

CARNEGIE MELLON UNIVERSITY

CHEMICAL ENGINEERING



DOCTORAL STUDENT HANDBOOK

2020-2021

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WELCOME TO CHEMICAL ENGINEERING

Welcome to Chemical Engineering and to Carnegie Mellon! We are all very pleased that you have chosen to come here and we hope that you have had a safe journey and are getting settled into a new home. Your academic life here is going to be somewhat different from what you have been used to so we have prepared a few documents to help orient you and get you started. To help with the challenges in getting on board, please be sure to read the following:

1. Doctoral Student Handbook. This document spells out the major policies of the department regarding coursework, transfer between degree programs, the exams that you will need to take, and such things as timelines for completion of degree and allowances for vacation.
2. Safety Policy (in Doctoral Student Handbook). Safety is taken very seriously and everyone is expected to maintain safe work habits to protect themselves and to respect the safety of others. The university has strict safety codes and violations will be penalized.

Our expectations with regard to coursework and research are very high but we believe they are only as high as your own. You will have the opportunity to take what you know and begin to solve as yet unsolved problems in science and engineering. It will take hard work and persistence but this can be the most rewarding time of your life!

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

1. CONTACT INFORMATION

All of the phone numbers listed below are abbreviated numbers to be used via CMU internal phones. If you are using an external phone, please include “412-268” before the last four digits.

<u>What</u>	<u>Whom to See</u>	<u>Room</u>	<u>Ext.</u>
Admissions (Graduate)	Kathryn Whitehead Allyson Danley	DH A205 DH 1101	8-9836 8-3407
AIChE	Zachary Ulissi	DH A207A	8-9517
Copying	Janet Latini	DH 1107	8-2230
Computing	Justin Dawber	DH A225	8-7993
PhD Degree Requirements and Registration	James Schneider	DH 3109	8-4394
Electives	Thesis Advisor		
Financial Support	Kristyn Williams	DH 1100	8-3573
CPS and MS-CPS Degree Requirements	Annette Jacobson	DH 3102B	8-2244
Facilities	Julie Tilton	DH 1208	8-9537
Purchasing	Julie Tilton	DH 1208	8-9537
Safety Michael Domach	Safety Committee DH A221	8-2246	

2. FINANCIAL POLICIES

2A. FINANCIAL AWARDS

The Department of Chemical Engineering pays tuition and provides a stipend for living expenses to PhD graduate students accepted into its graduate program with the promise of financial support. Financial support, if available, is normally offered simultaneously

with acceptance to the PhD graduate program. The award of financial support at any other time is an exception and is handled on a case-by-case basis by appeal to the Department Head. Students are normally guaranteed continued support, subject to satisfactory progress toward degree (i.e., meeting the deadlines and requirements outlined in section 3), and not exceeding the Statute of Limitations on Funding described in section 2C. The Department is subject to the CIT Statute of Limitations Policy as referenced in the [College of Engineering Graduate Student Handbook](#)

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

<https://www.cmu.edu/graduate/professional-development/research-funding/index.html>

2B. PAYMENT OF TUITION

The university deducts tuition automatically from each student's pay. The university also deducts the Technology Fee from each student's pay. Please contact Kristyn Williams (DH 1100) in the department's business office if you have any questions concerning payroll or tuition deductions.

Students are responsible for obtaining and paying their health insurance and for paying all fees other than the Technology Fee. For students who opt into the student health insurance plan, a 50% supplement will be offered to aid in supporting the health insurance cost for the student medical plan. This supplement will be applied directly into the student's account to offset the health insurance plan cost. Please visit the CMU HUB website (<https://www.cmu.edu/sfs/tuition/index.html>) for more information concerning fee payment options.

2C. STATUTE OF LIMITATIONS FOR FINANCIAL SUPPORT

A student entering the PhD program in the Department of Chemical Engineering with a BS degree is called "Direct Entry." A student entering the program with a MS degree is called "Advanced Entry." A Direct Entry student is supported up to fourteen semesters (including summer semester) of full-time residence and Advanced Entry students are

supported up to twelve semesters (including summer semester) of full-time residence. Refer to your offer letter for further clarification.

Continuation of support in all cases depends on satisfactory progress by the student in coursework (as discussed in section 3C.6) and research. If the Statute of Limitations for Support expires, the student must justify to his/her research advisor and department head why additional funds should be provided. This justification must take the form of a written petition. The advisor must provide a written recommendation to the department head, no later than the semester in advance of the end date of funding, regarding action on the student's petition. If approved, funding will be provided on a month-to-month basis. Our policies are subject to the College of Engineering policies: All but dissertation (ABD) status See also the discussion in section 3A.6.

