

A person wearing a white lab coat and blue nitrile gloves is using a pipette to transfer liquid into a multi-well plate. The background is a blurred laboratory setting with various equipment. The entire image has a red overlay.

# GRADUATE STUDENT POLICY HANDBOOK

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M.S. In Biotechnology and  
Pharmaceutical Engineering

Carnegie Mellon University  
Mellon College of Science

# M.S. In Biotechnology And Pharmaceutical Engineering

## RESOURCE HANDBOOK FOR GRADUATE STUDENTS

**Fall 2024 Matriculating Students**

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# Welcome

The directors and assistant directors of the Masters in Biotechnology and Pharmaceutical Engineering program (MSBTPE), a joint offering from the Department of Biological Sciences and the Chemical Engineering Department, would like to welcome you to the program and Carnegie Mellon University! This document explains the MSBTPE program's policies. You should read it thoroughly.

## **MSBTPE MISSION STATEMENT**

The MSBTPE program seeks to train the world's best Biotechnologists, Pharmaceutical Engineers, and Bioprocess Engineers at the Masters level. The curriculum provides both breadth and depth of training in Biotechnology and Pharmaceutical Engineering. Interested students are also given opportunities to pursue research. Our graduates are prepared to receive rewarding jobs in industry or pursue their doctoral degrees at top universities.

## **INTRODUCTION**

The Department of Biological Sciences and the Chemical Engineering Department have prepared this statement of policies and procedures to help answer questions that students may have as they enter the M.S. in Biotechnology and Pharmaceutical Engineering (MSBTPE) program. This document specifies requirements that must be achieved to be a student in good standing; failure to meet any of these requirements may result in dismissal from the program.

The MSBTPE Steering Committee and Graduate Programs Offices in both departments provide ongoing guidance and assistance to students throughout their graduate careers. Questions or concerns may be discussed with either the faculty of the MSBTPE 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](http://www.cmu.edu/student-affairs/theword//index.html)

Academic Integrity Website: [www.cmu.edu/academic-integrity](http://www.cmu.edu/academic-integrity)

University Policies Website: [www.cmu.edu/policies](http://www.cmu.edu/policies)

Office of Graduate and Postdoctoral Affairs Website: [www.cmu.edu/graduate/policies/index.html](http://www.cmu.edu/graduate/policies/index.html)

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## PROGRAM FACULTY

<https://www.cheme.engineering.cmu.edu/directory/index.html>

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*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.*

# Section 1. Degree Attainment

## Courses, Grades, Forms & Student Status

### COURSEWORK

Before beginning courses, all students must satisfactorily complete an academic integrity instructional module, as the Steering Committee has proscribed.

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

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

- (1) At least 108 units of coursework, which includes courses in specific categories as listed below
- (2) Average grade of B or above (GPA = 3.0) in those 108 or more units counted toward degree certification
- (3) Minimum grade of a C or above (GPA = 2.0) in any course that shall count towards degree certification
- (4) Full-time course registration (at least 36 units) for each semester in the program

Coursework consists of:

- (A) Foundation Courses (39-57 units)

*Minimum C grade in each course counted toward graduation*

- 03-622 Modern Biology (Fall, 9 units)
- 03-709 Applied Cell and Molecular Biology (Fall, 12 units)
- 03-604 Professional Skills (Fall, 3 units)

- 06-621 Material Balance in Bioprocesses (Fall, 9 units)
- 06-685 Bioseparations and Bioprocess Analytical Technologies (Spring, 12 units)
- 06-722 BioProcess Design (Fall, 12 units)
- 03-776-A3 Molecular Techniques for Bioprocessing (Spring, 6 units)
- 06-777-A4 CPS III lab (Spring, 6 units)

The MSBTPE Steering Committee may waive 03-622 and 06-621. To have a course waived, the student must demonstrate proficiency in the course topics through a placement exam or interview with an instructor. Placement exams may be offered before the start of the fall semester. Suppose a student misses a placement exam because of illness or immigration delays. In that case, s/he must contact the committee before classes start 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 108, students who waive more than 9 units of foundation course must add a corresponding number of courses of depth needed units (see below). This preserves the degree requirement at 108 units. Students placed out of a foundation course should take an appropriate course approved by the Steering Committee.

