Computational Biology Department
M.S. in Automated Science
Resource Handbook for Graduate Students
2021-2022

Contents

Welcome!

The directors of the Masters in Automated Science (MSAS) program would like to welcome you to the Computational Biology Department and to Carnegie Mellon University. This document explains the policies of the MSAS program. You should read it thoroughly.

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

Carnegie Mellon University (https://www.cmu.edu/about/mission.html)
Vision
Carnegie Mellon University will have a transformative impact on society through continual innovation in education, research, creativity, and entrepreneurship.

Mission
To create a transformative educational experience for students focused on deep disciplinary knowledge; problem solving; leadership, communication, and interpersonal skills; and personal health and well-being.

To cultivate a transformative university community committed to (a) attracting and retaining diverse, world-class talent; (b) creating a collaborative environment open to the free exchange of ideas, where research, creativity, innovation, and entrepreneurship can flourish; and (c) ensuring individuals can achieve their full potential.

To impact society in a transformative way — regionally, nationally, and globally — by engaging with partners outside the traditional borders of the university campus.

M.S. in Automated Science Mission Statement

The MSAS program trains practitioners in the design, implementation, and application of automation in scientific research. Graduates become leaders in the emerging paradigm of Automated Science - the combination of automated scientific instruments and artificial intelligence for iteratively interpreting data and selecting experiments. Interested students are given opportunities to pursue research. Our graduates are prepared for rewarding jobs in industry or to pursue their doctoral degrees at top universities.

Degree Offered

The MSAS program offers two degrees: a Master's of Science in Automated Science: Biological Experimentation (MSASBE) and a Master's of Science in Automated Science: Biological Experimentation – Applied Study (MSASBEAS).

This Handbook

The Computational Biology Department has prepared this statement of program policies and procedures to answer questions that students may have as they enter the M.S. in Automated Science (MSAS) program. This document specifies requirements that must be achieved in order to be a student in good standing. Failure to meet any of these requirements may result in dismissal from the program. We encourage you to discuss any questions or concerns that you may have with the MSAS directors, academic advisor, or program coordinator at any time.

Students should contact the MSAS program coordinator if they would like a version of this handbook in a different format.

University Policies & Expectations

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

- The Word/Student Handbook: www.cmu.edu/student-affairs/theword/index.html
- Academic Integrity Website: www.cmu.edu/policies/student-and-student-life/academic-integrity.html
- University Policies Website: www.cmu.edu/policies/
- Graduate Education Website: www.cmu.edu/graduate/policies/index.html

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

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 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/.

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

The Word/Student Handbook	www.cmu.edu/student-affairs/theword//index.html
Academic Integrity Policy	https://www.cmu.edu/policies/student-andstudent-life/academic-integrity.html
University Policies Website	www.cmu.edu/policies/
Office of Graduate and Postdoc Affairs	http://www.cmu.edu/graduate/policies/index.html

Additional Policy Resources here e.g. college/department specific policies
Please see Appendix A for additional information about The Word and University resources.

Provost's Statement on Student Well-being

Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at http://www.cmu.edu/counseling.   Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.

ALSO

If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night:

CaPS: 412-268-2922

Resolve Crisis Network: 888-796-8226

If the situation is life threatening, call the police:

On campus: CMU Police: 412-268-2323

Off campus: 911

Program Contacts and Resources

Program Administration

Title & Responsibilities	Contact Information
Director ***Overall Program Management; Academic Integrity Issues; Leave of Absence Approval***	Robert Murphy, Ph.D. GHC 7723 412-268-3480 russells@cmu.edu
Academic Advisor & Assistant Director **Academic Advising** **Summer internship approvals**	Joshua Kangas, Ph.D. GHC 7715 412-268-4671 jkangas@andrew.cmu.edu
Program Coordinator ***Admissions; Course Registration; Office and building access*** ***Program Ombudsperson***	Janet Garrand GHC 7725 412-268-5598 jgarrand@cs.cmu.edu
Administrative Assistant ***Scheduling meetings with program administrators***	Erin Driskill GHC 7725 412-268-3480 ekunz@andrew.cmu.edu

Ombudsperson

Janet Garrand serves as ombudsperson 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 the program co-directors, academic advisor, or faculty, particularly when those difficulties may lead to considering 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 program or department, Janet Garrand can also assist with following the grievance procedures for resolving difficult matters, which are available here: www.cmu.edu/graduate/policies/appeal-grievance-procedures.html.
Additionally, students may confer with the university graduate student ombudsman, Suzie Laurich-McIntyre, slaurichmcintyre@cmu.edu, on issues of process or other concerns as they navigate conflicts. Suzie Laurich- McIntyre is the Vice Provost for Graduate Education.

Department Level Contacts

Title & Responsibilities	Contact Information
Department Head, Computational Biology Department	Russell Schwartz, Ph.D. GHC 7723 russells@cmu.edu
Administrative Assistant *Scheduling meetings with department head*	Erin Driskill GHC 7725 412-268-3480 ekunz@andrew.cmu.edu

College Level Contacts

Title & Responsibilities	Contact Information
Dean, School of Computer Science	Martial Hebert, Ph.D. GHC 6109 412-268-1659 hebert@cs.cmu.edu
SCS Associate Dean for Masters Programs, School of Computer Science	David Garlan, Ph.D. Wean Hall 4218 412-268-5056 garlan@cs.cmu.edu

University Level Contacts

Title & Responsibilities	Contact Information
Graduate Student Ombudsperson *Students may confer with the university graduate student ombudsperson on issues of process or other concerns as they navigate conflicts.*	Suzanne Laurich-McIntyre, Ph.D Vice Provost for Graduate Education Posner Hall, 358 412-268-7307 suzannel@andrew.cmu.edu
Student Affairs Liaison *Supporting students to manage mental and physical health and other personal issues including finding appropriate resources and help managing impact on coursework and life outside of classes.*	Angela Lusk Cohon University Center, 111E 412-268-7117 alusk@andrew.cmu.edu

Department Resources

There are student support and administrative staff members available Monday through Friday in person on the 7th floor of the Gates Hillman Center.

The Computational Biology Department provides a group study space for MSAS students in room 7415 GHC. This room is to remain unlocked at all times. Do not leave personal or items of value in the room.

A copier/printer is located 7604 GHC.

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.

