ML

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

2020–2021
Master's Student Handbook

This student handbook will inform you of the requirements and policies of each of our programs. Please see the section for the program you are enrolled in.

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.

Note: The information contained in this graduate handbook template focuses on the resources and locations available at the Carnegie Mellon Pittsburgh Campus.

Last revision date (August 28, 2020)

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Mission of the Department

Machine Learning is a scientific field addressing the question "How can machines *learn*, i.e., how to create algorithms and corresponding effective computer implementations capable of automatically analyze data and improve their performance with 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 models of their environments by gathering navigational experience from their sensors and actively interacting with people, or designing computer aids for scientific discovery that combine initial scientific hypotheses with new experimental data to automatically produce refined scientific hypotheses that better fit observed data.

To tackle these problems, we develop algorithms that discover general conjectures and knowledge from specific data and experience, based on different methods, including sound statistical and computational principles, as well as instruction and self-exploration. We also develop 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 may 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.

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
- Tom Cortina, Associate Dean for Undergraduate 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, ML

- Mary Stech, Student Employment Processes Manager, ML
- Christina Melucci, Assistant to the Dept. Head, ML

The Directors serve as ombudsmen for graduate students to assist with difficult 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.

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

Expected Background

Incoming students must have a strong background in Computer Science, including a solid understanding of complexity theory and good programming skills, as well as a good background in mathematics. Specifically, the first-year courses assume at least one year of college-level probability and statistics, as well as matrix algebra and multivariate calculus. Experience in MATLAB/R/SciPy-NumPy is especially helpful, as is probability/stats, linear algebra, and matrix and tensor calculus. This background should be at least at the level of the following courses:

15-150 Principles of Functional Programming
15-210 Parallel and Sequential Data Structures and Algorithms
36-225 Introduction to Probability Theory
36-226 Introduction to Statistical Inference

We will accept equivalent coursework or experience from outside of CMU for these prerequisites.

ML Degree Requirements

Master's in Machine Learning: 9 12-unit courses + 3-unit Practicum
Master's in Machine Learning – Applied Study: 9 12-unit courses + 3-unit Internship + Professional development

Internship Opportunities

You must discuss your plans for an internship with your advisor for approval. The summer semester is the optimal time for an internship.

International students are required to consult with the Office of International Education for eligibility before seeking an internship/co-op 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 Internships

You should register for 10-635 Practicum. Upon completion of the internship you must submit an internship report to your program administrator.

Your faculty advisor will assign a pass/fail grade. Advisors are individually responsible for adequately supervising this portion of the programs.

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

Primary Master's Program in Machine Learning

This highly selective program consists primarily of coursework, with a very limited research component, and typically takes three to four semesters to complete.

Program Requirements

To complete the degree of Master of Science in Machine Learning, we require that each student:

- Complete the ML MS Course Requirements, described below
- Complete a practicum, described below
  - Total: 111 units (108 units of coursework and 3 units of practicum)

ML MS Course Requirements

The seven core courses together provide a foundation in machine learning and statistics while the two electives can be used to deepen the student's knowledge in their chosen subfield.

Set Core

Students take **all four** courses from the Set Core:

- 10-701 Introduction to Machine Learning *or* 10-715 Advanced Introduction to Machine Learning
- 10-716 Advanced Machine Learning: Theory and Methods
- 10-718 Data Analysis
- 36-700 Probability & Mathematical Sciences *or* 36-705 Intermediate Statistics*

Note: MS students interested in pursuing the ML PhD should consider taking 10-715 and 36-705 instead of 10-701 and 36-700, due to the course requirements of the ML PhD. If a student takes 10-701 and later enters the PhD, they may be able to use 10-701 to fulfill that requirement, as described in the Course Waiver Policy section below.

Menu Core

Students take their **choice of three Menu Core** courses from separate lines:

- 10-617 Intermediate Deep Learning *or* 10-703 Deep Reinforcement Learning *or* 10-707 Topics in Deep Learning
- 10-708 Probabilistic Graphical Models
- 10-725 Convex Optimization
- 10-620 Independent Study (under ML Core Faculty; 12 units)

Note: The Menu Core courses must be chosen from three different lines (e.g., if 10-617 Intermediate Deep Learning is taken, then 10-703 Deep Reinforcement Learning cannot be used as a Menu Core course).

