be completed.
- **During the third or fourth year**, a thesis proposal should be presented to the MLD community.
  By the end of the fifth year, the dissertation should be completed and the student should give the final defense of the thesis.

Financial Support

The Machine Learning Department is committed to providing full tuition and stipend support for the academic year, for each full-time ML PhD student who is making satisfactory progress, for a period of 5 years. Research opportunities are constrained by funding availability. Students are strongly encouraged to compete for outside fellowships and other sources of financial support. The department will supplement these outside awards in order to fulfill its obligations for tuition and stipend support. When a student is awarded an external fellowship the student will earn their PhD stipend +1% bonus on the external funds.

Statute of Limitations

As outlined in the Doctoral Student Status Policy
https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html
Students will complete all requirements for the Ph.D. 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 they are 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 Ph.D. 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.

Joint PhD Programs in Machine Learning

The Machine Learning Department offers several joint PhD programs in collaboration with other departments at CMU. These are described below:

PhD in Statistics & Machine Learning

This PhD program differs from the Machine Learning PhD program in that it places significantly more emphasis on preparation in statistical theory and methodology. Similarly, this program differs from the Statistics PhD program in its emphasis on machine learning and computer science. The Joint PhD Program in Machine Learning and Statistics is aimed at preparing students for academic careers in both CS and Statistics departments at top universities or industry.

The student must be advised by a faculty from the home department along with a Core Faculty member from the joint department as a co-mentor. Joint Statistics-MLD faculty cannot serve both roles. Both faculty must be identified at the time of admission to the joint program.

PhD in Machine Learning & Public Policy

The Joint PhD Program in Machine Learning and Public Policy is a program operated jointly by faculty in Machine Learning and the Heinz College (Schools of Public Policy, Information Systems, and Management). Students will gain the skills necessary to develop new state-of-the-art machine learning technologies and apply these successfully to real-world policy domains.

PhD in Neural Computation & Machine Learning

The Joint PhD program in Neural Computation & Machine Learning trains students in the application of machine learning to neuroscience and neural inspired machine learning algorithms by combining core elements of the ML PhD program and the Program in Neural Computation (PNC) offered by the Center for the Neural Basis of Cognition (CNBC).

The MLD requirements for graduation with a Joint-ML PhD degree

Requirements are the same as those for the regular MLD PhD requirements (including the requirement for the PhD thesis committee composition), with only the following differences:

- A Joint-ML PhD thesis will be a contribution to the combination of Machine Learning and the other field.
- The single elective course, the speaking and writing skills requirements, and the Data Analysis requirement (10718) may be satisfied within the student's home department.
- A Joint-ML PhD student is still required to TA twice, but only one TA-ship has to be within MLD

A student in a Joint-ML PhD program may earn a MS degree along the way, either from their home department or from MLD, but not from both. To earn an MS in Research from MLD they must satisfy all the relevant requirements.

Master's in Machine Learning Research

You may be able to earn a Master of Science in Machine Learning Research degree on the way to your PhD in Machine Learning. *(This degree is only available to students currently in the Machine Learning PhD program or in one of the Machine Learning joint PhD programs*)*

Degree requirements:

1. Complete all course requirements (84 units) for the MLD PhD program
2. Complete 48 units of Directed Research
3. Complete at least one of the two TA requirements

A student who has already received a MS degree from another department in the School of Computer Science will not typically receive the MS degree from MLD. You must make your request via email to the Graduate Programs Administrator.

* If you are a student in one of the Machine Learning Joint PhD programs you are able to choose this MS in Research degree from MLD or you may be able to earn a MS degree in your home department but you are not able to earn both.

Department Registration Policies

Students are able to register for courses by going to SIO (Student Information Online). For the very first semester the PhD Program Administrator will register incoming students in the MLD PhD program for their courses. In subsequent semesters students should register themselves always making sure to register for Reading & Research and always registered for at least 36 units. To be considered in full-time status you must be registered for at least 36 units every semester. If you are below 36 units it will affect how your stipend is taxed and may cause immigration problems for international students.