Degree Attainment

Preparatory Requirements
Admitted students will be provided with free material to study probability, statistics, and core mathematical concepts in the summer before they begin their CMU coursework. A teaching assistant (TA) or faculty member will be available during that summer to answer questions by email or Skype (or similar). Students are responsible for reviewing this in the summer before they arrive.

Additionally, before beginning courses, all students are also required to complete an academic integrity instructional module, as prescribed by the co-directors. Students must pass with a grade of 90% or higher on every assignment to be eligible to start classes.

Coursework

To receive the M.S. degree, students must successfully complete the following requirements:

1. At least 174 units of coursework, which includes the specific courses listed below.
2. An average grade of B or above (GPA = 3.0) in those 174 or more units counted toward degree certification. No grade lower than a C (GPA = 2.0) can be counted toward degree certification.
3. Full-time course registration (at least 36 units) for each semester in the program

In addition, MSASBEAS students are required to complete a summer internship.

The recommended coursework is as follows:

Course (Units)	Name	Semester	Course (Units)	Name	Semester
02-601 (12)	Programming for Scientists*	1	02-750 (12)	Automation of Scientific Research	2
02-761 (12)	Laboratory Methods for Automated Biology I	1	02-762 (12)	Laboratory Methods for Automated Biology II	2
03-709 (12)	Applied Cell and Molecular Biology	1	02-620 (12)	Machine Learning for Scientists	2
02-680 (9)	Essential Mathematics and Statistics for Scientists	1	02-702 (3)	Computational Biology Seminar	2
02-605 (3)	Professional Issues in Automated Science	1	02-605 (3)	Professional Issues in Automated Science	2
Total Units: 48			**Total Units: 42**		

*Students who test out of 02-601 (Programming for Scientists) will take 02-613 (Algorithms and Advanced Data Structures), or 02-604 (Fundamentals of Bioinformatics) in the first semester,

Course (Units)	Name	Semester	Course (Units)	Name	Semester
02-XXX (12)	CBD graduate-level elective	3	02-XXX (12)	CBD graduate-level elective	4
02-604 (12)	Fundamentals of Bioinformatics**	3	02-710 (12)	Computational Genomics	4
02-661 (12)	MSAS Capstone 1	3	02-662 or 02-700 (12)	MSAS Capstone 2 (professional option) *or* M.S. Research (research option)	4
02-700 or 02-XXX (12)	M.S. Research (research option) or CBD graduate-level elective (professional option)	3		Optional OPEN graduate-level elective	4
Total Units: 48			**Total Units: 36-48**		

** Students who took 02-604 in the first semester will take 02-XXX CBD graduate-level elective in the third semester.

The university's complete Schedule of Classes can be found at www.cmu.edu/hub.

Course Credit for Internships

If a student completes a part-time internship directly relevant to Automated Science, then they may register to receive three units of credit for each term for (02-802A fall/spring).

Seminars

During the second semester of the program, each student will register for weekly Computational Biology seminars: *Graduate Seminar 02-702* (3 units). Students who are registered for fewer than 48 units in the first semester, because they have tested out of any of the first semester courses, are welcome to register for a seminar during the first semester, if they choose.

Professional and Research Options

During the second year, students will take either two semesters of MSAS Capstone (02-661 and 02-662) or two semesters of MS research (02-700), depending on their career goals. Students who want to enter the workforce as soon as possible should take two semesters of MSAS Capstone; this is called the '**professional option**' in the table above. Those who wish to pursue a Ph.D. after completing their M.S. should take two semesters of MS Research; this is called the '**research option**' in the table above. Students who elect to the Research option must find a research mentor and then enroll in two semesters of M.S. Research (02-700). Typically, students contact faculty directly to learn about available research opportunities.

The program's academic advisor will consult with each student prior to the start of the second year to determine his or her best option. Note that all MSAS students are required to take 02-661 (MSAS Capstone 1), to demonstrate mastery of the techniques of Automated Science.

Important Rules for Coursework

Students must maintain full-time enrollment in the program and all course requirements should be fulfilled by the end of the student's fourth semester. The only exception that is allowed is if CMU Student Affairs and/or a medical provider requests that a student be allowed to take a reduced course load.

The MSAS Advising committee may waive the requirement for 02-601, 02-680 and/or 03-709 if a student demonstrates proficiency through a placement exam or project. Opportunities to complete placement exams or projects are offered before the start of the fall semester. Students who test out of 02-601 (Programming for Scientists) will take 02-613 (Algorithms and Advanced Data Structures) or 02-604 (Fundamentals of Bioinformatics) in the first semester. Students who took 02-604 in the first semester will take a 02-XXX CBD graduate elective or any SCS graduate elective in the third or fourth semester. Students who test out of 03-709 will take an equivalent number of course units from the Department of Biological Sciences or Computational Biology Department. Students who test out of 02-680 will take a graduate Computational Biology (02-7xx) or Machine Learning (10-7xx) elective. In all cases the degree requirement remains 174 units. All course requirements must be fulfilled by the end of the student's fourth semester unless a medical or other exemption has been granted in writing.

Students must follow the procedures and deadlines for adding, dropping, or withdrawing from courses as identified on the academic calendar. Information can be found at www.cmu.edu/hub/registrar/course-changes/index.html

Most MSAS students will have the opportunity to take a single free elective in the final (4th) semester of the program. All student course selections are subject to the approval of the MSAS program directors. Note that, according to college rules, undergraduate courses listed by the Computer Science Department (15-XXX) are closed to all graduate students, unless that course has a graduate listing.

CMU undergraduate students enrolling for a continuing M.S. can use relevant courses from their junior or senior years to count towards the MSAS degree. The courses used toward MSAS degree CANNOT be counted toward undergraduate degree certification. Undergraduate degree advisors need to verify and sign the Declaration of Carry-Over Credit form confirming no double counting.

All course requirements must be fulfilled by the end of the student's fourth semester, unless a medical or other exemption has been granted in writing.

Policies and Procedures

Orientation

There are two orientations for incoming graduate students. Both events take place in the weeks preceding the beginning of the fall semester.
- The University-wide orientation organized by the Graduate Education Office introduces the students to university resources and services.
- The Program Orientation introduces them to faculty, research, administration, policies and services. The MSAS co-directors will arrange for students to receive the necessary information for enrollment, registration and timelines.