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.

3. ACADEMIC REQUIREMENTS

The Department of Chemical Engineering offers the Doctor of Philosophy (PhD). The PhD degree requires original research and a thesis.

Carnegie Mellon University holds high standards of academic integrity. The Department expects all students to be aware of the University policies and to abide by them. Please review the University expectations on Academic Integrity. The College of Engineering Graduate Policies can be found in the College of Engineering Graduate Student Handbook

In addition, all members of the University community are expected to observe the highest standards of ethical and professional conduct, and to conduct all business and related professional activities in good faith and with fairness, accuracy, integrity and respect for others. Please review the CMU policy on expected behavior

<https://www.cmu.edu/policies/administrative-and-governance/code-business-ethics-conduct.html>

3A. REGISTRATION REQUIREMENTS

3A.1 REGISTRATION PROCESS

With your Andrew ID and password, log into Student Information Online (SIO).

- Plan your course schedule.
 - Click +new, select the semester, name your plan.
 - Browse for courses to add, or type the course # into the box and click add.
- Review your planned schedule with your research advisor.
- Register for classes. Use the gear wheels to register, drop, switch, and manage your waitlist.

3A.2 COURSE DROP, WITHDRAWAL, INCOMPLETE GRADES

Graduate students may drop a course on-line on or before the deadline published in the official university calendar. When a course is dropped before the deadline, the course is removed entirely and disappears from a student's academic record. After the official university deadline to drop a course, graduate students may withdraw from a course on-line during the posted withdrawal period. When a graduate student withdraws from a course during the posted withdrawal period, a "W" (Withdrawal) is assigned as a grade, which appears on the student's academic record. This "W" grade does not affect a student's QPA. Students taking undergraduate and Master's level courses must follow the procedures and deadlines for adding, dropping, or withdrawing from courses as identified on the academic calendar. Information can be found on the HUB's [Course Add, Drop & Withdrawal Process](#) page. There is a separate calendar for doctoral level courses which can also be found at the above webpage.

Students are expected to complete a course during the academic semester in which the course was taken. However, if the instructor agrees, a grade of I (incomplete) may be given when a student, for reasons beyond his or her control, has been unable to complete the work of a course, but the work completed to date is of passing quality and the grade of incomplete provides no undue advantage to that student over other students. In awarding an I grade, an instructor must specify the requirements for completing the work and

designate a default letter grade where no further work is submitted. Students must complete the required course work no later than the end of the following academic semester, or sooner if required by prior agreement. The instructor must record the permanent grade by the last day of the exam period of that following semester, or Enrollment Services will administratively assign the default grade.

3A.3 ENROLLMENT VERIFICATIONS

Enrollment Services is the only University office that can provide an official letter of enrollment, official transcript and enrollment verification. Enrollment verification can be requested through the HUB's [Degree & Enrollment Verifications](#) page.

3A.4 REGISTERING FOR THE FIRST SEMESTER

All incoming PhD students (Direct Entry or Advanced Entry) must take **four** courses of nine units or more in their first semester. PhD students must register for the graduate seminar 06-800 (taken every semester), and the Graduate Professional Development course. Students asked to be a TA must also register for 06-799A. Thus Direct Entry students should register for a minimum of 46 units in the first semester (includes at least one core chemical engineering course) and a maximum of 53 units. This normal load comprises four courses, the professional development, graduate seminar, and TA duty (if selected). Advanced Entry students should register for a minimum of 40 units including 4 courses of at least nine units, graduate seminar, the professional development course, and the TA course if necessary.

3A.5 REGISTERING AFTER THE FIRST SEMESTER

The recommended course load for the second semester is three courses for Direct Entry students. Advanced Entry students should develop a second-semester course schedule in consultation with their thesis advisor(s).

All PhD students must carry 48 units of credit in every semester after the first semester including coursework, graduate seminar, the TA course (when applicable) and research units. In every semester other than the first semester, therefore, the number of research units must equal 48 units minus the sum of coursework, seminar, and TA units.

3A.6 REGISTERING AFTER TERMINATION OF FINANCIAL SUPPORT & ABD STATUS

The faculty of the Chemical Engineering Department strongly encourages each student to finish his/her degree within the limits of time for financial support. Most often this is the case. When the student does not complete the degree requirements in the allotted time and no further support through the Department is forthcoming (see section 2C), the following rules apply. (This is a summary of the University and CIT policy on the status of PhD students. Interested students and faculty should consult the University and College of Engineering guidelines for detailed descriptions.)