During the during the fall and spring semesters, PhD students should normally be registered for 48 units. During the summer, students should be registered for 36 units.

Course Waiver & Rules about previously taken courses

Some students will have taken some of the required courses before entering the PhD program: for example, as a ML MS student entering the ML PhD program or coming in from another MS program at Carnegie Mellon. If students have previously taken the above-named courses at Carnegie Mellon before joining the program, those may be used to satisfy the requirements and do not need to be repeated in the PhD program. (Note that courses can only be used for a single Master's degree and may not be double-counted for the Master's in Machine Learning Research degree.)

If a student entering the MLD PhD program has already taken 10-701 and received an A (A+, A, A-) as the final grade you are able to waive the 10-715 requirement. If the final grade is a B+ or below, then you should take 10-715 to fulfill the requirement.

Some students will have taken similar courses at other universities before entering the ML PhD program. Based on such equivalent coursework, any student can apply to replace (not reduce) up to two courses with either menu cores or electives. All electives must be supported by the advisor, and will be evaluated by the PhD Director.

PhD Students who want to replace a course should send a formal request to the PhD Program Administrator. The document should contain the transcripts and contents of those courses. Student must also identify the replacement course. Either the student's advisor or the PhD Director of the program must approve the course replacement by sending email to the PhD Program Administrator.

In addition, students must satisfy all university requirements for the graduate degree: http://www.cmu.edu/graduate/policies

Cross Registration Program with Local Universities

https://www.cmu.edu/policies/student-and-student-life/transfer-credit-evaluation-and-assignment.html

Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program (see Pittsburgh Council on Higher Education (PCHE) and Cross-registration below) and through the receipt of transfer credit from other accredited institutions. 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. All other courses will be recorded on this transcript indicating where the course was taken, but without grade. 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.)

Course Add/Drop Policy

Students are able to add, drop, and withdraw from courses for a limited time after the first day of class. The university's policies can be found at the HUB website: https://www.cmu.edu/hub/registrar/course-changes/

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.

Full-time graduate student status, according to the University and the Department, is 36 units.

- Dropping below full-time may affect your financial aid eligibility, loan repayment, housing, tax dependency and/or visa status, and varsity sports eligibility.
- Dropping all courses is not the equivalent of leaving the university temporarily (leave of absence) or permanently (withdrawal). A student who wishes to remove him/herself from the university must submit either a Leave of Absence or Withdrawal form.

Course Audit Policy

Auditing is presence in the classroom without receiving academic credit, a pass/fail, or a letter grade. Audited courses will not count towards your degree requirements. The extent of a student's participation must be arranged and approved by the course instructor. A student wishing to audit a course is required to register for the course, complete the Course Audit Approval Form, obtain permission of the course instructor and their advisor, and return the form to the Registrar's Office prior to the 10th day of class.

Any student enrolled full-time may audit a course without additional tuition charges. Part-time students who choose to audit a course will be assessed tuition at the regular per-unit tuition rate.

Grades and Grading

University Policy on Grades www.cmu.edu/policies/student-and-student-life/grading.html
This policy offers details concerning university grading principles for students taking courses and covers the specifics of assigning and changing grades, grading options, drop/withdrawals and course repeats. It also defines the undergraduate and graduate grading standards.

For Machine Learning students, course work with a grade of C+ or lower is not acceptable toward graduate degree requirements. Students receiving a grade of C+ or lower will either have to retake the course or work with the instructor to do remedial work to prove they have learned the material.

Process for Appealing Final Grades

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

Policy on Grades for Cross-registration Courses

http://www.cmu.edu/policies/student-and-student-life/transfer-credit-evaluation-and-assignment.html

Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program (see Pittsburgh Council on Higher Education (PCHE) and Cross-registration below) and through the receipt of transfer credit from other accredited institutions. 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. 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.)

Transfer Credit

The Machine Learning Department does not accept transfer credit. Requirements may sometimes be replaced if students have taken equivalent coursework elsewhere. The Director of the program will decide whether a certain course may be replaced based on the accreditation of the institution offering the course, the course description, the learning outcomes of the course, the course syllabus, and student work product. Refer to the Course Waiver Policy section for more information.

