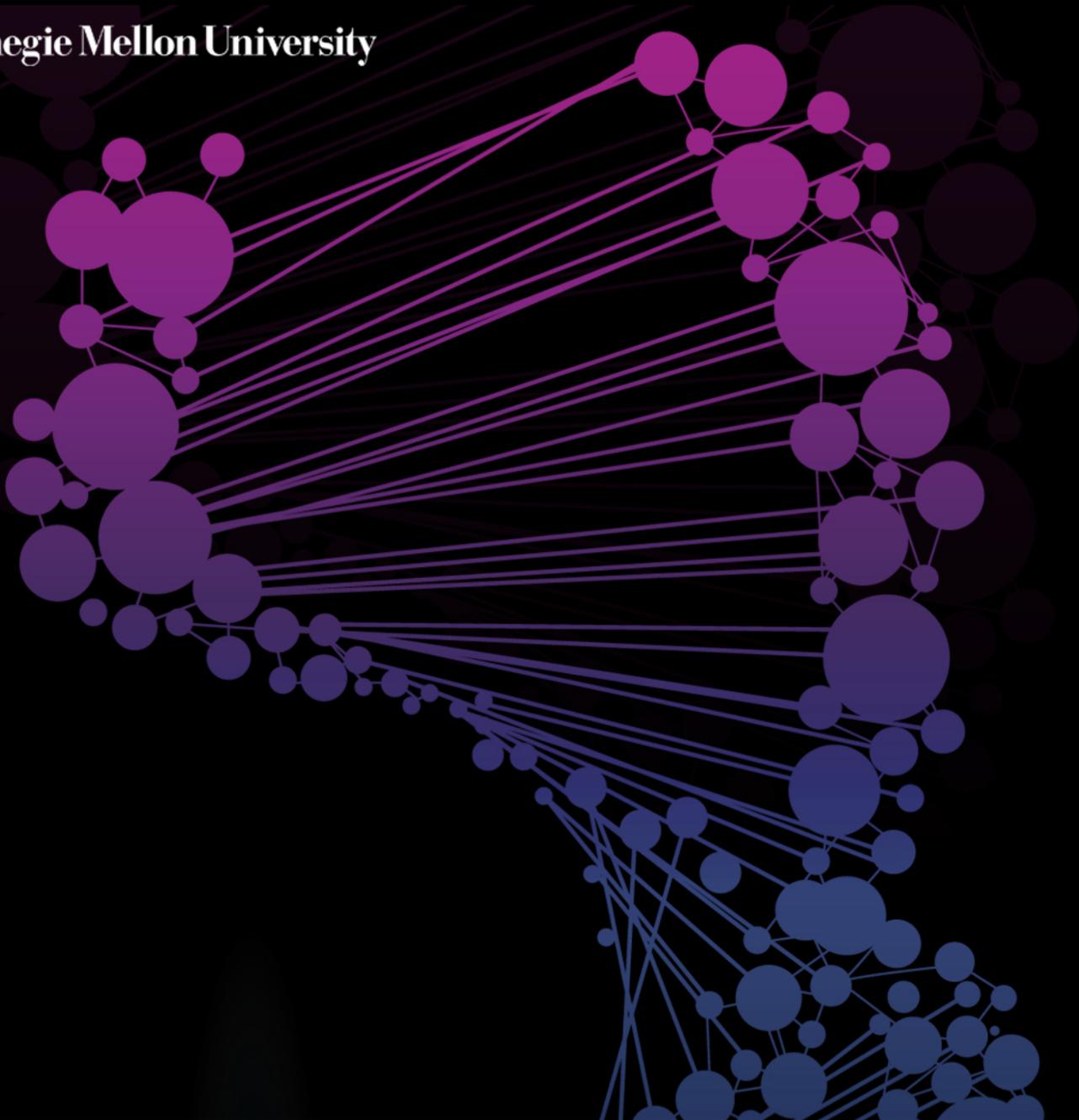


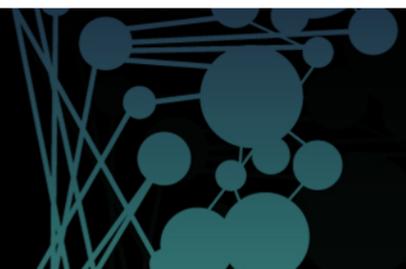
Carnegie Mellon University



M.S. in Computational Biology

Graduate Student Policy Handbook

www.cmu.edu/ms-compbio



M.S. IN COMPUTATIONAL BIOLOGY

Resource Handbook for Graduate Students

2019 - 2020

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WELCOME

The directors and assistant directors of the Masters in Computational Biology program (MSCB), which is a joint offering from the Department of Biological Sciences and the Computational Biology Department, would like to welcome you to the program and to Carnegie Mellon University! This document explains the policies of the MSCB program. You should read it thoroughly.