UNIVERSITY POLICY FOR DOCTORAL STUDENT STATUS

<https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html>

This policy sets forth a definition of All But Dissertation (ABD) status, time limits on doctoral candidacy status, a definition of being *In Residence* and *In Absentia* for candidates and the tuition and fees charged for candidates in each status. The ABD Status Agreement Form can be found at: <https://www.cmu.edu/hub/docs/abd-status-agree.pdf>

ABD

All But Dissertation ["ABD"] status. When a doctoral student has finished all degree requirements but the thesis defense and submission of a properly signed dissertation, the student is ABD until the two remaining requirements have been satisfied. According to the University policy promulgated on June 1, 2011, the University recognizes two types of ABD students: Students *In Residence* and *In Absentia*. Any doctoral student who is self-supported and/or not on track to finish in the normal amount of time (either 4 years and 9 months for Direct Entry or 4 years for Advanced Entry) should study the ABD policies of the University, the College, and the Chemical Engineering Department and should discuss their case with the Graduate Advisor. University policy on Time to Degree is listed on University Policy on Doctoral Student Status page. Please see the following summary.

ABD “IN RESIDENCE”

According to the University: "A doctoral student *In Residence* maintains student status and all consequent student privileges and continues to be actively engaged with the university." This category is for students who make substantial use of university resources. According to the College of Engineering policy, typically, substantial use shall include: office space other than desk space, if available; all but minimal use of laboratory space or university-furnished laboratory equipment and expendables; and all use of computer resources that is not specifically exempted for thesis text preparation. "In Residence" is the normal status for students who are ABD.

ABS (ALSO KNOWN AS *IN ABSENTIA*)

A student who is ABD, and who does not require substantial use of university resources, does not have to register and pay tuition until he/she reaches the semester of expected graduation. This situation is called "*in absentia*." According to College of Engineering policy *in absentia* candidates shall be permitted use of the libraries or consultation with faculty or students (in particular, with a thesis advisor or members of the thesis committees). The university will provide *in absentia* candidates with identification for access to the library and other services permitted under the guidelines.

IMPLICATIONS OF ABD & ABS STATUS

CIT recognizes the ABD "In Residence" and the ABS "In Absentia" categories. The following is a short interpretation of the implications of the above categories for students of the Department of Chemical Engineering.

1. Full-time PhD candidates, including ABD candidates, must register for a minimum of 36 units per semester if they are using university facilities as described above.
2. If all requirements except the thesis have been fulfilled, and if the student was admitted with a normal commitment of support from the Department, and if the student is currently self-supported (e.g. is beyond the statute of limitations for financial support), the student may declare him/herself to be ABS; however, these students cannot receive a stipend and cannot make substantial use of University facilities. Also, the university will not certify a student who is ABS for immigration

purposes. The ABS student must register for a minimum of 5 units in the semester of graduation.

3. It sometimes happens that a PhD student is beyond the limits of financial support and needs to do a few experiments to complete the dissertation. In this case the student must write a letter of petition to the Dean of CIT through the Associate Dean for ABD with *in residence* status. This gives the right to register for only 5 units and work in a laboratory. This petition is carefully reviewed along with input from the Advisor at which time all current policies and rules will be applied. If allowed, it will be granted for at most two semesters where the summer is counted as a semester.
4. Although rarely occurring, doctoral students sometimes pay for tuition out of pocket or by company benefit programs without channeling the support through the University. The doctoral student in this case must pay full tuition for the normal time to degree (4 years or 4 years plus two semesters). In the case of demonstrated financial hardship (see the CIT policy statement), however, the doctoral student can petition for ABD *in residence* status with ABS unit registration requirements (5 per semester for up to two semesters) after 3 years of full time enrollment.

3B. ADVISORS

Professor Jim Schneider is the academic advisor of all PhD students. After the first semester, PhD students have thesis advisors as their primary research advisors, but Professor Schneider can provide advice to PhD students concerning satisfaction of technical requirements and any other non-thesis issues that arise, in any semester.

Each PhD student must have one or more official thesis or project advisor(s) to graduate. The Advisor/Student relationship is a cornerstone of graduate education. The Department of Chemical Engineering is committed to making the best possible advisor/student match, to establish standards and timetables for equitable treatment of students, and to serve as an objective point of reference for both the student and the advisor when called upon to resolve disputes. Students or advisors can and should bring disputes to the attention of the Department Head in person when either party feels that reference to a third party is necessary. (See sections 3.C.6 and 3.D) Such notice will begin the process of resolution of

the dispute. See also the College of Engineering Resolution of Grievances policy for additional information.