PhD students who follow their advisors and enter the MLD PhD program are considered exceptional cases and will be reviewed on an individual basis to determine course waivers.

Academic Integrity Policy

Please review the University Policy on Academic Integrity (https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html). The policy includes the University expectations around academic integrity and provides definitions of cheating, plagiarism, and unauthorized assistance.

A review of the University's Academic Disciplinary Actions procedures (https://www.cmu.edu/student-affairs/theword/academic-discipline/index.html) is also recommended. These procedures outline the process for investigating, reporting, and adjudicating violations of the University Policy on Academic Integrity. The procedures also outline the appeal process.

Department Policies

"Grandfather" Policy

When policies are changed it is because the department believes the new rules offer an improvement; any such changes will be communicated to the current graduate students. The students currently enrolled whose degree program is affected by a change in policy may choose to be governed by the older policy that was in place at the time of their matriculation. In case degree requirements are changed and certain courses are no longer offered, the department will try to find some compromise that allows those students to satisfy the original requirements.

Tuition and Funding

Current tuition rates and cost of living including books, insurance, activities and technology fees, food and lodging costs can be found at the [Enrollment Services website](). Graduate fellowships are available to qualified, full-time students in the **PhD program ONLY**, which include full graduate tuition, a monthly stipend, student fees and 50% of student's health insurance if enrolled in CMU SHIP plan. Students are responsible to pay 50% of the SHIP plan. PhD students receive their stipend twice a month, around the 15th and on the last business day.

Process for Leave of Absence and Return from Leave of Absence

Students who wish to leave the program temporarily may request a leave of absence by submitting a request to their Program Administrator. 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 Co-Directors, prior to returning to the program. The return must typically be at the start of a semester.

Students on leave of absence should contact their Program Administrator two months prior to the end of the leave to indicate their plans for the next year.

University process for leave of absence: https://www.cmu.edu/hub/registrar/leaves-and-withdrawals/

Process for Withdrawal from Program

Students who wish to withdraw from the program should first discuss it with their advisor and then notify their Program Administrator.

University process for withdrawal from program: https://www.cmu.edu/hub/registrar/leaves-and-withdrawals/

Teaching Assistantships

Teaching assistantships are awarded to selected students. Teaching assistant duties include, but are not limited to, holding office hours, conducting recitation classes, and grading. There are minimum English proficiency requirements that must be met in order for a student to accept a teaching assistantship. Pennsylvania state law requires that all students who are not native speakers of English take and pass a state-administered proficiency test. Support for teaching activities can be found through the Eberly Center for Teaching Excellence. Students who will be TAs for the department are encouraged to visit the Teaching Center and to take advantage of the information and services located there. Students can apply for Teaching Assistantships on our webpage: https://www.ml.cmu.edu/academics/ta.html

Outside Employment

Students are not allowed to be employed outside of the university during the academic year nor during the summer if they are being supported by the department, except as described in the next section, "Consulting."

Consulting

The department may grant full-time students the right to devote up to an average of one day (of university time) 8 hours per week to outside, paid, professional activities, where that activity is consistent with that person's role as a member of the student body, and where that activity supports the student's progress toward their degree. Students must fill out a PhD Student Consulting Application and Agreement form, have their advisor sign in agreement, and submit it to their Program Administrator for Department Head approval. Any such consulting must be consistent with U.S. labor laws and for international students, with visa terms.

International students are required to consult with the Office of International Education for eligibility before signing an offer contract.

Travel Support

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

Policy: If a PhD student wishes 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. Student travel is unlimited as long as there is money available from research contracts and/or discretionary funds of a sponsoring faculty member.

If no such funding is available to the student, then limited departmental funds may be available upon request from the Machine Learning Department. Since departmental funds are limited, the maximum to be reimbursed will be $200 plus the registration fee, if only attending the

conference or workshop; $600 plus the registration fee, if presenting a paper. Department funding is only available to the student for one trip per year and will not be transferred to the following year. This funding is only available if the advisor agrees with the student's decision to attend the conference but does not have the funds.