*Note: The Professional Skills course should be taken during a student's first semester. This is a Pass/Fail course and must be passed to complete the MSBTPE degree.*

- (B) At least 24 units of graduate-level elective courses must be taken from Biological Sciences, 03-XXX listed courses.

*Minimum C grade in each course counted toward graduation.*

- (C) At least 12 units of graduate-level elective courses must be taken from Chemical Engineering, 06-XXX listed courses.

*Minimum C grade in each course counted toward*



*graduation.*

(D) Additional Graduate-Level Elective Courses (12-21 units – depending on whether more than 9 units of foundation courses are waived; see above)

*Minimum C grade in each course counted toward graduation*

These may be courses from either Biological Sciences or Chemical Engineering. Other department courses may be used with permission from the Academic Advisor.

Students should also note that many courses (including some from host departments) require pre-requisite knowledge. Students should check with the Academic Advisor for all courses.

### Other notes:

- 42-684, Principles of Immunoengineering and Development of Immunotherapy Drugs, may be counted as a Chemical Engineering (06-XXX) elective if the course is not offered until an 06-XXX course number.
- Up to 12 units of research (06-600 or 03-699) with a faculty advisor may be counted toward the depth credits. Research should be approved by the Assistant Director (Academic Advising). Research taken as 06-600 or 06-700 will count toward the Chemical Engineering (06-XXX) requirement in the depth category; research taken as 03-699 or 03-700 will count as biology 03-XXX depth coursework. Students may take as many units of research credit as they like, and all units will be shown on the transcript. However, a maximum of 12 units of 600-level research (06-600 and 03-699) can count toward graduation.
- Students who write an honors thesis (see “Graduation Honors and Awards”) may enroll in 03-700 or 06-700. Students need written approval from the full MSBTPE Steering Committee to enroll in these courses. Students may take as many units of thesis research credit as they like, and all units will be shown on the transcript. However, a maximum of 12 units of thesis research (06-700 and 03-700) can count toward graduation (this is in addition to the 12 units of 600-level research, which can be counted).
- Any course not listed above will need written approval from the Assistant Director (Academic Advising). Requests will be evaluated based on relevance to program educational goals and the absence of equivalent pre-approved courses.
- CMU undergraduate students enrolling for a continuing M.S. can use relevant courses from their undergraduate years to count toward an M.S. degree. However, the courses used toward an M.S. degree CANNOT be counted toward undergraduate degree certification. Undergraduate degree advisors must 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 MSBTPE Steering Committee.
- All coursework during the first semester must count toward degree completion. The Assistant Director for Academics must give written permission for any exceptions.
- In the second 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, and every course requires written permission from the Assistant Director for Academics.



- All course requirements must be fulfilled by the end of the student's third 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 allowed is if CMU Student Affairs and/or a medical provider request that a student be allowed to take a reduced course load).
- If a student completes a Biotechnology and Pharmaceutical Engineering internship, they may receive three units of depth credit for each term (03-690A).

## REGISTERING FOR CLASSES

In the first fall semester, students are pre-enrolled for the foundation courses. In subsequent semesters, students register online for classes. The 4 Easy Steps to Registration may be found at <https://www.cmu.edu/hub/registrar/registration/index.html>.

- Students must register for at least 36 units per semester to be full-time.
- Students are advised to take no more than 48 units in any semester.
- Students who need assistance registering for oversubscribed courses in the Mellon College of Science should contact the Assistant Director (Academic Advising); students who need assistance registering for oversubscribed courses in the School of Computer Science should contact the Assistant Director of Internship and Job Placement.