3B.1 ADVISOR SELECTION

The advisor selection process accounts for student preferences, for faculty availability and for funding, and for other general department requirements. During the first semester in residence, each new graduate student must attend the presentation of each faculty member on the list provided by the department head to discuss research projects underway or planned. New students must attend the ChEGSA Symposium to learn about related projects directed by the prospective advisors.

PhD students: After attending the presentations of all advisors and after follow-up meetings with favored advisors, the student must indicate choices for thesis projects, in order of preference. In addition, the student must submit a 100-400-word essay on his/her research and career interests and the reason(s) supporting his/her advisor choices. The student preferences are required to be in the department office by a particular date in the first semester, typically six weeks into the semester. An announcement is made at the beginning of the semester as to the exact date. The Department Head manages advisor assignment and attempts to assign all PhD students on or about the first of December (or end of March for spring admits) of each academic year. The Department Head gathers the documents submitted by the students, compares them to a list of open projects submitted by faculty, factors in departmental requirements such as the funding status of projects and the necessity that new faculty need students, and makes the match. Most students are granted their first or second choice. Occasionally, constraints of student numbers or finances require a student to work on a less preferred topic. In exceptional circumstances, the Department Head will meet with those students who cannot be assigned any of their choices. Ultimately, PhD students are expected to manage the timely response to advisor selection and failure to do so represents lack of research progress.

3B.2 ROLE OF THE ADVISOR

The role of the Thesis Advisor is complex and can vary from student to student, but at least three characteristics can be identified: mentor, evaluator, and colleague. The Thesis Advisor is responsible for helping the student define a project, for evaluating the student's progress, and for jointly working with the student toward a successful outcome. Generally, meetings

between students and thesis advisors should be scheduled on weekdays during normal business hours unless an alternate time is mutually preferable.

The Thesis Advisor continually determines whether or not the student is making satisfactory progress, as mentioned in section 3C.6.

3B.3 ROLE OF THE STUDENT

The student, under the guidance of the Thesis Advisor, should make original scholarly contributions in his/her area of research and disseminate his/her findings through journal publications and meeting presentations. Since the student must demonstrate the ability to perform at the highest intellectual level by both national and international standards, he/she should have one or more articles at least past the reviewed/accepted stage of publication and should have made at least one conference presentation at the time of the defense. Progress on publications and presentations will be reviewed by the Thesis Committee along with the advisor.

3C. MAJOR PROGRAM REQUIREMENTS AND RULES OF TIMING

1. Students must complete coursework as outlined in section 3E. An average of 3.0 or better must be maintained.
2. Students in the PhD program must complete their TA assignments as described in section 3G.
3. Students in the PhD program must take the Qualifying Exam within 12 months of admission to the graduate program at CMU. In unusual cases such as mid-year starts or illness, the student and Thesis Advisor may petition the graduate advisor and Department Head for delay (See section 3I for a description of the exam).
4. Direct Entry Students and students completing a MS at CMU who wish to enter the PhD program must pass the PhD Proposal by the last day of the seventh semester in residence (summer counts as one semester). Advanced Entry students must pass the PhD Proposal by the last day of the sixth semester. If the semester in question is a summer semester, then the student must pass the proposal before the first day of classes in the fall semester. A reminder of the proposal deadline will be sent to each student the semester before the deadline. Failure to meet this deadline will result in suspension of stipend until a proposal is accepted; tuition support will also be suspended after one additional semester. The PhD Proposal is described in section 3J. Careful reading of section 3J will

make clear that the student should not postpone this step until near the deadline; it is highly recommended that the student schedule his/her PhD Proposal in the first half of the semester by the end of which it must be completed.

5. Admission to candidacy for the PhD degree, which commences with successful completion of the Qualifying Exam, is for a period of no longer than six calendar years. If, at the end of this six-year period, the PhD has not been awarded, the student may petition for extension of the six-year limit under extenuating circumstances such as a forced change of thesis advisor, military service or prolonged illness. *These requests must be made within the six year period and with the approval of the thesis advisor.*
6. In general, all students are subject to continual review of their progress by their Thesis Advisor who is responsible for determining whether each student's progress is satisfactory or not. If the Thesis Advisor determines at any time that the student is not making satisfactory progress and believes that the situation might lead to disassociation with the Student, the Thesis Advisor must provide written notification of such a determination to the Student and to the Department Head at the earliest appropriate moment. The letter should include:
 - A statement of the shortcomings that led to a determination of unsatisfactory progress.
 - Specification of what changes must occur to resume satisfactory progress.
 - A time period (minimum one month) during which the student will be regarded as being on probation.