Process: To obtain travel support, the PhD 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 must fill out and print the Student Travel Authorization Form and get their advisor's signature before forwarding the form to the PhD Programs Administrator.

The faculty member must (i) indicate the amount and the reason for providing partial support (be sure the charge number is filled in) or (ii) state on the Comments line that no funds are available from any research or discretional account. Student then submits the form to the PhD Programs Administrator to request approval from the Department Head.

The university may also be able to help with conference funding, to apply, please see instructions at:
http://www.cmu.edu/graduate/professional-development/conference-funding/index.html

GuSH is a source of small research grant funds provided by GSA and the Provost's Office and managed by the Graduate Education Office. Students can find more information about the application process and deadlines at: www.cmu.edu/graduate.

Purchasing and Reimbursement Procedures and Policies
The university has detailed and strict policies relating to the purchase of goods, services, equipment, etc., whether using a general ledger account, restricted account, or grant. There are also reimbursement policies, along with tax exempt considerations that graduate students must adhere to.

Reimbursement of Business Expenses
Previously approved legitimate business expenses can be reimbursed. Receipts must be submitted within 30 days of the expense. Any receipts submitted after 90 days will be considered income and you will be taxed. Your advisor's administrative assistant will help you claim reimbursement provided you have the following:

- receipt indicating item purchased and proof of payment
- business purpose for purchasing item
- account to be charged for reimbursement
- Approval (by faculty) in email, for reimbursement
- Signed expense report

Please consult with your advisor's assistant prior to incurring the expense for additional instruction.

Reimbursement of Travel Expenses
Previously approved legitimate travel expenses can be reimbursed. Receipts must be submitted within 30 days of the expense. Any receipts submitted after 90 days of the dates of travel will be

considered income and you will be taxed. Your advisor's administrative assistant will help you claim reimbursement provided you have the following:

- Flight receipts must show full itinerary (dates/times), class that was traveled, and last 4 digits of your credit card number.
- Hotel receipts must show a zero balance with proof of payment and your name
- Receipts for meals must be collected, unless you claim per diem meals; both daily meals and per diem meals cannot be claimed for the same travel expense report
- Personal car mileage is calculated at $0.55 per mile; mileage covers gas, but not tolls.
- Business purpose for travel
- Account to be charged for reimbursement
- Approval (by faculty member) in email, for reimbursement
- Signed travel expense report

Conditions:

All receipts must have proof of purchase indicated. For business expenses, tax will not be reimbursed under any circumstance, except for non-travel business meals. To avoid paying tax, see if a staff member can purchase the item for you with a University-provided Procurement Credit Card.

Tax will be reimbursed for expenses incurred due to normal business-related travel (hotel, airfare, meals), but NOT for miscellaneous expenses such as the purchase of a replacement mouse for a department laptop, poster board for a presentation, etc., purchased while traveling or preparing for travel. These items should have been purchased through a department approved buyer thus not incurring tax expense.

Additional University Policies/Protocols

Protocol for Review/Redress of Academic Conflicts
Please see the University Policy:

http://www.cmu.edu/academic-integrity/documents/academic-disciplinary-actions-overview-for-graduate-students.2013.pdf

Summary of Graduate Student Appeal and Grievance Procedures
https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html

Graduate students will find the Summary of Graduate Student Appeal and Grievance Procedures on the Graduate Education Resource webpage. This document summarizes processes available to graduate students who seek review of academic and non-academic issues. Generally, graduate students are expected to seek informal resolution of all concerns within the applicable department, unit or program before invoking formal processes. When an informal resolution cannot be reached, however, a graduate student who seeks further review of the matter is to follow the formal procedures outlined here. These appeal and grievance procedures shall apply to students in all graduate programs of the University. Students should

refer to the department specific information in this handbook for department and college information about the administration and academic policies of the program. Additionally, students may confer with the Graduate Education Office, graded@andrew.cmu.edu on issues of process or other concerns as they navigate conflicts.

Safeguarding Educational Equity / Sexual Misconduct Policy:

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, https://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.