Advising & Coursework

Advising for Coursework
Before each of the fall and the spring semesters, each student meets individually with the academic advisor to select courses and obtain approval. Any requested changes must be brought to the attention of the academic advisor.

Registering for Classes
In the first fall semester, students are pre-enrolled for the required courses. In subsequent semesters, students register online for their own classes; information is available at www.cmu.edu/hub/registration. Students register online at www.cmu.edu/hub/sio with an Andrew ID.

To be full-time, students must register for at least 36 units per semester. Students may not take more than 48 units in any semester.

University Policy on Grades
The university policy on grades may be found at:
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.

Pass/Fail Courses
Pass/Fail courses are strongly discouraged unless it is a course that is not directly relevant to the student's program of study or if there is a medical hardship in completing a course. Taking a course for credit indicates an intellectual commitment to the material and may be viewed more positively by other professors and potential employers than a Pass. Potential employers gain more information about a student's ability from seeing a letter grade on a transcript than from a P. With the exception of 02-605 Professional Issues in Automated Science, and the required 02-702 Computational

Biology Seminar, Pass/Fail courses cannot be used to satisfy any MSAS program requirements or to satisfy any prerequisites.

With petition to and **approval** from the academic advisor, students may elect to take a course Pass/Fail. Such a petition must give a compelling reason for taking a course Pass/Fail and must argue why that will not impact the student's program of study. Within the registration ADD period during the first two weeks of each semester, the student must fill out the Pass/Fail Approval Form and receive permission from the academic advisor and the Department Head. Switching a course to Pass/Fail mid-semester will generally only be approved under special circumstances.

Important notes
- Prerequisites may not be taken Pass/Fail.
- Classes taken Pass/Fail may not be used to fulfill graduation requirements, with the exception of 02-702 and 02-605.
- Pass/Fail status is irrevocable.

Auditing a Course
With approval of the academic advisor, a graduate student may audit a course by obtaining permission of the instructor or teaching department ***and*** completing the Course Audit Approval Form, including obtaining the signature of the academic advisor. Audited classes are not taken for credit and cannot be used to fulfill graduation requirements.

Adding a Course
During the early Add period of each semester, students may add a course by registering online. After the Add deadline, they may add a course by completing the Late Add Request Form **and** obtaining permission of **both**: 1) the instructor or teaching department **and** 2) the academic advisor.

Dropping a Course
Students may withdraw from a course online. The university has a Drop deadline, after which the course appears on the student's transcript as withdrawn (W).

Complete the Retroactive Add/Drop Petition form after the Drop deadline obtaining permission of **both**: 1) the teaching department head **and** 2) the academic advisor.

Drop/Add/Withdraw Procedures
Students taking undergraduate and Master's level courses must follow the procedures and deadlines for adding, dropping, or withdrawing from courses as identified on the academic calendar. Information can be found at https://www.cmu.edu/hub/registrar/course-changes/index.html. There is a separate calendar for master's level courses.

Remember that you must maintain full-time status in the program, which requires you to be registered for 36 units.

Transfer Courses and Pittsburgh Council on Higher Education (PCHE)
https://www.cmu.edu/policies/student-and-student-life/masters-studentstatus.html.
Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program (see Pittsburgh Council on Higher Education (PCHE) and Cross-registration below) and through the receipt of transfer credit from other accredited institutions. The Carnegie Mellon University transcript will include information on such courses as follows: Carnegie Mellon courses and courses taken through the university's cross-registration program will have grades recorded on the transcript and be factored into the QPA. All other courses will be

recorded on this transcript indicating where the course was taken, but without grades. Such courses will not be taken into account for academic actions, honors or QPA calculations.

The MSAS program does not accept transfer credits.

CMU undergraduate degree holders, please refer to the section on Coursework for carry-over course credit details.

Monitoring Progress
Students who have specific concerns about their progress are urged to speak with the academic advisor as early as possible. The academic advisor will meet with the student at least twice a year, providing guidance and monitoring the student's overall progress. In addition, the co-directors will meet with the student as and when needed to discuss progress and resolve issues.

Grades & Academic standing
To be in good academic standing, a student is expected to maintain a B average (GPA = 3.0) in the coursework (minimum 174 units) that will be counted towards the degree. No grade lower than C shall be used for completion of degree requirements.

Process for Appealing Final Grades
https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html
Final grades will be changed only in exceptional circumstances and only with the approval of the instructor and the department, unit or program. Grading is a matter of sound discretion of the instructor and final grades are rarely changed without the consent of the instructor who assigned the grade. The following circumstances are the unusual exceptions that may warrant a grade appeal: (a) the final grade assigned for a course is based on manifest error (e.g. a clear error such as arithmetic error in computing a grade or failure to grade one of the answers on an exam), or (b) the faculty or staff member who assigned the grade did so in violation of a University policy.

University Policy on Grades
https://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.

Working

Summer Research
Summer research in a lab requires you to either be paid (as a CMU employee) or to register for a 02-700.

F-1 and J-1 students may work on the CMU campus part-time or full-time during vacation terms or any official school breaks, including summer. Such positions do not need CPT authorization. For more information, see: https://www.cmu.edu/oie/foreign-students/employment.html

Internships
Students often secure internships in industry or academia during the summer between the first and second years, and less often during the academic year. With the approval of the MSAS academic advisor, students may enroll in 02-802, Automated Science Internship, to receive three units of credit for completing an internship. **Approval will only be given if the internship is directly relevant to**

Automated Science. For example, an internship at Emerald Cloud Lab will be approved, because its primary business involves scientific automation. An internship at Facebook will not. Additionally, the MSAS academic advisor will require a copy of the official offer letter from the company or organization providing the internship. The letter must: (i) be on official letterhead, (ii) signed, and (iii) state the start and end dates of the internship.

To receive credit for 02-802, the following two conditions must be met: (i) the student's direct supervisor during the internship must certify that their performance was satisfactory, and (ii) the student must present a poster, or other presentation at a program event sometime during the semester following their internship. The MSAS academic advisor will contact the student's direct supervisor during the internship to determine whether condition (i) is met.

In most cases, the internship will be completed during the summer and the student will enroll (tuition free) in 02-802R. In rare circumstances, the MSAS academic advisor will authorize a student to complete an internship during the academic year. Such students will enroll in 02-802A. Students must pay tuition if enrolled in 02-802A.