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

MSCB MISSION STATEMENT

The MSCB program seeks to train the world's best Computational Biologists at the Master's level. The curriculum provides both breadth and depth of training in Computational Biology and is built on a solid foundation of Biology, Computer Science, Statistics, and Machine Learning (Data Sciences). Interested students are also given opportunities to pursue research. Our graduates are prepared for rewarding jobs in industry or to pursue their doctoral degrees at top universities.

INTRODUCTION

The Department of Biological Sciences and the Computational Biology Department have prepared this statement of policies and procedures to help answer questions that students may have as they enter the M.S. in Computational Biology (MSCB) 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.**

The MSCB Steering Committee and Graduate Programs Offices in both departments provide ongoing guidance and assistance to students throughout the course of their graduate career, and any questions or concerns may be discussed with either the faculty of the MSCB Steering Committee or the Department Heads at any time. The Word/Student Handbook which details university-wide policies, is available upon request from the Graduate Programs Office.

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/academic-integrity

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 vice president for campus affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2056.

You can obtain general information about Carnegie Mellon University by calling 412-268-2000. The Statement of Assurance can also be found online at: www.cmu.edu/policies/documents/SoA.html.

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 online at: <https://www.cmu.edu/student-affairs/theword/code/index.html>.

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

Re:solve 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

MSCB STEERING COMMITTEE FACULTY

Whom to contact for what?

Co-director, MSCB

Overall Program Management, Academic Integrity Issues, Leave of Absence Approval

Christopher Langmead, Ph.D.
GHC 7215
412-268-7571
cjl@cs.cmu.edu

Co-director, MSCB

Overall Program Management, Academic Integrity Issues, Leave of Absence Approval

C. Joel McManus, Ph.D.
MI 255
412-268-9407
mcmamus@andrew.cmu.edu

Assistant Director (Academic Advising), MSCB Assistant Department Head for Graduate Affairs, Biological Sciences

Academic Advising and Course Selection, Periodic Academic Progress Checks, Change to P/F, Research for Credit, Graduation Certifications, Student Life Issues, International Student Issues, Oral Communication Skills, Alumni Networking, Professional Issues and Social Events, Career Center and Industry Liaison, Diploma Ceremony, Overall Program Management

D.J. Brasier, Ph.D.
MI 417
412-268-3377
dbrasier@cmu.edu

Assistant Director (Careers and Professional Development), MSCB

Internship and Job advising, OPT/CPT authorization, Career Center and Industry Liaison, Alumni Networking, Course Selection, Professional Development, Career Events, Social Events, Overall Program Management

Phillip Compeau, Ph.D.
GHC 7403
412-268-7876
pcompeau@andrew.cmu.edu

PROGRAM FACULTY

<http://www.cbd.cmu.edu/directory/faculty/voting-faculty/>
<https://www.cmu.edu/bio/people/faculty/index.html>

PRIMARY SUPPORT STAFF

Director of Graduate Operations
(Biological Sciences Graduate
Programs Office)

*Graduate Student Database
Management, Pre- and Post-
Admission Procedures through
Graduation, Biological Sciences
Graduate Ombudsperson,
Graduation Certifications,
Diploma Ceremony, Orientation
Coordination*

Ena Miceli
MI 415
412-268-3012
emiceli@andrew.cmu.edu

Academic Programs Manager
(Computational Biology
Department Academic Programs
Office)

*Admissions via Applygrad, social
events host, career events host,
academic coordinator for CBD,
SCS affairs, Gates-Hillman
MSCB student office and
building access*

Samantha Mudrinich
GHC 7414
412-268-4671
smudrini@andrew.cmu.edu

OTHER SUPPORT STAFF

Communications Manager (BSC)

Matthew Salyers
MI 413A
412-268-6358
msalyers@andrew.cmu.edu

IT Support Consultant (BSC) Ryan Parrotte
MI 411J
412-268-4535
ryanpar@andrew.cmu.edu

Business Manager (BSC) David Casillas
MI 410
412-268-4182
dcasillas@andrew.cmu.edu

Assistant Business Manager (BSC) Carol Lee
MI 406
412-268-3392
cl3c@andrew.cmu.edu