Electives

Students take their **choice of two** courses from the Electives:

- 10-617 Intermediate Deep Learning

- 10-703 Deep Reinforcement Learning
- 10-707 Topics in Deep Learning
- 10-708 Probabilistic Graphical Models
- 10-725 Convex Optimization
- 10-745 Scalability in Machine Learning
- 10-805 Machine Learning with Large Datasets (*or* 10-605 Machine Learning with Large Datasets taken in Fall 2020 or earlier)
- 10-XXX Special Topics in Machine Learning (*course numbers vary*)
- 11-711 Algorithms for NLP
- 11-741 Machine Learning for Text Mining
- 11-747 Neural Networks for NLP
- 11-777 Multimodal Machine Learning
- 15-750 Algorithms
- 15-780 Graduate Artificial Intelligence
- 15-826 Multimedia Databases and Data Mining
- 15-853 Algorithms in the Real World
- 16-720 Computer Vision
- 36-707 Regression Analysis
- 36-709 Advanced Probability
- 36-710 Advanced Statistical Theory
- 10-620 Independent Study (under ML Core Faculty; 12 units)

Note: A student may take 10-620 Independent Study twice, with one counting for the Menu Core and the other counting for the Electives.

Practicum Requirements

To earn the MSML, students must complete a 3-unit practicum. This practicum may be either directed research or an internship related to machine learning. Unlike Independent Study, directed research for the practicum does NOT need to be under ML Core Faculty. Most students complete the practicum during the summer, and it may be paid or unpaid.

Independent Study

The Machine Learning Department allows Independent Study for credit. To count, an Independent Study must be for at least 12 units and must be supervised by a Machine Learning Department core faculty member. To request approval of an independent study, the student should give their program administrator: the number of credit hours sought, an indication of support from the supervising faculty member, a description of the work to be undertaken, and a short description of the deliverables that will be due to the research advisor at the end of each semester, such as a write-up of work done, a summary of the literature studied, a copy of the code produced, or a presentation to the research group.

In rare circumstances, the Machine Learning Department allows students to count courses taken at outside universities while at MLD; these are listed as Independent Study credit, and are not subject to the 12-unit requirement above. The approval process is the same as for other

Independent Study courses: the deliverable is the outside course grade, while the supervising faculty member certifies that the course is appropriate for the student and the number of credit hours, and is responsible for recommending a grade threshold to the program director at the beginning of the course, as well as verifying the threshold at the end of the course.

Double-Counting Courses

Any course counted toward another master's-level or bachelor-level degree may not be counted toward the Primary Master's in Machine Learning.

Program Milestones

There are no official milestones that a student must pass. However, most students follow the following timeline:

- First semester: Complete 10-701 (or 10-715), 36-700 (or 36-705), and one other course
- Second semester: 10-716 and two other courses
- Summer: Complete the practicum
- Third semester: Complete the final three courses

Statute of Limitations

As outlined in the Master's Students Statute of Limitations, http://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html , students who have matriculated at Carnegie Mellon beginning Fall 2012 or later will complete all requirements for the master's degree within a maximum of seven years from original matriculation as a master's student, or less if required by a more restrictive department, school or college policy. Once this time-to-degree limit has lapsed, the person may resume work towards a master's degree only if newly admitted to a currently offered master's 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 (or designate), defer the lapse for a period commensurate with the duration of that interruption. Students who are pursuing a master's 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.

Summer Internships for MS Students

During the summer semester, Master's students need to secure a summer internship or summer directed research. You must discuss your summer plans with your advisor and register for the appropriate course: 10-635 Practicum (3 units) for an internship or 10-697 Reading and Research (usually 36 units) for research at Carnegie Mellon. At the end of the practicum, you must submit a short, written report to your advisor, who will determine your pass/fail grade for the semester. The Practicum course and the Reading and Research course will count towards your program requirements.

Note: International students must apply for Curricular Practical Training (CPT) with the Office of International Education for immigration authorization for internships within the United States before committing to an internship. The dates of your internship must be within the dates of the semester, as determined by the university.

Student Progress

Student progress will be evaluated at the end of each academic semester by the MLD faculty. Students will enter information into the MLD online system to inform the faculty of their goals for the semester and if they were achieved. The student will also enter their plans for the next semester. After the faculty meet, the assessment of the student's progress will be communicated via the same online system.