International students
International students who secure paid summer internships outside of Carnegie Mellon must also register for Curricular Practical Training (CPT) or Pre-Completion Optional Practical Training (OPT), both of which are overseen by the Office of International Education (OIE). International students who are part of MSASBEAS are required to do a summer internship and are therefore eligible for CPT after one semester in the program. International students who are part of MSASBE are not eligible until the summer after their first full academic year. **To receive either training authorization from OIE, the internship must be relevant to Automated Science.** For CPT authorization, students must present the offer letter stating employment dates, work hours, and amount of wages or stipend for the internship. The academic advisor signs all CPT authorization requests and may deny a request if the internship is not relevant to Automated Science. Note that whereas CPT authorization typically has a faster turnaround, OPT authorization is sought through OIE and can take up to 90 days to obtain. **All International students are required to consult with Office of International Education for eligibility before seeking an internship/co-op or signing an offer contract (required addition to ensure the university is in compliance with immigration laws for F & J status students)** (and in the case of CPT the academic advisor before seeking an internship/co-op or signing an offer contract.

Teaching assistantships
Graduate students are required to have a certain level of fluency in English before they can instruct in Pennsylvania, as required by the English Fluency in Higher Education Act of 1990. Through this Act, all institutions of higher education in the state are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns. The full university policy can be reviewed at:
https://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html. The protocol for evaluating the English fluency for graduate student instructors will involve completing the ITA test. Students with scores of 'Pass' and 'Restricted I' will be eligible to be a teaching assistant. Students with scores of 'Restricted II' will be limited to serving as graders.

In addition to administering the International Teaching Assistant (ITA) Test (a mandatory screening test for any non-native speaker of English), the Intercultural Communication Center (ICC) helps teaching assistants who are non-native English speakers develop fluency and cultural understanding

to teach successfully at Carnegie Mellon. Visit the ICC website for additional information: www.cmu.edu/icc.

Vacations and Time-off
Graduate Students engaged in paid research or serving as teaching assistants are expected to continue with their research and teaching during academic breaks (for example, Spring Break), with the exception of the following official University holidays:
- New Year's Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Day After Thanksgiving
- Day Before Christmas
- Christmas Day
- Day Before New Year's Day

Paid time off for personal business or vacations generally is not included as part of a graduate's financial support. A supported graduate student who wants to take a short break (up to ten days) must get approval for that break from his/her supervisor. Due to federal regulations governing graduate student support, paid time off for personal business and vacations is not provided.

Graduation

MSAS students are certified for graduation by the Computational Biology Department in the School of Computer Science.

Carnegie Mellon University holds graduation ceremonies in May only. Because there are no August or December commencement ceremonies, we encourage students to participate in the May events.

The Carnegie Mellon University Commencement Ceremony is held on Sunday.

Program Status

Full-time status
Students must be registered for **at least 36 units** during each semester to be considered full-time. Any questions about registration should be directed to the program coordinator or Enrollment Services (the HUB) or the Assistant Director (Academics).

Leave of Absence
Students who need to delay their studies for personal, medical or academic reasons may do so with a Leave Of Absence (LOA; leaving the university temporarily with a commitment to return). Students must contact the program co-directors to discuss their plans and fill out the appropriate Leave Of Absence form. Final approval of LOA is pending approval of the MSAS co-directors. The student's place in the program will be held until a mutually determined time. For more information refer to https://www.cmu.edu/hub/registrar/leaves-andwithdrawals/

Withdrawal
Students who need to withdraw from the program (leave the university with no intention of returning) for personal, medical or academic reasons must contact the co-directors to discuss their plans and fill out the

appropriate Withdrawal form. For more information refer to
https://www.cmu.edu/hub/registrar/leaves-andwithdrawals/

Change of Address
Students are responsible for notifying the Computational Biology Department Business Office and MSAS program coordinator and the HUB of all changes in a timely manner. Students will be held responsible for any failure to receive official college notices due to not having a correct address on file; F-1 students may jeopardize their status if address information is not kept current. Students can change their address using SIO, which is available via the HUB website: www.cmu.edu/hub/index.html

Statute of Limitations
As outlined in the Master's Students Statute of Limitations,
https://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of- limitations.html.
Students 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.

Academic Integrity
At all times students are expected to maintain ethical conduct as described in the university policies on Academic Integrity. Serious action will be taken against all students who are caught violating the CMU Academic Integrity Code.

Please review both of the following:

- 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.
- The University's Academic Disciplinary Actions procedures
  (https://www.cmu.edu/student-affairs/theword/academic-discipline/index.html). 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.

In addition to university policies, course instructors set specific policies for every assignment in their course. Instructors typically state on their syllabus what types of collaboration are allowed or not allowed on different types of assignments. However, *students are responsible* for making sure they understand what kind of collaboration is allowed or not. If you are not 100% certain about what is allowed on an assignment, do not start working on it until you have contacted the instructor to clarify. Unintentional violations of course policy *are still treated as violations of academic integrity* and can result in course-level penalties and program level penalties.

In addition to any course-level actions taken by instructors (e.g., giving the student a failing grade on the assignment up to a failing grade in the entire course without the option to withdraw), the program will impose penalties for academic integrity violations. Program level consequences may include any

or all of the following: academic probation (see below); dismissal from the program; required additional training on academic integrity; or other action as decided upon by the administration of the program.

Consequences for violations of academic integrity or other program policies will be determined by the program administration on a case-by-case basis including consideration of a variety of different factors, including:
- The severity of the violation, including factors such as the number of assignments in question, the weight of those assignments in the course, the type of violation, fraction of the assignment in question that violated course policy, overall impact of the violation on the academic environment in the course, impact of the violation on the academic environment in the program and university in general, and other factors determined by the two program co-directors.
- Whether a student has had an academic integrity violation in the past
- Lying about the facts of the violation or fabricating evidence to cover up a violation

In most cases, two violations (and in some a single violation that is severe or when the student lies about the facts of the case) are grounds for dismissal from the MSAS program.