If the Thesis Advisor still regards the progress as unsatisfactory after the end of probation, the provisions for Change of Thesis Advisor or Dismissal (section 3D) are activated.

7. The minimum residency of a student on campus is one year.

STATUTE OF LIMITATIONS

In addition to the Department and College of Engineering time lines, students will complete all requirements for the Ph.D. degree within a maximum of ten years from original matriculation as a doctoral student, or less if required by a more restrictive department or college policy. Once this time-to-degree limit has lapsed, the person may

resume work towards a doctoral degree only if newly admitted to a currently offered doctoral degree program under criteria determined by that program.

As outlined in the Doctoral Student Status Policy <https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html>

Under extraordinary circumstances, such as leave of absence, military or public service, family or parental leave, or temporary disability, a school or college may, upon the relevant department's recommendation and with the written approval of the dean, defer the lapse of All But Dissertation status for a period commensurate with the duration of that interruption. Students, who are pursuing the Ph.D. degree as part-time students for all semesters of their program, as approved by their program, may also appeal to their program or department for extension of the time to degree limit.

3D. CHANGE OF ADVISOR OR DISMISSAL

It is the responsibility of both Thesis Advisor and student to seek accommodations of differences in good faith. Under extremely negative circumstances, either the student or the Thesis Advisor may petition the Department Head to oversee the resolution of the problem. If none can be achieved, the Department Head will ordinarily direct the student to discussions with potential new advisors to see if a better match can be made. The student may seek a new Thesis Advisor, but the Department of Chemical Engineering is not obligated to find a new Thesis Advisor for the student. If a new match is found, the student might be requested to document work already performed before making the switch; the timing and circumstances of the switch will be made on a case-by-case basis. If no new match is found, the Department Head will advise the student of his/her dismissal from the graduate program as of a specified date. These cases are rare.

Any student who feels unfairly treated may consult the [College of Engineering Grievance Policy](#) for further appeal. Also refer to the University's [Summary of Graduate Student Appeal and Grievance Procedures](#)

3E. COURSE AND QUALITY POINT (QPA) REQUIREMENTS

The following are some general guidelines regarding QPA requirements:

- A student must receive a letter grade in a course to count that course toward meeting the numerical unit requirements for any degree. Course work or graduate project units with a grade of C- or lower are not acceptable toward graduate degree requirements. In the event that a student elects to take a course as P/F and an instructor enters a letter grade, any letter grade of C- or lower will be converted to Fail, while any letter grade A through C will be considered Pass.
- In the forthcoming sections about degree requirements, the basic rule is that the student must maintain a B average with some additional requirements concerning performance in graduate courses. Note that the 3.0 average applies to courses that the student intends to use, or must use, for satisfying degree requirements. Transcripts show all courses and grades and might not reflect perfectly whether the student is satisfying the QPA requirement in the courses required for the degree. A student can check with the department's staff member responsible for student records (Allyson Danley) if there is any doubt about progress toward satisfying degree requirements and QPA requirements.
- If a course is repeated, the higher grade is used in the calculation of the QPA in order to determine whether the student has satisfied degree requirements.
- The College of Engineering now requires that student transcripts report withdrawals from courses after the withdrawal deadline. A student's transcript will record a **W** for any course where the student withdraws from the course after the official deadline to drop.

DEFINITIONS

Graduate: Any course having a designation o6-Nxx, where $N \geq 6$ except for the TA course o6-799A and graduate seminar o6-800. These courses are not graded and therefore cannot be counted toward the unit requirement.

PhD Core: The department has designated six of our Graduate courses as "PhD Core graduate courses;" these are Thermodynamics (o6-705), Kinetics (o6-702), Fluid Mechanics (o6-703), Heat and Mass Transfer (o6-704), Mathematical Techniques in Chemical Engineering (o6-713), and Advanced Process Systems Engineering (o6-720). **Note:** *PhD Core graduate courses can be substituted for non-Core Graduate courses but not vice versa. (Students entering with a M.S., however, can count a maximum of two Core Graduate courses toward the Ph.D., which is the only exception to this rule.)*

Outside Technical: A technical course having substantial engineering or scientific content offered by a different department and having a course number of the form xx-Mxx, where $M \geq 3$. A list of courses that Chemical Engineering students have taken and that includes courses pre-approved for this category appears in Table 1 at the end of this section. If a student wants to count a course that does not appear on this list as a technical elective, and if there is any doubt about its suitability, please check with the Graduate Advisor, who is solely responsible for this matter.