Financial Support

The MS program does not offer any type of financial support. Tuition for this program is the responsibility of the student.

Fifth-Year Master's in Machine Learning

The 5th-Year Master's in Machine Learning allows CMU undergraduates to complete a MS in Machine Learning in one additional year by taking some of the required ML courses as an undergraduate.

Program Requirements

To complete the degree of Master of Science in Machine Learning, we require that each student:

- Complete the ML MS Course Requirements, including 4 Set Core, 3 Menu Core, and 2 Elective courses. These Course Requirements are the same as in the Primary Master's section above
- Complete a practicum, as described in the Primary Master's section above
- Be enrolled full-time (at least 36 units per semester)

Double-Counting Courses

In order to graduate in one year with this MS degree, you will have to have successfully completed 10-701 (or 10-715) and two other required courses during your undergraduate years at Carnegie Mellon. These courses may be double-counted toward the 5th year master's degree. No other courses may be double-counted. Triple-counting, such as between a minor, major, and the master's, is not allowed.

Instead of taking 10-701, a student may instead take both 10-315 Intro to ML for SCS Majors and 15-281 Artificial Intelligence. Together, these two courses can fulfill the 10-701 requirement. (Note that they will remain listed as 10-315 and 15-281 on the transcript, and the two of them together count as "one course" for the purpose of the Fifth-Year MS.)

Alternatively, 10-315 may be used to fulfill the 10-701 requirement if the student does well on 10-701's final exam. The student should contact the instructor of 10-701 and request to take the 10-701 final exam during the regularly scheduled 10-701 final exam time. (Note that the course will remain listed as 10-315 on the transcript.)

Program Milestones

There are no formal milestones for this one-year program. The progress of students in the program will be assessed by the faculty at the end of each semester. However, most students follow the following timeline:

- By end of summer after senior year: Complete the practicum
- By end of the first semester of fifth year: Complete 36-700 (or 36-705), 10-718, and one other course
- By end of the second semester of fifth year: Complete 10-716 and the final 2 courses

In particular, it is the student's choice if they wish to complete the practicum in the summer between senior year and the fifth year or during the summer after the fifth year.

Statute of Limitations

As outlined in the Master's Students Statute of Limitations, http://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html , students who have matriculated at Carnegie Mellon beginning Fall 2012 or later will complete all requirements for the master's degree within a maximum of seven years from original matriculation as a master's student, or less if required by a more restrictive department, school or college policy. Once this time-to-degree limit has lapsed, the person may resume work towards a master's degree only if newly admitted to a currently offered master's 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 (or designate), defer the lapse for a period commensurate with the duration of that interruption.

Student Progress

Student progress will be evaluated at the end of each academic semester by the MLD faculty. Students will enter information into the MLD online system to inform the faculty of their goals for the semester and if they were achieved. The student will also enter their plans for the next semester. After the faculty meet, the assessment of the student's progress will be communicated via the same online system.

Financial Support

The MS program does not offer any type of financial support. Tuition for this program is the responsibility of the student.

Secondary Master's Program in Machine Learning

The Secondary Master's program in Machine Learning is designed to train PhD students, faculty, and staff in other disciplines to become tomorrow's leaders in the rapidly growing area of machine learning. This program will build on Carnegie Mellon's Machine Learning Department which has assembled a multi-disciplinary team of faculty and students across several academic departments, dedicated to producing the next generation of machine learning methods.

Program Requirements

To complete the degree of Master of Science in Machine Learning, we require that each student:

- Complete the ML Course Requirements, including 4 Set Core, 3 Menu Core, and 2 Elective courses. These Course Requirements are the same as in the Primary Master's section above
- Complete a practicum, as described in the Primary Master's section above

Double-Counting Courses

Any course counted toward another master's-level or bachelor-level degree may not be counted toward the Secondary Master's in Machine Learning. If a course is counted toward the student's PhD degree it may also be counted towards the Secondary Master's in Machine Learning, so long as such double-counting is permitted by their PhD department.

For students in Statistics and Data Science, the two-semester Advanced Data Analysis sequence (36-757 and 36-758) can be used to waive the 10-718 Data Analysis requirement. In that case, an additional elective from the Machine Learning Department must be taken.