Administrative Coordinator (BSC) TBD
MI 413
412-268-5216

Administrative Coordinator (BSC) Donya Parker
MI 402
412-268-3180
dparker@andrew.cmu.edu

Administrative Assistant to the Department Head (CBD) Erin Driskill
GHC 7725
412-268-3480
ekunz@andrew.cmu.edu

DEPARTMENTAL LEVEL CONTACTS

Department Head,
Biological Sciences Department

Veronica Hinman, Ph.D.
MI 634A
412-268-9348
vhinman@andrew.cmu.edu
u

Department Head,
Computational Biology
Department

Robert Murphy, Ph.D.
GHC 7723
412-268-3480
murphy@cmu.edu

COLLEGE LEVEL CONTACTS

Dean,
Mellon College of Science

Rebecca Doerge, Ph.D.
MI 432
412-268-5124
mcsdean@andrew.cmu.edu

Dean,
School of Computer Science

Tom Mitchell, Ph.D.
GHC 8203
412-268-2611
Tom.Mitchell@cmu.edu

MCS Associate Dean for
Graduate Students,
Mellon College of Science

Manfred Paulini, Ph.D.
WH 7307
412-268-3887
paulini@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

Graduate Student

Ombudsperson

Students may confer with the university graduate student ombudsman on issues of process or other concerns as they navigate conflicts

Suzanne Laurich-McIntyre,

Ph.D

Warner Hall 533

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.

John Hannon, Ph.D.

Warner Hall 300

412-268-2139

jfhannon@andrew.cmu.edu

PROGRAM INFORMATION

Program Directory: <http://www.cmu.edu/ms-compbio/people/index.html>

SECTION 1. DEGREE ATTAINMENT

COURSES AND GRADES

COURSEWORK

Before beginning courses, all students are required to satisfactorily complete an academic integrity instructional module, as proscribed by the Steering Committee.

The university's complete [Schedule of Classes](http://www.cmu.edu/hub) can be found at www.cmu.edu/hub.

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

- A. At least 144 units of coursework, which includes courses in specific categories as listed below
- B. Average grade of B or above (GPA = 3.0) in those 144 or more units counted toward degree certification
- C. Full-time course registration (at least 36 units) for each semester in the program

Coursework consists of:

A) Foundation Courses (up to 69 units)

A minimum grade of B- is required in each course taken

- **02-601** Programming for Scientists (Fall, 12 units)
- **02-602** Professional Issues for Computational and Automated Scientists (Fall, 3 units)
- **02-613** Algorithms and Advanced Data Structures (Fall, 12 units)
- **02-680** Essential Mathematics and Statistics for Scientists (Fall, 9 units)
- **03-221** Genomes, Evolution, and Disease: Introduction to Quantitative Genetic Analysis (Fall or Spring, 9 units)
- **03-709** Applied Cell and Molecular Biology (12 units)
- **02-TBD** Machine Learning for Scientists (Spring, 12 units)

Note: 02-601, 02-602, 02-613, 02-680, and 03-709 should be taken during the first semester of the program, although they can be repeated if a grade lower than B- is achieved. All remaining foundation courses should be taken in the second semester.

The MSCB Steering Committee may waive the following foundation courses:

- 02-601
- 02-680
- 03-221
- 03-709

In order to have a course waived, the student must demonstrate proficiency through a placement exam. Placement exams are offered before the start of the fall semester. If a student misses a placement exam because of illness or immigration delays, then s/he must contact the committee before the start of classes to schedule a time to take the exam(s) before the end of the first week of classes. Because the total number of units required to graduate is 144, students who waive more than 9 units of foundation course must add a corresponding number of required depth course units (see below). This preserves the degree requirement at 144 units. Students who place out of a foundation course should **not** take a depth class in

the first semester, but should instead enroll in 03-221 or have an appropriate course approved by the Steering Committee.

Note: The Professional Issues in Computational Biology course should be taken during a student's **first semester**. This is a Pass/Fail course and must be passed in order to complete the MSCB degree.

B) Breadth Courses (36 units)

Minimum C grade in each course counted toward graduation

Students must take each of the following **breadth** courses (12 units each). You may count either 03-711 or 02-710 toward the breadth requirement and the other to the depth if you wish to take both.

- **03-711** (Computational Molecular Biology and Genomics), offered every Fall; **or 02-710** (Computational Genomics), offered every Spring.
- **02-712** (Computational Methods for Biological Modeling and Simulation), offered every Fall, taken in Fall of second year.
- **02-750** (Automation of Biological Research), typically taken in Spring of second year.