Students may appeal whether a violation occurred and also course and/or program level outcomes following University procedures: http://www.cmu.edu/academic-integrity

Academic Probation and Consequences of Inadequate Progress Toward the Degree
The MSAS co-directors and academic advisor will review the status of each student at the end of each semester. If the MSAS co-directors and academic advisor determine that a student is making inadequate progress or has an academic integrity violation (AIV), they will notify the student in writing of the deficiencies and the consequences of failing to correct those deficiencies. Any student whose cumulative QPA is at or below 2.0 after one term or 2.5 after two or more terms, or who is otherwise not making satisfactory progress toward their degree will receive a letter from the program placing them on academic probation. Under most circumstances, the student will be given one semester to earn a B average in the courses to be counted towards the degree. Academic probation will end only when the student returns to a B average and fulfills the other requirements laid out in the terms of their probation. Failure to return to good academic standing after one semester may result in dismissal from the program or other actions as decided upon by the administration of the program. In most cases, two violations (and in some a single violation that is severe or when the student lies about the facts of the case) are grounds for dismissal from the MSAS program.

Withdrawal of Degree
The university reserves the right to withdraw a degree even though it has been granted should there be discovery that the work upon which it was based or the academic records in support of it had been falsified. In such a case the degree will be withdrawn promptly upon discovery of the falsification. See https://www.cmu.edu/policies/student-and-studentlife/withdrawal-of-a-degree.html for more information.

Student Rights in Academic Conflicts
A student wishing to appeal a course-level disciplinary decision should first speak with the faculty member directly involved. A student who is uncomfortable approaching the faculty member may discuss the matter with the program coordinator who serves as the Graduate Ombudsperson for the Computational Biology Department. If the conflict cannot be resolved on this level, the student is referred to the Program co-directors or the relevant department head who may, with the student's permission, meet with both the student and the faculty member involved.

In cases where departmental assistance is not possible or not practical due to conflicts of interest or confidentiality concerns, please contact the Computational Biology Department Ombudsperson directly to set up an appointment. Please be sure to refer to the university's summary of graduate student appeal and grievance procedures to determine if there is a specific procedure governing your situation.

Summary of Graduate Student Appeal and Grievance Procedures

https://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html . Graduate students will find the Summary of Graduate Student Appeal and Grievance Procedures on the Graduate Education Resource webpage. This document summarizes processes available to graduate students who seek review of academic and non-academic issues. Generally, graduate students are expected to seek informal resolution of all concerns within the applicable department, unit or program before invoking formal processes. When an informal resolution cannot be reached, however, a graduate student who seeks further review of the matter is to follow the formal procedures outlined here. These appeal and grievance procedures shall apply to students in all graduate programs of the University. Students should refer to the department specific information in this handbook for department and college information about the administration and academic policies of the program. Additionally, students may confer with the graduate student ombudsman, Suzie Laurich-McIntyre, slaurichmcintyre@cmu.edu , on issues of process or other concerns as they navigate conflicts

Early Admission Process for Ph.D. Programs in Computational Biology and Biological Sciences

MSAS students who have successfully completed their first year may apply for early admission to the Ph.D. programs in Computational Biology and/or Biological Sciences.

Application process

Early admission applications will consist of the same materials as a normal application and must be submitted by **September 1st**. Decision about the early application will be made by **October 1st.** Decisions will be a) to offer early admission, b) not to offer early admission but to consider the applicant again during the regular admissions cycle, or c) to reject the application. If a student is rejected they cannot apply again during the regular admission cycle.

Students admitted early would need to decide whether to accept the offer by **November 1st.** Students admitted early who do not accept the offer by November 1st will not be considered for regular admission. Students who accept the early offer would not be allowed to apply to other PhD programs at CMU or elsewhere.

Limited Number of early admission offers

The Computational Biology Ph.D. expects to offer early admission to a maximum of 2 students per year combined from both MSAS and MSCB programs. The Biological Science Ph.D. program expects to make offers of early admission of no more than 20% of its expected incoming class size.

Adjusted Curriculum

The curriculum for students who accept an early admission offer may be adjusted for the spring semester to allow inclusion of one or more courses that are required by the Ph.D. program. Such courses would be counted as part of required units for the M.S. program and not for the Ph.D. program, although the requirement for those courses would be waived by the Ph.D. program if a satisfactory grade is received. Minimum unit requirements for the Ph.D. program would still need to be met.

Support Services and Policies

University Graduate Student Ombudsperson
Students may confer with the university graduate student ombudsperson, Suzie Laurich-McIntyre, slaurichmcintyre@cmu.edu, on issues of process or other concerns as they navigate conflicts. Suzie Laurich-McIntyre is the Vice Provost for Graduate Education.

Office of International Education (OIE)
www.cmu.edu/oie
The Office of International Education (OIE) provides many important services to international students, including advice on immigration, social and cultural issues. These services are explained during the University-wide Graduate Student Orientation in August before the fall semester begins.

If you have any questions about immigration status or rules, including changes to student status or changing governmental policies, please contact OIE.

Career and Professional Development Center (CPDC)
www.cmu.edu/career
The Career and Professional Development Center (CPDC) provides students access to campus job fairs and workshops on a variety of topics. In addition on-site career consultants can help students with resumes and mock interviews. Students are encouraged to avail of these services via TartanTRAK.

Intercultural Communication Center (ICC)
www.cmu.edu/icc
The Intercultural Communication Center (ICC) offers non-native English speakers language support and cross-cultural training, and helps TAs develop fluency. All international students are strongly encouraged to attend seminars and workshops hosted by the ICC. This will prepare students seeking internships and jobs in the USA in fluent English Speech.

Global Communication Center
www.cmu.edu/gcc
The Global Communication Center (GCC) is a new tutoring resource supporting students' efforts to improve their written, oral, and visual communication skills. They support any student, at any level, in any discipline, at any stage of the composing process.

The GCC offers free one-on-one tutoring for academic communication projects in their location on the ground floor of the Hunt Library. Tutors are specifically trained in communication theory, research, and instruction. Students can meet with a tutor by making an appointment or by walking in. It is recommended that students bring electronic copies of the instructor's assignment and any materials the student has prepared.

Libraries
www.library.cmu.edu
There are three university libraries that provide research support for science students: the Roger Sorrells Engineering and Science Library, the Hunt Library and the Mellon Institute Library. The Mellon Institute Library contains reference materials for biology, biochemistry, chemistry, environmental sciences and industrial health.

Eberly Center for Teaching and Excellence

http://www.cmu.edu/teaching/eberly/

The Eberly Center offers a wide range of services for graduate students interested in learning more about teaching and learning. These include seminars on teaching, teaching workshops, teaching observations, and assistance in preparing materials for academic teaching positions.