## Course Forms

### PASS/FAIL COURSES

Pass/Fail courses are strongly discouraged unless they are 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. Except for 06-602 Bioprocessing Optimization, Entrepreneurship, and Regulatory Compliance in Biotechnology and Pharmaceutical Engineering, Pass/Fail courses cannot be used to satisfy any MSBTPE program requirements or any prerequisites.

With a 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 defend 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, except for seminar courses and 06-602.
- Pass/Fail status is irrevocable.

## **AUDITING A COURSE**

With the approval of the MSBTPE Steering Committee, a graduate student may audit a course by obtaining permission from 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 from both 1) the instructor or teaching department and 2) the Assistant Director (Academic Advising).

## **DROPPING A COURSE**

Students may withdraw from an online course. 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.

## **PITTSBURGH COUNCIL ON HIGHER EDUCATION (PCHE)**

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: 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 considered for academic actions, honors, or QPA calculations. (Note: suspended students may take courses elsewhere; however, they may receive transfer credit only if their college's and department's policies allow this.)

## **Status**

### **FULL-TIME STATUS**

To be considered full-time, students must register for at least 36 units each semester. Any questions about registration should be directed to the Biological Sciences Graduate Programs Office, 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 MSBTPE 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 must 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 <https://www.cmu.edu/policies/student-and-student-life/student-leave.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 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.

## **TRANSFERRING COURSES**

The MSBTPE program does not accept transfer credits.

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

## **CHANGING PROGRAMS**

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

## **GRADES & ACADEMIC STANDING**

To be in good academic standing, a student must maintain a B average (GPA = 3.0) in the coursework that will be counted towards the degree. No grade lower than C in any course shall be used to complete degree requirements.

## **UNIVERSITY POLICY ON GRADES**

This policy details the 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](http://www.cmu.edu/policies/student-and-student-life/grading.html).

## **ACADEMIC PROBATION**

If the MSBTPE 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 them. Any student whose cumulative QPA is at or below 3.0 or otherwise not making satisfactory progress toward their degree during or at the end of the semester 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. Students who don't earn the minimum required grades in any class (C or higher in 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 will result in dismissal from the program or other actions as decided upon by the Steering Committee.

## **ACADEMIC INTEGRITY**

Students are expected to maintain ethical conduct as described in the university policies on Academic Integrity.

Serious action will be taken against any student 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 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 treated as violations of academic integrity and can result in course-level 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 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 program's administration.

The program administration will determine the consequences for violations of academic integrity or other program policies on a case-by-case basis considering 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, the fraction of the assignment in question that violated course policy, the 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 MSBTPE program.

Students may appeal whether a violation occurred and 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 SKILLS COURSE

Professional Skills (06-604) meets weekly. This course presents an opportunity for students to learn about available resources on campus and outside, share knowledge, and hone their professional skills. 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 pursue a Ph.D.

All students must register for 06-604, a 3-unit course, and complete it with a passing grade during their first semester. This course contributes towards the units for graduation certification and 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, RESEARCH, AND JOURNAL CLUB

Each semester, all students may register for and attend the weekly seminars (Graduate Research Seminar 03-655, 1 unit; and/or Graduate Seminar 06-800, 1 unit). Graduate students are strongly urged to meet the speakers to broaden their knowledge of cutting-edge science and to make valuable contacts; the faculty host can arrange individual or small group meetings for interested students.

*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 up-to-date with current research and networking, so we encourage students to enroll in these courses, mainly if they are interested in pursuing a Ph.D. or other advanced degree.*

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

## RESEARCH

Students interested in conducting research for academic credit take M.S. Thesis Research 03-700 or 06-600 for research with a Biological Sciences faculty mentor or Chemical Engineering faculty mentor, respectively.

- Up to 12 units of 06-600 or 03-700 may be counted toward the degree without written approval from the MSBTPE 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.

Students are strongly advised to wait until their second semester to begin research.

Some faculty members may be willing to pay for 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, which means that summer research in a lab does not need CPT authorization. OIE oversees CPT.

## **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 Biotechnology and Pharmaceutical Engineering. Students must contact the Assistant Director (Internships and Job Placement) during late fall about planning for an internship.