C) Depth Courses (minimum 48 units) Includes graduate electives (600-level and above) in the Computational Biology Department (02-XXX) and Biological Sciences Department (03-XXX).

At least 24 units of depth courses must be taken from Biological Sciences, 03-XXX listed courses.

At least 24 units of depth courses must be taken from Computational Biology, 02-XXX listed courses. Students may take 15-686 (Neural Computation) in place of 12 units of 02-xxx graduate courses (note that this course is not offered by Biological Sciences or Computational Biology Departments, so space for our students is limited).

Note: Courses that are cross-listed with the same number in the 02- and 03- departments may be substituted for one another.

- Up to 12 units of research (02-700 or 03-700) with a faculty advisor may be counted toward the depth credits. Research should be approved by the Assistant Director (Academic Advising). Research taken as 02-700 will count toward the CBD (02-XXX) requirement in the depth category; research taken as 03-700 will count as computational biology 03-7XX depth coursework. Students who do more than 12 units of research are encouraged to write an honors thesis (see "Graduation Honors and Awards"). Written approval from the full MSCB Steering Committee is needed to count more than 12 units of thesis research toward degree completion.
- Any course not listed above will need **written approval** of the Assistant Director (Academic Advising).
- CMU undergraduate students enrolling for a continuing M.S. can use relevant courses from their undergraduate years to count toward M.S. degree. The courses used toward M.S. 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.

Important Rules for Coursework

- **All student course selections are subject to the approval of the MSCB Steering Committee.**
- **We strongly advise students who place out of a foundation course to take a background course in their first semester.**
- **Undergraduate courses listed by the Computer Science Department (15-XXX) are closed to**

MSCB students unless that course has a graduate listing.

- **During the first two semesters, all coursework must count toward degree completion. Any exceptions require written permission from the Assistant Director for Academics.**
- **In the third semester, 36 units of coursework must be taken, but the student may take additional courses that don't count toward the degree. Exceptions require approval of the Assistant Director for Academics. Every course requires written permission from the Assistant Director for Academics.**
- **All course requirements must be fulfilled by the end of the students fourth semester. In addition to completing all remaining degree requirements, students may take other courses that don't count toward their degree with permission from the Assistant Director for Academics.**
- **Students must maintain full-time enrollment in the program (minimum 36 units per 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).**

If a student completes a computational biology internship, then they may receive three units of depth credit for each term for (03-601A fall/spring; 03-601R summer).

CHANGING PROGRAMS

If an MSCB student accepts another program's offer to begin before matriculation in the MSCB program, the MSCB committee reserves the right to nullify the MSCB offer.

GRADES & ACADEMIC STANDING

To be in good academic standing, a student is expected to maintain a B average (GPA = 3.0) in the coursework that will be counted towards the degree. No grade lower than B- in foundation course(s) and no grade lower than C in other course categories shall be used for completion of degree requirements.

UNIVERSITY POLICY ON GRADES

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. The policy may be found at www.cmu.edu/policies/student-and-student-life/grading.html.

ACADEMIC PROBATION

If the MSCB Steering Committee determines that a student is making inadequate progress, it 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. Additionally, students who don't earn minimum required grades in any classes (B- or higher in foundation classes or C or higher in other classes counting toward the degree will also be placed on academic probation. 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 dismissal from the program or other actions as decided upon by the administration of the program.

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 (as defined here: <http://www.cmu.edu/academic-integrity/>).

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 co-directors will impose penalties for academic integrity violations. Program level consequences may include any or all of the following: probation (see “Grades” below); suspension for one or more semesters; 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 with 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 MSCB 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>

Note that university policies about academic integrity are subject to change and students should review current procedures each semester.

PROFESSIONAL DEVELOPMENT, RESEARCH, AND INTERNSHIPS

PROFESSIONAL ISSUES COURSE

Professional Issues in Computational Biology (02-602) meets weekly. This course presents an opportunity for students to learn about resources available to them on campus and outside, share knowledge, hone their professional skills, and network with other students, employers and alumni. The primary goal of this course is to position students for an on-time graduation and to empower students with the important tools necessary to find an internship, secure a job, or to further pursue a Ph.D.

All students will need to register for 02-602, a 3-unit course, and successfully complete the course with a pass grade during their first semester. This course contributes toward the units for graduation certification as well as the 36 units required for a student to be considered full-time. As a pass/fail course, it is not factored into a student's QPA. NOTE this is the only course that a student may count toward graduation with a "pass" grade aside from 3 more units of seminar (next section) which may count toward depth.