Computing Services

www.cmu.edu/computing

Many general computer questions can be resolved quickly by contacting the Help Center (412-268-HELP [8-4357] or advisor@andrew.cmu.edu).

If the Help Center cannot resolve a problem remotely, the departmental System Administrator can provide hands-on technical support for computers, printers and software. To place a service request to the System Administrator, email bio-support@andrew.cmu.edu. For emergencies, call the Systems Administrator directly at 8-4535.

In addition to general technical support, the Systems Administrator can help with computer purchases, software purchases and computer retirement and disposal.

Enrollment Services (the HUB)

www.cmu.edu/hub

The HUB provides a range of enrollment services. Information regarding the academic calendar, forms, schedule of classes, online registration, graduation procedures and other issues can be found on the website (www.cmu.edu/hub).The HUB is the only University office that can provide an official letter of enrollment, official transcript and enrollment verification. Enrollment verification can be requested online through the HUB.

Gates Student Lounges

The MS Student Office in the Computational Biology Department on the 7th floor of the Hillman Center for Future Generation Technologies can be used to spend time between classes, complete group projects, or just hang out.

Counseling and Psychological Services

http://www.cmu.edu/counseling

Graduate school is often a difficult and stressful time of life. Many MSAS students are studying far away from home and from their previous support systems. We encourage students to make use of these confidential counseling services for additional support as needed.

Counseling and Psychological Services (CaPS) offers students the opportunity to talk privately about personal, academic, or other concerns in a safe, confidential setting. *All counseling center services are provided at no cost.*

Graduate Student Assembly

https://www.cmu.edu/stugov/gsa/

The Graduate Student Assembly (GSA) is the branch of student government that represents all graduate students at Carnegie Mellon. MSAS students may elect their own representative to the GSA. In addition to working with other members of student government, university administration, and external advocacy groups, the GSA plans a variety of social events throughout the year. Keep an eye out for emails from the Automated Science student representative with information about GSA events and initiatives.

Special Interest Groups

Various organizations exist to provide support for groups underrepresented in science. Information about these groups can be obtained from the Office of Graduate Education (www.cmu.edu/graduate).

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 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 Catherine Getchell, 412-268-6121, getchell@cmu.edu.

Safeguarding Educational Equity Policy Against Sexual Harassment and Sexual Assault

The University prohibits sex-based discrimination, sexual harassment, sexual assault, dating/ domestic violence and stalking. The University also prohibits retaliation against individuals who bring forward such concerns or allegations in good faith. The policy can be viewed in its entirety at: http://www.cmu.edu/policies/documents/SA_SH.htm . If you have been impacted by any of these issues, you are encouraged to make contact with any of the following resources:
- Office of Title IX Initiatives, http://www.cmu.edu/title-ix/, 412-268-7125, tix@cmu.edu
- University Police, 412-268-2323
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

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

Consensual Intimate Relationship Policy Regarding Undergraduate Students

https://www.cmu.edu/policies/student-and-student-life/consensualrelationships.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

https://www.cmu.edu/graduate/programs-services/maternity-accommodationprotocol.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. Any student who gives birth to a child while engaged in coursework or research is eligible to take either a short-term absence or formal leave of absence. 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 appropriate academic contact(s) may be reviewed during this meeting.
- Students in course work should consider options for the semester of the anticipated birth such as working with their course instructors to receive incomplete grades, electing to drop to part-time status or taking a full 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 and for resuming upon return.
- Master's students who receive an academic stipend funded by Carnegie Mellon are eligible to continue to receive stipend funding for up to six (6) weeks during a Short-Term Maternity Accommodation or a Formal Leave of Absence. Continued academic stipend funding may be extended by two (2) weeks, for a total of eight (8) weeks, if an absence longer than six weeks is medically necessary. To receive this support students must be registered with the Office of the Dean of Students.

Compliance

Environmental Health and Safety Training
Each graduate student in the MSAS program must complete laboratory, chemical and biological safety training that is presented by [Environmental Health & Safety](#) during the Program Student Orientation prior to beginning regular coursework; students who work with or near radioactive substances must undergo radiation safety training.

Sexual Harassment Training
All graduate students are required to receive sexual harassment training, which is given in the fall semester or can be taken online www.cmu.edu/hr/learning/eLearning/SHA-training.html. The sexual harassment policy is available at www.cmu.edu/policies. To speak to a sexual harassment advisor, please contact the university sexual harassment hotline at 412.268.7445.

Animal Training
Animal training is required for any individual who is listed on an animal protocol. Currently, training is offered through the University of Pittsburgh Institutional Animal Care and Use Committee (IACUC) and must be completed before research studies involving laboratory animals can begin:

IACUC Modules include:
- Purpose Bred Mice and Rats in Research, Testing and Teaching (general)
- Large Animal Research and Training (general)
- Species-specific modules: Cat, Dog, Ferret, Rabbit, Ruminant, Swine, Nonhuman Primates, Guinea Pig, and Hamster

Note: Users are required to take the Purpose Bred Mice and Rats in Research, Testing and Teaching (general) module or the Large Animal Research and Training (general) module and All applicable species-specific modules as per protocol

For more information on training, please contact:

IACUC Education and Compliance Office
412-383-1754 or iacuc@pitt.edu

Intellectual Property
Students are required to comply with the [University Policy on Intellectual Property](#). This policy was developed to encourage and support the generation and dissemination of new knowledge by faculty,

staff and students. It applies to patentable inventions, copyrightable material or trade secrets, works of art, and inventions and creations that might be considered proprietary.

Ethics

At all times, students are expected to conform to the highest ethical standards; consequences for academic or scientific misconduct are severe and may include dismissal from the program. The University Policy against Academic Integrity can be found at http://www.cmu.edu/policies/index.htmlg.html. Carnegie Mellon's Office of Research Integrity and Compliance is sponsoring a Responsible Conduct of Research (RCR) Seminar Series to provide participants with an introduction to topics typically included in RCR curriculum. http://www.cmu.edu/research-compliance/responsible-conduct/training.html.

Financial and Other Related Issues

Tuition and Fees

Complete information about tuition and fees is available at www.cmu.edu/hub/tuition/index.html. All tuition and fees must be **paid in full by the due date**; a student not in good financial standing will be dismissed from the program. Any exception must be discussed with the co-directors of the MSAS program.