Any student completing an off-campus summer internship must register for three (tuition-free) units of 03-600R, Biotechnology and Pharmaceutical Engineering Internship. Students who complete an internship during the fall or spring semester should register for three (tuition-charged) units of 03-600A, Biotechnology and Pharmaceutical Engineering Internship.

Students involved in paid on campus summer research should also register for 03-600-R before beginning any research, please discuss with Assistant Directors.

Before registering for 03-600 R or A written approval must be obtained from the Assistant Director (Internships and Job Placement) who will ensure that the internship is relevant to Biotechnology and Pharmaceutical Engineering and maintain contact with the internship supervisor.

## **INTERNATIONAL STUDENTS**

International students who secure paid summer internships outside Carnegie Mellon must also register for Curricular Practical Training (CPT) or Pre-Completion Optional Practical Training (OPT). The Office of International Education (OIE) oversees both CPT and OPT. International students are not eligible for CPT until the summer after their first full academic year. The internship must be in Biotechnology and Pharmaceutical Engineering to receive training authorization from OIE. 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 Biotechnology and Pharmaceutical Engineering. 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.

# **Graduation & Honors**

## **GRADUATION CEREMONIES**

MSBTPE 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 contact the Biological Sciences Graduate Programs Office for details.

There are two May graduation ceremonies for M.S. Biotechnology and Pharmaceutical Engineering students. The Department of Biological Sciences Diploma Ceremony and Reception are usually held on Friday before the university-wide Sunday Commencement. Students who graduated the previous December and those receiving their degrees in May or August are eligible and strongly encouraged to participate.

The Carnegie Mellon University Commencement Ceremony is held on Sunday.

## **RESEARCH HONORS**

The directors of the MSBTPE 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 or honors thesis, will receive an award for research achievement. Students who contribute substantially to the MSBTPE community, such as serving as a GSA representative or organizing social events, will receive an award for leadership.

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 MSBTPE Advising Committee approval) and (2) write and defend a master's thesis. If you satisfy the above requirements, you qualify for Research Honors.

Full research honors requirements are available from the Assistant Director (Academics). 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) One or more additional chapters (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 bibliography.



# Section 2. Resources

## Academic Advising

### **ORIENTATION**

For incoming graduate students, there are two orientations. Both events occur in the weeks before 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 MSBTPE Steering Committee, in collaboration with the Biological Sciences Graduate Programs Office and the Graduate Office of the Chemical Engineering Department, arranges 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 MSBTPE Steering Committee. All changes must be approved by the Assistant Director (Academics).

### **ADVISING FOR PROFESSIONAL DEVELOPMENT**

As part of 03-602, 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) to advise on further professional development.

### **MONITORING PROGRESS**

Students with specific concerns about their progress are urged to speak with the Assistant Director (Academic Advising) as early as possible. The Assistant Director (Academic Advising) and members of the MSBTPE 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 MSBTPE 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 QPA is at or below 2.0 after one term or 2.5 after two or more terms is placed on academic probation. The probation terms, including conditions to be taken off probationary status and consequences for not meeting the probation terms, will be stated and spelled out on the probation letter. The committee and the student will then formulate a plan to address those deficiencies, including milestones. The 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), 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.

## **Support Services**

### **CAREER AND PROFESSIONAL DEVELOPMENT CENTER (CPDC)**

The CPDC provides students access to campus job fairs and workshops on various topics. Also, on-site career consultants can help students with resumes and mock interviews. Students are encouraged to avail of these services via TartanTRAK.

### **OFFICE OF INTERNATIONAL EDUCATION (OIE)**

The OIE provides many important services to international students, including immigration advice and social and cultural issues. These services are explained during the University Graduate Student Orientation in August before the fall semester begins.

Because the Department of Biological Sciences believes that excellent English skills are essential, we strongly recommend that students whose native language is not English achieve a PASS by the end of their second year.