SEMINARS, INVITED TALKS, AND JOURNAL CLUB

Each semester, all students may register for and attend the weekly seminars (*Graduate Seminar 03-750*, 1 unit; *Graduate Research Seminar 03-755*, 3 units; and/or *Graduate Seminar 02-702*, 3 units). Graduate students are strongly urged to meet the speakers to broaden their knowledge of cutting-edge science and to make useful contacts; the faculty host can arrange individual or small group meetings for interested students.

Each semester, all students may attend the weekly Biological Sciences departmental Journal Club (*Graduate Research Seminar 03-755*; 3 units) during which Ph.D. students and faculty members give 20-minute presentations. Typically, M.S. students write and submit six 1-2 page reports about the presentations. The reports are due within a week of the talk and should be submitted electronically to Assistant Director (Academic Advising).

Note: The above seminar courses are pass/fail; however, students may apply up to three units of seminars toward the graduation units. These courses are very beneficial in keeping abreast with current research and in networking, so we encourage students to enroll for these courses, particularly if they are interested in pursuing a Ph.D. or other advanced degree.

Invited talks from outside speakers and alumni are arranged throughout the year. They will be announced via e-mail.

RESEARCH

Students who are interested in conducting research for academic credit take *M.S. Thesis Research 03-700* or *02-700* for research with Biological Sciences faculty mentor or Computational Biology faculty mentor respectively.

- Up to 12 units of 02-700 or 03-700 may be counted toward the degree without written approval from the MSCB advising committee.
- Students may be eligible for "Research Honors".

Typically, students contact faculty directly to learn about available research opportunities. To register for this class, please contact the Assistant Directors (Academic Advising & Internship) who will assist with registration.

It is strongly advised that students wait until their second semester to begin research.

Some faculty members may be willing to pay research assistantships. You can receive either research credit or pay for research in a given semester, but not both.

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 advisors.

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. What that means is that summer research in a lab does 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. The internship must be relevant to computational biology. Students must contact the Assistant Director (Internships and Job Placement) during late fall about planning for an internship.

Any student completing an off-campus internship during this summer must register for three (tuition free) units of 03-601R, Computational Biology Internship. Students who complete an internship during the fall or spring semester should register for three (tuition charged) units of 03-601A, Computational Biology Internship.

Students involved in paid on campus summer research should register for 03-601-R as well. Before beginning any research please discuss with Assistant Directors.

Before registering for 03-601R or 03-601A, **written approval** must be obtained from the Assistant Director (Internships and Job Placement) who will ensure that the internship is relevant to computational biology and maintain contact with the internship supervisor.

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 are not eligible for CPT until the summer after their first full academic year. **To receive either training authorization from OIE, the internship must be in computational biology.** For CPT authorization, students must present the offer letter stating employment dates, work hours, and amount of wages or stipend for the internship. The Assistant Director (Internships and Job Placement) signs all CPT authorization requests and may deny a request if the internship is not relevant to computational biology. 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 MUST consult with OIE** for eligibility (and in the case of CPT the Assistant Director (Internships and Job Placement) before seeking an internship/co-op or signing an offer contract.

Graduate students are required to have a certain level of fluency in English before they can instruct in Pennsylvania, as required by the English Fluency in Higher Education Act of 1990. Through this Act, all institutions of higher education in the state are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns. The full university policy can be reviewed at: <https://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html>. The fluency of all instructional personnel will be determined by each department. 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.

COURSE REGISTRATION

In the first fall semester, students are pre-enrolled for the foundation 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 are advised to take no more than 48 units in any semester.

PCHE

Cross-registration provides opportunities for enriched educational programs by permitting full-time paying Carnegie Mellon students to cross-register for one course at a Pittsburgh Council on Higher Education (PCHE) Institution. Full-time Carnegie Mellon degree students are eligible. The PCHE course may not count towards full-time status unless the student is enrolled in an inter-university program. There is no additional tuition charge, except for special course or laboratory fees. Carnegie Mellon students do not acquire status at the host institution, but are given library and bookstore privileges. Credit and grades are transferred directly to the home institution. Cross-registration is not applicable during the Summer Session(s) or during intersessions. Please see the Cross-College and University Registration PCHE Guidelines found out <http://www.cmu.edu/policies/student-and-student-life/cross-college-university-registration.html> for more information.

- Students needing assistance in registering for oversubscribed courses in the Mellon College of Science should contact the Assistant Director (Academic Advising); students needing assistance in registering for oversubscribed courses in the School of Computer Science should contact the Assistant Director of Internship and Job Placement.