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 policy can be viewed in its entirety at: http://www.cmu.edu/policies/documents/SA_SH.htm.   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
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

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

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.

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.

University Financial Aid
Graduate students should consult the graduate student financial aid information found on The HUB website: https://www.cmu.edu/sfs/financial-aid/graduate/index.html. Students will find the Graduate Financial Aid Guide, information about funding options and how to apply for financial aid and other helpful links.

Emergency Loans
The Office of the Dean of Student Affairs https://www.cmu.edu/student-affairs/dean/loans/index.html offers short-term emergency loans for supplies, medication, food or other unexpected circumstances. The loans are interest-free and for short periods of time (not longer than a month).

Taxes
The deadline for local, state, and federal taxes is April 15. Questions about your tax status should be addressed the Internal Revenue Service (IRS) or the Pennsylvania Department of Revenue. Although subject to federal taxes, student stipends are generally not assessed local or state taxes.

Vacations and Time-Off
Students with graduate assistantships are expected to continue with their research during academic breaks (including the Summer months) with the exception of the official university

holidays. A complete list of the official university holidays can be found at the [Human Resources website.](#)

Due to federal regulations governing graduate student support, paid time off for personal business and vacations is not provided. A supported graduate student wanting to take a one week break during one of the summer months in which they are receiving a stipend is expected to get approval for that break with their advisor and make up the work during the other three weeks of that month. Supported graduate students wishing to take longer periods of personal time off must do so without pay and must receive advanced approval from their research advisor a minimum of four weeks prior to the requested time off. The advisor must then notify the PhD Program Administrator and Business Manager of this approval so that stipend adjustments can be processed.

Enrollment Verification

Enrollment Services is the only University office that can provide an official letter of enrollment, official transcript, or enrollment verification. Enrollment verification can be requested online through The HUB at: http://www.cmu.edu/hub/records/index.html

Employment Eligibility Verification

If you are receiving a stipend, are a TA or are you planning to have a 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). Additional details are highlighted below.

To ensure compliance with federal law, Carnegie Mellon University maintains the [Employment Eligibility Verification (I-9) Policy [pdf]](#) covering the university's I-9 and E-Verify requirements:

- 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 submitting an E-Verify Processing Request Form to the Office of Human Resources if required.

For more information, please see CMU's [Guidance for Completing the Form I-9 and E-Verify Requirements at CMU [pdf]](#), or visit the Human Resources Service website to [learn more about Form I-9 and E-Verify](#) and to [schedule an appointment to complete the Form I-9](#)."

2020-2021
Highlighted University Resources for Graduate Students
and
The WORD, Student Handbook

Key Offices for Graduate Student Support

Graduate Education Office
www.cmu.edu/graduate; grad-ed@cmu.edu

The Graduate Education Office provides central support for all Master's and Doctoral students with a focus on their academic experience at Carnegie Mellon. The Graduate Education Office serves as a hub for connecting graduate students to relevant campus experts and resources to support their academic success, understanding of university level policies and practices and to assist them in advancing their personal and professional development.

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 issues related to the graduate student experience

The Graduate Education Office 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.

Office of the Dean of Students
https://www.cmu.edu/student-affairs/dean

The Office of the Dean of Students provides central leadership of the metacurricular 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).

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 Emergency Student Loan (ESLs) process. Emergency Student Loans are made available through generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable to the university within 30 days. Loans are available to enrolled students for academic supplies, medication, food or other expenses not able to be met due to unforeseeable circumstances.

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.

The Division of Student Affairs includes (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

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

Assistance for Individuals with Disabilities

http://www.cmu.edu/disability-resources/

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical, digital, and programmatic access to ensure that students with disabilities have equal access to their educational experience. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Section 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 physical, sensory, cognitive, or emotional 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.

Eberly Center for Teaching Excellence & Educational Innovation
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 www.cmu.edu/teaching/graduatestudentsupport/index.html.

Graduate Student Assembly
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.

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.

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 or 412-268-8747.

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 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.

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

Key Offices for Academic & Research Support

Computing and Information Resources
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.

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.

University Libraries
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.