### **STUDENT ACADEMIC SUCCESS CENTER (SASC)**

The SASC offers various opportunities for students to deepen their understanding as learners, communicators, and, ultimately, scholars. We support student success by providing academic coaching, communication consulting and workshops, accommodations and support for students with disabilities, and language support for English language learners. Our program offerings are free and open to all students. SASC also engages with faculty and staff to improve academic advisors' coordination and professional development.

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 higher education institutions 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>

Language Support in the Student Academic Success Center will rate the fluency of all instructional

personnel to determine at what level of responsibility the student can T.A. Language Support in the Student Academic Success Center helps T. A.s who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon. Visit the Student Academic Success Center website for additional information: <https://www.cmu.edu/student-success/>.

## **COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS)**

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

CaPS allows students 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 (GSA)**

The GSA is the branch of student government that represents all graduate students at Carnegie Mellon. MSBTPE students may elect their representative to the GSA. In addition to working with other student government members, university administration, and external advocacy groups, the GSA plans various social events throughout the year. Keep an eye out for emails from the Biological Sciences and Computational Biology departmental representatives with information about GSA events and initiatives.

## **CENTER FOR STUDENT DIVERSITY & INCLUSION**

The center staff serves as a resource to assist historically underrepresented students and those who are the first in their families to attend college in navigating a return to campus after a leave, as well as connecting, developing, and achieving educational plans that are compatible with their life goals.

## **LIBRARIES**

Three university libraries provide research support for science students: Sorrells Engineering and Science Library, Hunt Library, and Mellon Institute Library. The Mellon Institute Library contains materials for biology, biochemistry, chemistry, environmental sciences, and industrial health.

## **TEACHING SUPPORT AND OPPORTUNITIES**

Students should avail themselves of Carnegie Mellon's Eberly Center for Teaching Excellence, which sponsors courses on preparing and presenting course lectures, understanding students, formulating syllabi, writing exams, and other topics. The university also sponsors seminars on teaching for TAs and students considering careers in academic settings.

## **COMPUTING SERVICES**

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

If the Help Center cannot resolve a problem remotely, the departmental IT Support Consultant can provide hands-on technical support for computers, printers, and software. To place a service request to the IT Support Consultant, email [bio-it-support@andrew.cmu.edu](mailto:bio-it-support@andrew.cmu.edu). For emergencies, call the IT Support Consultant directly at 8-1990.

In addition to general technical support, the IT Support Consultant can help with computer purchases, software purchases, and computer retirement and disposal.

## **THE HUB**

The HUB provides a range of enrollment services. The Academic Calendar includes information on all deadlines, including registration dates, class start dates, add/drop deadlines, exam dates, and more. Information regarding forms, schedule of classes, online registration, graduation procedures, an official letter of enrollment, official transcript, and enrollment verification.

## **MELLON INSTITUTE MAILROOM AND GATES STUDENT LOUNGES**

There are two locations providing a comfortable space for MSBTPE students. MSBTPE students may use these spaces to spend time between classes, complete group projects, or hang out.

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

## **HONORARY SOCIETIES**

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

## **STUDENT ORGANIZATIONS**

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

- Career Club

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

## **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 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 need accommodations can begin the process through Disability Resources secure online portal or email [access@andrew.cmu.edu](mailto: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](mailto:getchell@cmu.edu), to access the university's services and initiate a request for accommodations.

# Compliance Issues

## **ENVIRONMENTAL HEALTH AND SAFETY TRAINING**

Each MSBTPE graduate student must complete laboratory, chemical, and biological safety training presented by Environmental Health & Safety during the Department of Biological Sciences 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](http://www.cmu.edu/hr/learning/eLearning/SHA-training.html). The sexual harassment policy is available at [www.cmu.edu/policies](http://www.cmu.edu/policies). To speak to a sexual harassment advisor, please contact the university's sexual harassment hotline at 412.268.7445.

## **ANIMAL TRAINING**

Animal training is required for any individual listed on an animal protocol. Currently, training is offered through the University of Pittsburgh Animal Research Protection Office) and must be completed before research studies involving laboratory animals can begin.