PASS/FAIL COURSES

Pass/Fail courses are strongly discouraged unless it is a course that is not counted toward the degree 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 02-602 Professional Issues in Computational Biology, Pass/Fail courses cannot be used to satisfy any MSCB program requirements or to satisfy any prerequisites.

With petition to and **approval** from the Assistant Director (Academic Advising), 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 Assistant Director (Academic Advising) and the Department Head (Biological Sciences). Switching a course to Pass/Fail mid-semester will generally only be approved under special circumstances.

- Prerequisites may not be taken Pass/Fail.
- Classes taken Pass/Fail may not be used to fulfill graduation requirements, with the exception of seminar courses and 02-602.
- Pass/Fail status is irrevocable.

AUDITING A COURSE

With approval of the MSCB Steering Committee, 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 Assistant Director (Academic Advising). 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 Assistant Director (Academic Advising).

DROPPING A COURSE

Students may withdraw from a course online. The university has a Drop deadline toward the end of the semester, after which the course appears on the student's transcript as withdrawn (W). The last day to withdraw from a class is the final day of classes.

Complete the [Retroactive Add/Drop Petition](#) form after the Drop deadline obtaining permission of **both**: 1) the instructor or teaching department **and** 2) the Assistant Director (Academic Advising).

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

TRANSFERRING COURSES

The MSCB program does not accept transfer credits.

CMU undergraduate degree holders, please refer to **carry-over course** credit details.

TUITION 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 Directors of the MSCB program.

Students registering for summer courses (with the exception of *Computational Biology Internship 03-601R* and *MS Thesis Research 03-700-R* or *02-700-R*) students should check with Assistant Directors about tuition before registering for these summer courses.

GRADUATION, HONORS, AND AWARDS

RESEARCH OR PROFESSIONAL HONORS (INDUSTRY TRACK)

The directors of the MSCB program confer awards for academic achievement, research honors, professional honors, and outstanding leadership at graduation. Students maintaining a GPA of 4.0, or higher will receive an award for academic achievement. Students with substantial research accomplishments, such as a publication, will receive an award for research achievement. Students who have completed internships and 03-713 may request professional honors. Students that make substantial contributions to the MSCB community, such as serving as a GSA representative or organizing social events will receive an award for leadership.

Research Honors and Professional Honors (Industry Track) signify that a student has excelled in their training for one of these two career paths.

If you are interested in completing a research-based thesis, you are required to (1) complete 12 or more units of independent research study with a faculty advisor (with MSCB Advising committee approval), (2) write and defend a master's thesis. If you satisfy the above requirements, you qualify for Research Honors.

Full research honors requirements are outlined here (<https://www.cmu.edu/ms-compbio/current-students/forms-policies/research-thesis.html>). The final thesis should have the following sections:

1. Title page & Dedication/Acknowledgements
2. Abstract (1 page)
3. Introduction chapter (4 or more pages). Separate from introduction sections in other chapters, this is a place for the student to put the entire thesis in context.

4. 1 or more additional chapter (20 or more pages each). Chapter format should be consistent and may match the format of any journal article in the field of study.
5. Bibliography (pages are enumerated but do not count toward page total). This may be a standalone bibliography for the whole thesis or each chapter may have its own bibliography.

If you are interested in pursuing an industry job after graduation, you are encouraged to complete an external industry internship (03-601) during the summer. If you complete the above requirements, and additionally have a GPA of 3.6 or higher and receive an A in Bioinformatics Data Integration Practicum (03-713), you qualify for Professional Honors (Industry Track).

GRADUATION CEREMONIES

MSCB students are certified for graduation by the Department of Biological Sciences in the Mellon College of 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. Students who graduate in December should stay in contact with the Biological Sciences Graduate Programs Office for details.

There are two May graduation ceremonies that pertain to M.S. Computational Biology students. The Department of Biological Sciences Diploma Ceremony and Reception are usually held on the Saturday afternoon before the university-wide Sunday Commencement. Students who have graduated the previous December, as well as those receiving their degrees in May or upcoming August, are eligible and strongly encouraged to participate.

The Carnegie Mellon University Commencement Ceremony is held on Sunday. Students who graduated in December, as well as those receiving their degrees in May or August, are eligible to participate.

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 Biological Sciences Graduate Programs Office 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 Assistant Director (Academic Advising) and 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 MSCB Steering Committee. The student's place in the program will be held until a mutually determined time. For more information refer to <http://www.cmu.edu/policies>.