Graduate Professional Development Seminar: We require that all graduate students take the Graduate Professional Development Seminar course, o6-608.

COURSE AND QPA REQUIREMENTS FOR THE PHD DEGREE

Direct Entry students (see section 2C for definition) must take a minimum of 96 units of course work as part of the 144 total units required for the Ph.D.

- 4 Core Graduate
 - 2 Graduate (at least 9 units each)
 - 1 Outside Technical (at least 9 units)
 - 1 Graduate or Outside Technical (at least 9 units)
 - 1 Graduate Professional Development Seminar (o6-608)
- This distribution of units might not fulfill the minimum 96 units of course work. Students should consult with their advisor to decide on the best way to fulfill the 96-unit requirement.

- The student must maintain an overall 3.0 average, with no grade lower than “C,” and receive no more than one unbalanced “C” among the core courses.
- Graduate seminar and TA course credit cannot be counted toward course unit requirements.
- The PhD student must enroll for PhD research units (06-900) in any semester in which the course units do not total more than 48. Register for sufficient units to bring the total to 48 in this case. Research units do not count toward the 96-unit requirement for coursework.
- A student must receive a letter grade in a course to count that course toward meeting the numerical unit requirements for any degree. Courses issuing Pass/Fail grades will not count to degree requirements.

Advanced Entry students (see section 2C for definition) must take 48 units of course work, with the following minimum distribution, as part of the 144 total units required for the Ph.D.

- 1 Core Graduate
- 1 Graduate (at least 9 units)
- 2 Graduate or Outside Technical (at least 9 units each)
- 1 Graduate Professional Development Seminar (06-608)

Note: A maximum of two core graduate courses will be acceptable.

- Only courses with a grade of 2.0 or higher will be counted towards degree requirements.
- An average grade of 3.0 is required for mandatory courses (exclusive of research or project work) counted towards degree requirements.
- An average grade of 3.0 is required for the PhD core courses.
- Graduate seminar and TA courses cannot be counted toward course unit requirements.
- The PhD student must enroll for PhD research units (06-900) in any semester in which the course units do not total more than 48. Register for sufficient units to bring the total to 48 in this case. Research units do not count toward the 48-unit requirement for coursework.
- A student must receive a letter grade in a course to count that course toward meeting the numerical unit requirements for any degree. Courses issuing Pass/Fail grades will not count to degree requirements.

3F. POLICY ON TRANSFER OF CREDIT FROM OTHER INSTITUTIONS & PITTSBURGH COUNCIL ON HIGHER EDUCATION (PCHE)

Up to 24 units (two courses) of graduate work completed at other universities, with a grade point average of 3.0 or better, may be transferred from another academic institution provided that such course work is part of the graduate program leading to the degree sought. Such transfer credit is not granted prior to admission to the graduate program and must be approved by the department after the student has satisfactorily completed at least 36 units of graduate courses at Carnegie Mellon. These courses must not have been counted toward any other prior degrees. The Department Head and College of Engineering administration must approve the transfer. Students should complete a Transfer Credit Request form and provide all required attachments for their request to be considered. Transfer courses are recorded on the transcript indicating where the course was taken, but without a grade. Such courses will not be taken into account for QPA calculations. Please see the [College of Engineering Transfer Credit Policy & Transfer Credit Request Form](#)

Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program (see [Pittsburgh Council on Higher Education Guidelines](#)). and through the receipt of transfer credit from other accredited institutions. The Carnegie Mellon University transcript will include information on such courses as follows: Carnegie Mellon courses and courses taken through the university's cross-registration program will have grades recorded on the transcript and be factored into the QPA. All other courses will be recorded on this transcript indicating where the course was taken, but without grades. Such courses will not be taken into account for academic actions, honors or QPA calculations. (Note: suspended students may take courses elsewhere; however, they may receive transfer credit only if their college's and department's policies allow this.)