Double-Counting the Practicum

Students pursuing a PhD may petition to have research in their home department count to satisfy the practicum, if such research contains significant machine learning content. This may be under a course number in their home department, with sufficient units to represent a full-time workload for one semester (usually 36).

Note: International students should be aware that the Secondary MS does not qualify them for CPT/OPT.

Program Milestones

The requirements for the ML MS degree must be completed before the end of the student's primary degree; there is no provision for remaining in the ML MS program beyond the end of the student's primary degree.

Statute of Limitations

PhD students must graduate from this program before or concurrent with their PhD degree.

As outlined in the Master's Students Statute of Limitations, http://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html , students who have matriculated at Carnegie Mellon beginning Fall 2012 or later will complete all requirements for the master's

degree within a maximum of seven years from original matriculation as a master's student, or less if required by a more restrictive department, school or college policy. Once this time-to-degree limit has lapsed, the person may resume work towards a master's degree only if newly admitted to a currently offered master's 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 (or designate), defer the lapse for a period commensurate with the duration of that interruption.

Student Progress
Student progress will be evaluated at the end of each academic semester by the MLD faculty. Students will enter information into the MLD online system to inform the faculty of the goals for the semester and if they were achieved. The student will also enter the plans for the next semester. After the faculty meet, the assessment of the student's progress will be communicated via the same online system.

Financial Support
The MS program does not offer any type of financial support. Tuition for this program is the responsibility of the student, the PhD home department or, in the case of faculty or staff, may be paid by the university's tuition benefits.

Master's Program in Machine Learning – Applied Study

This highly selective program combines coursework, an internship, and professional development to train students to be the next leaders in industry. This alternative to the traditional Master of Science in Machine Learning provides certification that the student has experience in industry and is prepared for the distinct challenges of applying machine learning in non-academic settings. It typically takes three to four semesters to complete.

Program Requirements

To complete the degree of Master of Science in Machine Learning – Applied Study (MSML-AS), we require that each student:

- Complete the ML Course Requirements, including 4 Set Core, 3 Menu Core, and 2 Elective courses. These Course Requirements are the same as in the Primary Master's section above
- Complete an internship, described below
- Complete professional development activities, described below
    - Total: 111 units (108 units of coursework and 3 units of internship)

Internship Requirements

During the summer semester, MSML-AS students need to secure a full-time summer internship related to machine learning. You must discuss your summer plans with your advisor and register for 3 units of 10-635 Practicum. At the end of the practicum, you must submit a written report to the program director, who will determine your pass/fail grade for the semester. The Practicum course will count towards your program requirements.

The MSML-AS program does not guarantee that each program will be able to secure a summer internship, and so MLD will offer summer research opportunities as a backup option for students unable to obtain external internships. MLD faculty can provide research opportunities in a wide range of applied fields to any MSML-AS students who are unable to secure an internship. However, the expectation is that all MSML-AS students will secure summer internships; research is only allowed as a substitute in the case of extenuating circumstances.

Note: International students must apply for Curricular Practical Training (CPT) with the Office of International Education for immigration authorization for internships in the United States before committing to an internship. The dates of your internship must be within the dates of the semester, as determined by the university.

Professional Development Requirements

To help them prepare for this internship, MSML-AS students will complete the CPDC's Canvas Course Module before beginning the program.

MSML-AS students will be expected to join the Machine Learning Department LinkedIn group to connect with alumni and to provide their resume to the MSML-AS program coordinator to share with prospective employers, unless the student has privacy concerns that would prevent the sharing of their information.

Students who do not already have industry experience in a related field will be guided to strengthen their professional skills by participating in workshops and seminars like those hosted by the Career and Professional Development Center (such as the Resume Lab or Interview Prep Lab), the Student Academic Success Center (such as Communicating Data Effectively or Professional Talk), and the Global Communication Center (such as Creating Effective PowerPoint Presentations or Team Communication), such as their individual needs require.

Double-Counting Courses

Any course counted toward another master's-level or bachelor-level degree may not be counted toward the MSML-AS.