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 Assistant Director (Academic Advising) to discuss their plans and fill out the appropriate Withdrawal form. For more information refer to www.cmu.edu/policies/documents/StLeave.html.

STATUTE OF LIMITATIONS

As outlined in the Master's Students Statute of Limitations, <http://www.cmu.edu/policies/documents/MastersStudentStatuteLimitations.html>, students who have matriculated at Carnegie Mellon beginning Fall 2012 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.

SECTION 2. RESOURCES

ACADEMIC ADVISING

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 MSCB Steering Committee in collaboration with the Biological Sciences Graduate Programs Office and the Graduate Office of the Computational Biology Department arrange for students to receive the necessary information for enrollment, registration and timelines.

ADVISING FOR COURSEWORK

Before each semester, each student must share their plan for the coming semester with the MSCB Steering Committee. All changes must be approved by the Assistant Director (Academics).

ADVISING FOR PROFESSIONAL DEVELOPMENT

As part of 02-602, students will have opportunities to develop their professional skills during their first semester. In subsequent semesters, students are encouraged to meet with the Assistant Director (Internship and Job Placement) for advising on further professional development.

MONITORING PROGRESS

Students who have specific concerns about their progress are urged to speak with the Assistant Director (Academic Advising) as early as possible. The Assistant Director (Academic Advising) along with members of the MSCB Steering Committee meet with the student at least twice a year, providing guidance and monitoring the student's overall progress. In addition, the Assistant Director (Academic Advising) meets with the student as and when needed to discuss progress and resolve issues.

NOTIFICATION AND CONSEQUENCES OF INADEQUATE PROGRESS TOWARD THE DEGREE

If the MSCB Steering Committee determines that the student is making inadequate progress, it will notify the student in writing of the deficiencies and the consequences of failing to correct those deficiencies. Any student whose QPA is at or below 2.0 after one term or 2.5 after two or more terms is placed on academic probation. The terms of the probation, including conditions to be taken off of the probationary status and consequences for not meeting terms of probation, depend on the individual cases and will be stated and spelled out in the letter placing the student on probation. The committee and the student will then formulate a plan to address those deficiencies, including milestones. Consequences of continued failure to make satisfactory progress or not being in good academic standing will be determined by the Steering Committee.

STUDENT RIGHTS IN ACADEMIC CONFLICTS

A student wishing to appeal a departmental 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 Director of Graduate Operations (Biological Sciences Graduate Programs Office) who serves as the Graduate Ombudsperson for Biological Sciences. If the conflict cannot be resolved on this level, the student is referred to the Program Co-Directors or the relevant Department Head(s) who may, with the student's permission, meet with both the student and the faculty member involved. The student may also continue to meet with the Director of Graduate Operations (Biological Sciences Graduate Programs Office) who serves as the Graduate Ombudsperson for Biological Sciences.

In cases where departmental assistance is not possible or not practical due to conflicts of interest or confidentiality concerns, please contact the MCS Ombudsman, 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.

UNIVERSITY GRADUATE STUDENT OMBUDPERSON

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 Assistant Vice Provost for Graduate Education.

SUPPORT SERVICES

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

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.

MELLON INSTITUTE MAILROOM AND GATES STUDENT LOUNGES

There are two (newly renovated) locations providing a comfortable space for MSCB students. MSCB students may use these spaces to spend time between classes, complete group projects, or just hang out.

1. Mellon Institute Mailroom located by the loading dock entrance on the 3rd floor (which is the ground floor)
2. The MS Student Office in the Computational Biology Department on the 7th floor of the Hillman Center for Future Generation Technologies.

COUNSELING AND PSYCHOLOGICAL SERVICES

www.cmu.edu/counseling

Graduate school is often a difficult and stressful time of life. Many MSCB 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

Graduate Student Assembly (GSA) is the branch of student government that represents all graduate students at Carnegie Mellon. MSCB 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 both the [Biological Sciences and Computational Biology departmental representatives](#) 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).

HONORARY SOCIETIES

Graduate students are encouraged to belong to professional societies such as Phi Kappa Phi and Sigma Xi, and are nominated, if qualified, by either the department of Biological Sciences or the Computational Biology. They are also urged to join the societies specific for their sub-discipline.

STUDENT ORGANIZATIONS

Students are encouraged to participate in one or both of the following Biological Sciences departmental graduate student-driven organizations:

- The Sciences Teaching Club
- Career Club

Students' involvement complements their academic development as well as their professionalization.