3G. PROCESS FOR APPEALING FINAL GRADES

Final grades will be changed only in exceptional circumstances and only with the approval of the instructor and the department, unit or program. Grading is a matter of sound discretion of the instructor and final grades are rarely changed without the consent of the instructor who assigned the grade. The following circumstances are the

unusual exceptions that may warrant a grade appeal: (a) the final grade assigned for a course is based on manifest error (e.g. a clear error such as arithmetic error in computing a grade or failure to grade one of the answers on an exam), or (b) the faculty or staff member who assigned the grade did so in violation of a University policy (see Summary of Graduate Student Appeal and Grievance Procedures)

3H. 06-799 ASSIGNMENTS (TEACHING RESPONSIBILITIES)

TAs provide help and advice to students, and grade homework assignments and projects. In most cases, your responsibilities will not exceed 5 hours per week. You should be available at least 2 hours per week for consultation at the times that the professor of your course will announce to the class.

In order for you to be effective in your duties as a TA, you should be familiar with the material covered in class. You should obtain copies of the class notes and the solutions or problem sets. If you think you do not have enough background in the course, you should audit the course.

The responsibility for serving as a TA is spread among all of our first- and second-year PhD graduate students instead of having some students designated as teaching assistants (TAs) while others have no teaching responsibilities. The requirement of 5 hours per week lasts for three semesters and consists primarily of grading papers and leading recitation sessions. A student may volunteer to assist in teaching after his/her three-semester requirement has been fulfilled.

The two-unit course, 06-799, is the vehicle for these assignments. Students must register for this course during each semester they are assigned as a TA. The units received for this course are not counted toward PhD degree requirements. Assignments are made by the Department Head and announced at the beginning of each semester.

Since this course is a requirement for graduation it must be taken seriously by all Ph.D. students. TA effort is in no way linked to a student's source of financial support. Unsatisfactory performance in a TA assignment may require the student to serve an additional semester as a TA.

3H.1 ITA LANGUAGE CERTIFICATION

The Department of Chemical Engineering requires its non-native English speaking PhD students to comply with campus rules and standards about mastery of English language in order to be effective as a TA. All PhD students, who are non-native speakers of English, must complete the [ITA Language Certification](#). Students can satisfy the certification requirement in one of two ways: TOEFL option or ITA Test Option. Please see Language Support in the [Student Academic Success Center](#) for details about the test and applying for certification.

State law of the Commonwealth of Pennsylvania requires ITA test before non-native speakers of English can work as TAs. It is offered three times a year: November, April, August (incoming students only). The ITA test evaluates whether students have sufficient fluency to communicate effectively with students. Chemical Engineering TAs are often required to offer one-on-one help and advice to students, making the ITA test a requirement. The department requires that TAs pass at a minimum, the Restricted II level before the departmental TA requirement is fulfilled. The fluency of all instructional personnel will be rated by Language Support in the Student Academic Success Center to determine at what level of responsibility the student can TA.

3I. SEMINAR

The graduate seminar (06-800) is required each semester for all students in residence. It provides opportunities to learn about research in various chemical engineering and related fields being conducted at other universities and in industry. All graduate students must register for this course during each semester of full-time study. **Attendance is mandatory; a failing grade can be given to students who do not attend seminars.** Seminar credits do not count toward graduation. Students having a time conflict with a desired Outside Technical course may petition the PhD Advisor for a waiver from attendance. The PhD advisor may consult with the student's research advisor to judge the importance of the Outside Technical course in question before rendering a decision.

3J. PHD QUALIFYING EXAM

3J.1 WHO CAN TAKE THE EXAM?

Only students enrolled in the Chemical Engineering doctoral program and having a research advisor may take the qualifier. Students not officially in the doctoral program may not take the qualifier.

The Ph.D. Qualifying Examination is oral and is usually administered in August. It tests research potential, communication skills, and a general knowledge of chemical engineering.

The examination consists of two parts:

1. Each student must provide a written report of research accomplished and projected at CMU. The report consists of three sections: (1) the Title and Abstract, (2) the report Body, and (3) the list of the Literature Cited in the body; no material other than these three sections may be included. Specifications for the report are summarized below:
 - a. Title and Abstract section – one page total. The Abstract is limited to 300 words.
 - b. Body section – no more than ten pages total. This includes all figures and tables. Any material that is not Title, Abstract or Literature Cited is considered part of the Body.
 - c. Literature Cited section – unlimited in length, but typically one to two pages. Use full citations: list all authors, full title of article, full name of journal and inclusive page numbers.
 - d. Format
 - d.1. Use one-inch margins at the top, bottom, left, and right for all three sections. Figures or tables in the Body must also fit within these margins.
 - d.2. Use 12 point Times New Roman (or close equivalent) font for all text in all sections. Text within figures or tables must be at least 10 point font.