Students registering for summer courses (with the exception of *Automated Biology Internship 02-801R and MS Thesis Research 02-700R*) must pay appropriate tuition to register

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.

Health Insurance and Services

Carnegie Mellon has a Student Health Insurance policy requiring full- time, degree-seeking students to carry adequate medical insurance, unless you are enrolled as the dependent, partner/spouse or principal in an employer or government-sponsored insurance plan.

The university offers one level of health plan. It is the responsibility of each student to make arrangements with Student Health Services to either pay for their insurance at the beginning of the semester or elect a payment plan over the course of the academic year. Optional dental and vision insurance are also offered. More information is available at the Student Health Services website https://www.cmu.edu/health-services/ or by email to shinsure@andrew.cmu.edu.

The Student Health Services Center provides general and some specialized medical care at a discount or free of charge to all full-time Carnegie Mellon students. There are fees for laboratory tests and prescription drugs at the on-site pharmacy.

Employment During the Academic Year

M.S. students are allowed to work for hourly wages or for credit at Carnegie Mellon, provided academic progress is not compromised. You can receive either research credit or pay for research in

a given semester, but not both. Paid research must be kept separate from projects done for tuition-based academic credit (*M.S. Research 02-700*).

For students who desire to earn wages, there are limited employment opportunities in faculty research groups. Students are responsible for seeking out such opportunities.

F-1 and J-1 students may work on the CMU campus 20 hours or fewer per week while school is in session (during fall semester or spring semester). F-1 and J-1 students may work full-time during vacation terms or any official school breaks, including summer. What that means is that summer research in a lab does not require CPT authorization. For more information, see: https://www.cmu.edu/oie/foreign-students/employment.html

Summer research in a lab requires you to either be paid (as a CMU employee) or to register for a course. Most students prefer to be employed, but if you want to get course credit for summer research, please ask the program academic advisor.

It is strongly advised that students wait until their second semester to begin work on a paid project. The number of hours worked should not exceed 12 hours per week. M.S. students are not usually eligible for teaching assistantships. However, M.S. students can work as a Teaching Assistant for an hourly wage. There are minimum English proficiency requirements. Please refer to the Requirements for Teaching.

Employment Eligibility Verification
"If you are receiving a stipend, are a TA, or 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 covering the university's I-9 and E-Verify requirements:
- Every individual receiving a stipend from CMU or employed by CMU must comply with the I-9 Policy by completing the Form I-9 within three business days following the first day of stipend start date/employment.
- Individuals who expect to work on a federally funded project are further responsible for submitting an E-Verify Processing Request Form to the Office of Human Resources if required.
- For more information, please see CMU's Guidance for Completing the Form I-9 and E-Verify Requirements at CMU, 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."

University Research Funding
The Office of the Graduate and Postdoc Affairs administers two types of professional development funding for graduate students university-wide. The GSA Graduate Student Conference funding and the GradUate Small Project Help (GUSH) are supported by the Graduate Student Assembly (GSA) and the Provost's Office.

Conference Funding Awards, $750 per student or $1,500 per group per academic year, provide the means for graduate students to 1) make presentations at key conferences/ exhibitions in their fields or 2) attend conferences and learn about the broader field of study to which they belong. Notification is within a week of submission and is based on a lottery system.
GUSH Research Funding Awards are up to $750 per student per year, defray costs incurred in the completion of research required for a graduate degree at Carnegie Mellon. Notification is within 2-3 weeks and is reviewed by faculty and graduate students.

For more information please see the University Graduate Education website at
http://www.cmu.edu/graduate/professional-development/index.html.

Outside Fellowships

Students are encouraged to obtain their own source of funding through fellowships such as those sponsored by the National Institutes of Health (NIH) or the National Science Foundation (NSF). The university's Fellowships and Scholarships Office (FSO) maintains a database of financial aid and fellowship information (www.cmu.edu/fso). The MSAS co-directors are available to help students complete these applications.

For submission, all applications must go through the Computational Biology Department's Business Manager's Office, that is, the Business Manager must be notified two weeks in advance of the application submission and must receive a full copy of the application when it is completed.

Emergency Loans

All students are eligible for the Emergency Student Loan, which is an interest-free and emergency base loan repayable within 30 days. It is available through the Office of the Dean of Student Affairs; students may apply for the loan by stopping in the Student Affairs Office or by calling 268-2075 for an appointment.

Housing

Many graduate students live in off-campus houses and apartments in the many neighborhoods surrounding the university. Housing Services does provide some local area information, resource links, and CMU Off-Housing (a list of apartments posted by area landlords), which can be found the Community Housing section.

Facilities and Equipment

All students are required to follow established procedures when using any equipment in classes or in research projects. Costs of repairs necessitated by careless or willfully negligent actions will be billed to student accounts.

Appendix A: University-wide Resources

KEY OFFICES FOR GRADUATE STUDENT SUPPORT

OFFICE OF THE GRADUATE AND POSTDOC AFFAIRS

www.cmu.edu/graduate; grad-ed@cmu.edu

The Office of the Graduate and Postdoc Affairs, directed by Suzie Laurich-McIntyre, Ph.D., Vice Provost for Graduate Education, provides central support for graduate students in a number of roles. These include being an ombudsperson and resource person for graduate students as an informal advisor; resolving formal and informal graduate student appeals; informing and assisting in forming policy and procedures relevant to graduate students; and working with departments on issues related to graduate students and implementation of programs in support of graduate student development.

The Office of the Graduate and Postdoc Affairs often collaborates with the division of Student Affairs to assist graduate students with their Carnegie Mellon experience. Senior members of the student affairs staff are assigned to each college (college liaisons) and are often consulted by the Vice Provost for Graduate Education and departments on an individual basis to respond to graduate student needs.

The Office of the Graduate and Postdoc Affairs offers a robust schedule of professional development opportunities. Some are geared towards a specific population (master's students, PhD students at the beginning of their program, graduate students seeking tenure track positions, etc.) and others are open to all graduate students (time management, balancing, staying healthy). A full schedule of programs is at http://www.cmu.edu/graduate/.