Program Milestones

There are no official milestones that a student must pass. However, most students follow the following timeline:

- Summer before coursework: Complete the CPDC's Canvas Course Module
- First semester: Complete 10-701 (or 10-715), 36-700 (or 36-705), and one other course
- Second semester: 10-716 and two other courses
- Summer: Complete the internship
- Third semester: Complete the final three courses

Statute of Limitations

As outlined in the Master's Students Statute of Limitations, http://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html , students who have matriculated at Carnegie Mellon beginning Fall 2012 or later will complete all requirements for the master's degree within a maximum of seven years from original matriculation as a master's student, or less if required by a more restrictive department, school or college policy. Once this time-to-degree limit has lapsed, the person may resume work towards a master's degree only if newly admitted to a currently offered master's 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 (or designate), defer the lapse for a period commensurate with the duration of that interruption. Students who are pursuing a master's 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.

Student Progress

All students in the MSML-AS will report to the program director on their coursework and professional development activities at the end of each semester.

Student progress will be evaluated at the end of each academic semester by the MLD faculty. Students will enter information into the MLD online system to inform the faculty of their goals for the semester and if they were achieved. The student will also enter their plans for the next

semester. After the faculty meet, the assessment of the student's progress will be communicated via the same online system.

Financial Support

The MSML-AS program does not offer any type of financial support. Tuition for this program is the responsibility of the student.

Registration Policies

During the during the fall and spring semesters, MS students should normally be registered for at least 36 units. During the summer, students should be registered for 3 or 36 units, depending on how they are completing the practicum.

Course Waiver Policy

Some students will have taken some of the above courses before entering the program, for example, as non-degree students at Carnegie Mellon entering the MSML or MSML-AS program. 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. (Note that courses can only be used for a single master's degree and restrictions about double-counting between the Machine Learning Master's degree and other degrees are described in each section.)

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

Some students will have taken similar courses at other universities before entering the MSML or MSML-AS program. Based on such equivalent coursework, any student can apply to replace (not reduce) up to two courses with electives.

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 in Fall and Spring and 3 units in the Summer.
- 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.

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 grade. Such courses will not be taken into account for academic actions, honors or QPA calculations.

The Machine Learning Department does not accept transfer credit. While it is rare, 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. This replacement is rare, and students should not expect to have requirements replaced based on courses taken at other institutions. 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

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.

A first violation usually has repercussions at the course level, such as failure of the course. Depending on severity, however, a first violation may result in program-level repercussions, including dismissal from the program and recommendation for expulsion from the university. Academic integrity on research papers, including a dissertation, is also enforced strictly; citations are required to avoid plagiarism, including self-plagiarism. A second academic integrity violation usually results in dismissal from the program and recommendation for expulsion from the university.

Violations will be discussed at the end of semester review meeting and the department reserves the right to assess additional penalties to the student, as outlined in the University Policy found at: https://www.cmu.edu/student-affairs/ocsi/academic-integrity/grads.html

Machine Learning master's students are required to complete the OLI online course on Academic Integrity in both of their first two semesters in the program: https://oli.cmu.edu/

Master's Student Review

The Machine Learning faculty meet at the end of each academic semester to make a formal evaluation of each student in the program. The program directors and faculty research advisors communicate in written form the assessment from these Master's Student Review meetings to the graduate students. Additional oral conversations take place, as and if needed.

Evaluation and feedback on a student's progress are important both to the student and to the faculty. Students need information on their overall progress to make long range plans.

At each semi-annual Master's Student Review meeting, the faculty review the student's previous semester's coursework and research progress (if applicable) 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).

The purpose of having all the faculty meet together to discuss all of the students is 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.

The faculty's primary source of information about the student is the student's advisor. The advisor is responsible for assembling the above information and presenting it at the faculty meeting. The student should make sure the advisor is informed about participation in activities and research progress made during the semester. Each student is asked to submit a summary of this information to the advisor at the end of each semester; this summary is viewable by all faculty during the Master's Student Review meeting.

Based on the above information, 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 the ML degree. If a student is not making satisfactory progress, the faculty may choose to drop the student from the program.

Terms of progress in Master's Student Review letters from faculty:

Each Master's Student Review letter will include a code indicating your current progress. The codes we use are:

SP = In the semiannual evaluation of all our students the faculty reviewed your progress toward the MS. We have determined that your current level of progress is satisfactory.

USP = We have determined that your current level of progress is unsatisfactory. The letter will contain specific instructions for how to return to SP standing.

N-2 = We have determined that there are significant problems with your current level of progress. Accordingly, this is an N-2 letter: you are in danger of receiving an N-1 letter at the next Master's Student Review meeting unless you improve your rate of progress in the program. The letter will contain specific instructions for how to return to SP standing.