Research at CMU
www.cmu.edu/research/index.shtml
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 general information is found by visiting the Research at Carnegie Mellon website.

Office of Research Integrity & Compliance
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, and institutional animal care & use. ORIC also provides consultation, advice, and review of allegations of research misconduct.

Key Offices for Health, Wellness & Safety

Counseling & Psychological Services
https://www.cmu.edu/counseling/
Counseling & Psychological Services (CaPS) affords the opportunity for students to talk privately about academic and personal concerns in a safe, confidential setting. An initial consultation at CaPS can help clarify the nature of the concern, provide immediate support, and explore further options if needed. These may include a referral for counseling within CaPS, to another resource at Carnegie Mellon, or to another resource within the larger Pittsburgh community. CaPS also provides workshops and group sessions on mental health related topics specifically for graduate students on campus. CaPS services are provided at no cost. Appointments can be made in person, or by telephone at 412-268-2922.

Health Services
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.

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.

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.

University Police
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 (entrance is on Filmore Street).   The department's services include police patrols and call response, criminal investigations, fixed officer and foot officer patrols, event security, and crime prevention and education programming as well as bicycle and laptop registration. Visit the department's website for additional information about the staff, 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 https://www.cmu.edu/police/annualreports/.

Shuttle and Escort Services
Parking and Transportation coordinates the Shuttle Service and Escort Service provided for CMU students, faculty, and community. The Shuttle & Escort website has full information about these services, stops, routes, tracking and schedules.

The WORD
http://www.cmu.edu/student-affairs/theword//

The WORD is Carnegie Mellon University's student on-line handbook and is considered a supplement to the department (and sometimes college) handbook. The WORD contains campus resources and opportunities, academic policy information and resources, community standards information and resources. 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/.

Carnegie Mellon Vision, Mission
Statement of Assurance
Carnegie Code

Academic Standards, Policies and Procedures
     Educational Goals
     Academic and Individual Freedom
     Statement on Academic Integrity Standards for Academic & Creative Life
     Assistance for Individuals with Disabilities
     Master's Student Statute of Limitations
     Conduct of Classes
     Copyright Policy
     Cross-college & University Registration
     Doctoral Student Status Policy
     Evaluation & Certification of English Fluency for Instructors
     Final Exams for Graduate Courses
     Grading Policies
     Intellectual Property Policy
     Privacy Rights of Students
      Student's Rights

Research
     Human Subjects in Research
     Office of Research Integrity & Compliance
     Office of Sponsored Programs
     Policy for Handling Alleged Misconduct of Research
     Policy on Restricted Research

Tax Status of Graduate Student Awards

Campus Resources & Opportunities
     Alumni Relations
     Assistance for Individuals with Disabilities
     Athletics, Physical Fitness & Recreation
     Carnegie Mellon ID Cards and Services
     Cohon University Center
     Copying, Printing & Mailing

Division of Student Affairs
Domestic Partner Registration
Emergency Student Loan Program
Gender Programs & Resources
Health Services
Dining Services
The HUB Student Services Center
ID Card Services
Leonard Gelfand Center
LGBTQ Resources
Multicultural and Diversity Initiatives
Opportunities for Involvement
Parking and Transportation Services
Shuttle and Escort Services
Spiritual Development
University Police
Student Activities
University Stores

Community Standards, Policies and Procedures
Alcohol and Drugs Policy
AIDS Policy
Bicycle/Wheeled Transportation Policy
Damage to Carnegie Mellon Property
Deadly Weapons
Discriminatory Harassment
Disorderly Conduct
Equal Opportunity/Affirmative Action Policy
Freedom of Expression Policy
Health Insurance Policy Immunization Policy
Missing Student Protocol
Non-Discrimination Policy
On-Campus Emergencies
Pets
Political Activities
Recycling Policy
Riotous and Disorderly Behavior
Safety Hazards
Scheduling and Use of University Facilities
Sexual Harassment and Sexual Assault Policy
Smoking Policy
Student Accounts Receivable and Collection Policy and Procedures
Student Activities Fee
Student Enterprises
Workplace Threats and Violence Policy