The Office of the Graduate and Postdoc Affairs also coordinates several funding programs, and academically focused seminars and workshops that advise, empower and help retain all graduate students. The fundamental goals of our programs have been constant: first, to support, advise and guide individual graduate students as they work to complete their degrees; second, to contribute to the greatest degree possible to the diversification of the academy.   Visit the Graduate Education website for information about:

§ Conference Funding Grants

§ Graduate Small Project Help (GuSH) Research Funding

§ Graduate Student Professional Development: seminars, workshops and resources

OFFICE OF THE DEAN OF STUDENT AFFAIRS

www.cmu.edu/student-affairs/index.html

The Office of the Dean provides central leadership of the metacurricular experience at Carnegie Mellon. The offices that fall under the division of Student Affairs led by Vice President and Dean of Student Affairs Gina Casalegno, include (not an exhaustive list):

§ Athletics

- *§ Career and Professional Development Center*

- *§ Cohon University Center*

- *§ Counseling & Psychological Services (CaPS)*

- *§ Dining Services*

- *§ Housing Services*

- *§ Office of Community Standards and Integrity*

- *§ Office of Student Leadership, Involvement, and Civic Engagement*

- *§ University Health Services*

- *§ Wellness Initiatives*

Graduate students will find the enrollment information for Domestic Partner Registration and Maternity Accommodations in the Office of the Dean of Student Affairs and on the website. The Office of the Dean of Student Affairs also manages the Emergency Student Loan (ESLs) process. The Emergency Student Loan service is available through generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable 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.

The Office of Integrity and Community Standards also provides consultation, support, resources and follow-up on questions and issues of Academic Integrity: www.cmu.edu/academic-integrity.

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 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 by contacting Catherine Getchell, 412-268-6121, getchell@cmu.edu to access the services available at the university and initiate a request for accommodations.

EBERLY CENTER FOR TEACHING EXCELLENCE & EDUCATIONAL INNOVATION

www.cmu.edu/teaching

 Support for graduate students who are or will be teaching is provided in many departments and centrally by the Eberly Center for Teaching Excellence & Educational Innovation. The Eberly Center offers activities for current and prospective teaching assistants as well as any graduate students who wish to prepare for the teaching component of an academic career. The Center also assists departments in creating and conducting programs to meet the specific needs of students in their programs. Specific information about Eberly Center support for graduate students is found at www.cmu.edu/teaching/graduatestudentsupport/index.html.

CARNEGIE MELLON ETHICS HOTLINE

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 financial matters, academic and student life, human relations, health and campus safety or research.

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.

GRADUATE STUDENT ASSEMBLY

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

The Carnegie Mellon Student Government consists of an Executive Branch and a Legislative Branch. This is the core of traditional student government, as governed by the Student Body Constitution. The Executive Branch serves the entire student body, graduate and undergraduate, and consists of one president and four vice-presidents. The Legislative Branch for graduate students, The Graduate Student Assembly (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. GSA also contributes a significant amount of funding for conferences and research, available to graduate students through application processes managed by the Office of the Graduate and Postdoc Affairs. GSA also plans various social opportunities for graduate students and maintains a website of graduate student resources on and off-campus, http://www.cmu.edu/stugov/gsa/resources/index.html. Each department has representation on GSA and receives funding directly from GSA's use of the student activities fee for departmental activities for graduate students. The department rep(s) is the main avenue of graduate student representation of and information back to the graduate students in the department.

INTERCULTURAL COMMUNICATION CENTER (ICC)

www.cmu.edu/icc/

The Intercultural Communication Center (ICC) is a support service offering both credit and non-credit classes, workshops, and individual appointments designed to equip nonnative English speakers (international students as well as international students who attended high school and/or undergraduate programs in the U.S.) with the skills needed to succeed in academic programs at Carnegie Mellon. In addition to developing academic literacy skills such as speaking, reading and writing, students can learn more about the culture and customs of the U.S. classroom. The ICC also helps international teaching assistants (ITAs) who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon and provides ITA testing, required testing indicating a nonnative speaking student has a language proficiency required before being allowed to work with undergraduates in classes, labs or individual meetings.

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. Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars. OIE provides many services including: advising on personal, immigration, academic, social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; maintaining a resource library that includes information on cultural adjustment, 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 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 veteran education benefits, campus services, veteran's groups at CMU, non-educational resources and international military service information 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.

KEY OFFICES FOR ACADEMIC & RESEARCH SUPPORT

COMPUTING AND INFORMATION RESOURCES

www.cmu.edu/computing

Computing Services provides a comprehensive computing environment at Carnegie Mellon. Graduate students should seek Computing Services for information and assistance with your Andrew account, network access, computing off-campus, campus licensed software, email, calendar, mobile devices, computer security, cluster services and printing. Computing Services can be reached at it-help@cmu.edu.

The Carnegie Mellon Computing Policy establishes guidelines and expectations for the use of computing, telephone and information resources on campus. The policy is supported by a number of guidelines graduate students should know. The policy and guidelines are available at: www.cmu.edu/computing/guideline/index.html.

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, intellectual property rights and regulations, and institutional animal care & use. ORIC also consults on, advises about and handles 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 issues that are significant for them in a safe, confidential setting. Students sometimes feel confused about why they are feeling upset and perhaps confused about how to deal with it. An initial consultation with a CaPS therapist will clarify options and provide a recommendation to the appropriate mental health resource at Carnegie Mellon or the larger Pittsburgh community. CaPS services are provided at no cost. Appointments can be made in person or by telephone, 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. Graduate students should contact UHS to discuss options for health insurance for spouses, domestic partners and dependents. Appointments can be made by visiting UHS's website or by telephone, 412-268-2157.

CAMPUS WELLNESS

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

At the university, 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. To sign up for the e-newsletter, text BEWELLATCMU to 22828 and share your preferred email address.

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, Room 199 (entrance is on Filmore Street). The department's services include police patrols and call response, criminal

investigations, shuttle and escort services, fixed officer and foot officer patrols, event security, and crime prevention and education programming. Visit the department's website for additional information about the staff, escort and shuttle, emergency phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

SHUTTLE AND ESCORT SERVICES

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

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/Fire%20and%20Safety%20Reports.html.

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/.

Appendix B: Program Forms

Forms for the M.S. in Automated Science program
http://msas.cbd.cmu.edu/forms/

- Declaration of Carry-Over Credit form
- Handbook Contract
- Program Acceptance form
- MSAS Research for Credit form

Forms for Enrollment Services (the HUB)
www.cmu.edu/hub/forms.html

- Registration
- Financial Aid and Student Account
- Student & Academic Records