N-1 = This is an N-1 letter. You may not be allowed to continue in the program past the next Master's Student Review meeting unless you satisfy specific conditions that will be given in the letter.

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 Director, 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/

Resources and Regulations Governing Research at Carnegie Mellon
Office of Research Integrity & Compliance

Carnegie Mellon University promotes the responsible conduct of research through high standards of ethics and accountability in planning, conducting and reporting research. The responsible conduct of research is demonstrated through behavior that meets generally accepted standards. These standards are set forth by state and federal regulations, institutional policies, professional codes of conduct, and personal convictions. The building blocks of responsible conduct of research include:

- Honesty - conveying information truthfully and honoring commitments,
- Accuracy - reporting findings precisely and taking care to avoid errors,
- Efficiency - using resources wisely and avoiding waste, and

- Objectivity - letting the facts speak for themselves and avoiding improper bias

We may ask graduate students to complete the CITI on-line education course: CITI's website.

- Office of Sponsored Programs, https://www.cmu.edu/osp/
- Office of Research Integrity & Compliance https://www.cmu.edu/research-compliance/index.html
- Intellectual Property Policy https://www.cmu.edu/policies/administrative-and-governance/intellectual-property.html
- Policy on Restricted Research https://www.cmu.edu/policies/research/restricted-research.html

Human Subjects in Research Policy https://www.cmu.edu/policies/research/human-subjects-in-research.html

Link to University Policies: http://www.cmu.edu/policies/

Teaching Requirements

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 take the International Teaching Assistant (ITA) test.

Evaluation and Certification of English Fluency for Instructors

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

In addition to administering the International Teaching Assistant (ITA) Test (a mandatory screening test for any non-native speaker of English), the Language Support in the Student Academic Success Center helps teaching assistants who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon. Visit the Student Academic Success Center website for additional information: https://www.cmu.edu/student-success/

The full university policy 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

Departmental Resources

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 Programs Administrator's office, 8001 GHC.

Key Distribution: Machine Learning MS students (except Secondary MS students) can use their CMU student ID to access the Machine Learning Master's Students Lounge in NSH A408, and can request a key to a locker in the lounge from the Master's Programs Administrator.

CS Main Office: We do not have our own Main Office or mail facilities. CS is allowing us to use the following services.

Functions of the CS Main Office:

- Send mail
- Pick up mail/packages
- Send overnight packages

Please do not take any supplies from the CS Main office; office supplies for the ML Department are on the 8th floor of GHC.

Mailboxes are located on the 8th floor of GHC. A US Post Office is located in the basement of University Center.

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

Your Name
Machine Learning Dept.
School of Computer Science
8008 Gates Building
Carnegie Mellon University

5000 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
5000 Forbes Ave.
Pittsburgh, PA 15213

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.

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.

Departmental 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 extremely important 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. That 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 seminars:

ML Distinguished Lecture Series
ML Lunch Seminar
ML Special Seminars

Additional 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 [MS in Machine Learning Financial Information](#) website. There are no tuition or fees in the summer semester for a Machine Learning MS student who is only completing their practicum. Master's programs are not funded by the department; however, students are welcome to apply for external funding opportunities. Please review the extensive data available on-line: http://www.cmu.edu/fso.

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 has traditionally granted 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 also enhances the contribution of the student to the university. Such activity benefits both the student and the university. Students must fill out a Student Consulting Application and Agreement, 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 university may 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.

Reimbursements

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.

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.

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

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

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

University Policies & Department 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 Website: 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

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

Carnegie Mellon University Statement of Assurance

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

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

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

Additional University Policies/Protocols

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

Students with disabilities are encouraged to self-identify with the Office of Disability Resources and request needed accommodations. Any questions about the process can be directed to Catherine Getchell, 412-268-6121, getchell@cmu.edu .

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.

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.

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.) will be reviewed during this meeting.

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.

Graduate students who find themselves in need of immediate funds for emergency situations should contact the Office of the Dean of Student Affairs (see Appendix A), www.cmu.edu/student-affairs/index.html, to inquire about an Emergency Student Loan.

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 Programs 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, you are going to be a TA or you are 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.

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.

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/education-office/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

IIt 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