For more information on training, please contact:

IACUC Education and Compliance Office - 412-383-2008 or [iacuc@pitt.edu](mailto:iacuc@pitt.edu)

## **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 on Academic Integrity includes

University expectations around academic integrity and provides definitions of cheating, plagiarism, and unauthorized assistance.

In addition, the University's Academic Disciplinary Actions procedures outline the process of investigating, reporting, and adjudicating violations of the University Policy on Academic Integrity.

Carnegie Mellon's Office of Research Integrity and Compliance is committed to maintaining the integrity fundamental to research activities through the responsible and ethical conduct of its faculty, staff, and students. The Responsible Conduct of Research (RCR) is a widely accepted set of ethical principles and professional standards for conducting research in the university community. CMU provides a variety of Responsible Conduct of Research seminars as listed in the RCR core elements.

## Section 3. Financial And Other Related Issues

### **TUITION FEES**

Complete information about tuition and fees is available at <https://www.cmu.edu/sfs/tuition/graduate/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 MSBTPE program.

Students registering for summer courses must pay summer tuition (including Biotechnology and Pharmaceutical Engineering Internship 03-690). Before registering for these summer courses, students should check with Assistant Directors about tuition.

### **UNIVERSITY FINANCIAL AID**

Graduate students should consult the graduate student financial aid information 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.

### **OFFICE OF THE DEAN OF STUDENTS EMERGENCY LOAN PROGRAM**

Graduate students needing immediate funds for emergencies should contact the Office of the Dean of Students to inquire about emergency funding available to enrolled students.

### **HEALTH INSURANCE AND SERVICES**

Carnegie Mellon has a Student Health Insurance policy requires full-time, degree-seeking students to carry adequate medical insurance unless they are enrolled as dependents, partners/spouses, or principals in an employer—or government-sponsored insurance plan.

The university offers one level of health plan. Students must plan with Student Health Services to either pay for their insurance at the beginning of the semester or elect a payment plan over 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](http://www.cmu.edu/health-services), or by emailing [shinsure@andrew.cmu.edu](mailto: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 AT CMU DURING THE ACADEMIC YEAR**

M.S. students can 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 06-700).

There are limited employment opportunities in faculty research groups

for students who desire to earn wages. 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 the fall or spring semester). For more information, see <https://www.cmu.edu/oie/employment/index.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 Teaching Assistants for an hourly wage. There are minimum English proficiency requirements. Please refer to Requirements for Teaching.

## **UNIVERSITY RESEARCH FUNDING**

GuSH Research Funding is a source of small research grant funds provided by the Graduate Student Assembly (GSA) and the Provost's Office and managed by the Office of Graduate and Postdoc Affairs. Students can find more information about the application process and deadlines at <https://www.cmu.edu/graduate/professional-development/research-funding/index.html>

## **OUTSIDE FELLOWSHIPS**

Students are encouraged to obtain their funding source through fellowships sponsored by the National Institutes of Health (NIH) or the National Science Foundation (NSF). The university's Fellowships and Scholarships Office (FSO) maintains a financial aid and fellowship database.

All applications must be submitted through the Business Manager's Office. The Business Manager must be notified before submitting the application and receiving a complete copy. The department and the university administer all fellowships. Students whose award amount is lower than the current stipend level receive a supplement to bring their stipend up to the departmental level; students receive the total fellowship amount if it exceeds the departmental stipend level.

## **FACILITIES AND EQUIPMENT**

The Biological Sciences department owns and maintains equipment such as centrifuges and autoclaves for departmental members' use. Each graduate student engaged in wet lab research must be trained in properly using and maintaining this equipment. Logs must be signed, and any problems noted. Individual laboratories are liable for repair and replacement costs if their personnel misuse equipment.

## **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 accountable for failing to receive official college notices due to needing a correct address on file; F-1 students may jeopardize their status if address information is kept current. Students can change their address using SIO.