CLASS REPRESENTATIVES

The Class Representatives (consisting of a volunteer representative from each Ph.D. and M.S. class) help facilitate the flow of information between the Biology Graduate Programs Office and the graduate students. The Class Representatives and Graduate Programs Manager meet approximately 2-3 times a year to discuss various issues initiated by either the Biology Graduate Programs Office or by the students through their Class Representatives. This system is an efficient and effective way for the student body to voice its concerns and to receive information.

ASSISTANCE FOR INDIVIDUALS WITH DISABILITIES

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

SAFEGUARDING EDUCATIONAL EQUITY POLICY AGAINST SEXUAL HARASSMENT AND SEXUAL ASSAULT

Sexual harassment and sexual assault are prohibited by CMU, as is retaliation for having brought forward a concern or allegation in good faith. The policy can be viewed in its entirety at <http://www.cmu.edu/policies/administrative-and-governance/sexual-harassment-and-sexual-assault.html>. If you believe you have been a victim of sexual harassment or sexual assault, 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
- Sexual Harassment Advisors, found in appendix A of the Policy Against Sexual Harassment and Sexual Assault;
- Survivor Support Network, found in appendix B of the Policy Against Sexual Harassment and Sexual Assault;
- Sexual Harassment Process and Title IX Coordinators, found in section II of the Policy Against Sexual Harassment and Sexual Assault;
- University Police, 412-268-2323
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

STUDENT MATERNITY ACCOMODATION PROTOCOL

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 coursework 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 Student Maternity Accommodations. Student 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. To review the Student Maternity Accommodation Protocol in its entirety go to <http://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html>.

CHANGE OF ADDRESS

Students are responsible for notifying the Department of Biological Sciences Business Office and 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.

COMPLIANCE ISSUES

ENVIRONMENTAL HEALTH AND SAFETY TRAINING

Each graduate student in the MSCB 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>.

SECTION 3. FINANCIAL AND OTHER RELATED ISSUES

TUITION AND FEES

Information about tuition and fees is available at www.cmu.edu/hub/tuition. 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 to this policy must be discussed with the Department Heads.

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 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 at Carnegie Mellon, provided academic progress is not compromised. Paid research must be kept separate from projects done for tuition-based academic credit (*M.S. Research 03-700 or 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). For more information, see: <https://www.cmu.edu/oie/foreign-students/employment.html>

It is strongly advised that students wait until their second semester to begin work on a research 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 Requirements for Teaching.

UNIVERSITY RESEARCH FUNDING

The Office of the Assistant Vice Provost for Graduate Education 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, \$500 per student or \$1,000 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>.

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 MSCB Steering Committee is available to help students complete these applications.

For submission, all applications must go through the Biological Sciences Business Manager's Office, that is, the Business Manager must be notified 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 412.268.2075 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

The Biological Sciences department owns and maintains equipment such as centrifuges and autoclaves for departmental members' use. It is the responsibility of each graduate student engaged in wet-lab research to be trained in proper use and maintenance of this equipment. It is also imperative that logs are signed and any problems noted. Individual laboratories are liable for repair and replacement costs if their personnel misuse equipment.

PHONE USE

Phone use in the departments is restricted to business calls only. Occasional local personal calls are permitted, but personal long-distance and international calls are strictly prohibited.

APPENDIX A: UNIVERSITY-WIDE RESOURCES

KEY OFFICES FOR GRADUATE STUDENT SUPPORT

OFFICE OF THE ASSISTANT VICE PROVOST FOR GRADUATE EDUCATION

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

The Office of the Assistant Vice Provost for Graduate Education, AVPGE, directed by Suzie Laurich-McIntyre, Ph.D., Assistant 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 AVPGE 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 Assistant Vice Provost for Graduate Education and departments on an individual basis to respond to graduate student needs.

The Office of the Assistant Vice Provost for Graduate Education (AVPGE) 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 AVPGE 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 Assistant Vice Provost for Graduate Education. 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 Computational Biology program

www.cmu.edu/bio/resources/forms

- M.S. Program Acceptance Form
- M.S. Thesis Defense Form
- Academic Advising Form including Graduation Plan Worksheet
- Declaration of Research for Credit Form
- Declaration of Internship for Credit Form
- Counting Courses during CMU undergraduate years for carry-over credit

Forms for Enrollment Services (the HUB)

www.cmu.edu/hub/forms.html

- Pass/Fail Approval
- Course Audit Approval
- Late Add Request (current semester only)
- Leave of Absence
- Return from Leave of Absence
- Withdrawal
- Enrollment Verifications are available from Student Information Online, under the Academic Info tab as “Request Verification”

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