- d.3. Use double-spacing for the Title and Abstract and for the Body sections: no more than 23 lines per page (2.56 lines per inch). The Literature Cited section may be single-spaced.

Reports that do not comply with these requirements will not be accepted. The date on which the report is due will be announced well in advance. The student may solicit editorial comments from his/her advisor and the advisor may participate in practice talks.

2. On exam day, according to a schedule published one to two weeks before the exams, each student makes a 20-minute presentation before four members of the faculty. A question period of 30 to 60 minutes follows the formal presentation. The same four members of the faculty will administer and score the examination for all students, except when a student's research advisor is also serving on the examining panel. In this case, a fifth (alternate) member of the examining panel will replace the student's research advisor. The student's research advisor may participate in rehearsals of the presentation and may sit in on the actual exam as a silent observer to provide feedback to the student on his/her performance.
3. The following criteria will be considered in arriving at each student's score:
 - Definition of the research problem
 - Knowledge of fundamental principles involved
 - Knowledge of the appropriate literature
 - Approach to solution and quality of preliminary results
 - Ability to critically evaluate preliminary results and define direction of future work
 - Quality of the written and oral presentations

Recent ChE Ph.D. Qualifying Examination Scoring Rubric Example

Student: _____

Faculty Examiner: _____

1. Student can express him/herself well in written form (as demonstrated by written report)

- 1.1. rating
 - 1.1.1. Excellent – well-organized and written, could be directly incorporated into a manuscript or proposal
 - 1.1.2. Clear Pass – clearly written and understandable; could be used externally with editing help
 - 1.1.3. Minimal Pass – parts unclear or not well-organized, but understandable overall; needs heavy editing
 - 1.1.4. Must Improve – document did not prepare reader well for oral presentation
 - 1.1.5. Clear Fail – concepts and organization incoherent, needs remedial writing help
- 1.2. comments
2. Student can express him/herself well in oral form (as demonstrated by oral presentation)
 - 2.1. rating
 - 2.1.1. Excellent – polished performance suitable in content and style for conference presentation
 - 2.1.2. Clear Pass – good performance with solid content and style
 - 2.1.3. Minimal Pass – minimal performance, but essential content was coherent
 - 2.1.4. Must Improve – missing some essential content, portions of presentation unclear
 - 2.1.5. Clear Fail – incoherent, missing significant content, poor use of allotted time
 - 2.2. comments
3. Student is poised under pressure (as demonstrated by student’s management of Q&A session)
 - 3.1. rating
 - 3.1.1. Excellent – able to engage examiners in discussion, had comfortable/confident demeanor
 - 3.1.2. Clear pass – sustained discussions; occasionally hesitant, but very responsive to prompting
 - 3.1.3. Minimal pass – while sometimes stuck, student able to dialog with questioners

- 3.1.4. Must Improve – student frequently immobilized, prompting frequently unsuccessful
- 3.1.5. Clear Fail – student unable to mount responses and unable to be prompted
- 3.2. comments
- 4. Student clearly understands project and the relevant science & engineering background knowledge
 - 4.1. rating
 - 4.1.1. Excellent – facile with aims, motivation, approach; strong “elevator pitch”; makes own connections freely and explicitly to background knowledge
 - 4.1.2. Clear Pass – clear grasp of project aims, motivation and approach beyond surface level; good awareness of and comfort level with background knowledge
 - 4.1.3. Minimal Pass – can describe aims, motivation and approach at surface level; able, with prompting, to connect with background knowledge
 - 4.1.4. Must Improve – uncertain/unclear about one or more of aims, motivation, approach; missing key elements of relevant background knowledge
 - 4.1.5. Clear Fail – unable to explain logic behind aims, motivation, approach; unable to see relevance of, or apply basic background knowledge
 - 4.2. comments
- 5. Student can set project in the context of what has been done by others
 - 5.1. rating
 - 5.1.1. Excellent – deep knowledge of prior work, can explain nuances between own work and competitors
 - 5.1.2. Clear Pass – can differentiate own effort and directions from prior work and competing groups
 - 5.1.3. Minimal Pass – can describe prior work, competitors’ efforts; can make some connections to own work
 - 5.1.4. Must Improve – some surface awareness of prior work and competing groups but unsure of how own work fits in
 - 5.1.4.1. Clear Fail – no connection with prior work, unaware of competing groups, working in a vacuum
 - 5.2. comments

6. Student is productive

6.1. rating

- 6.1.1. Excellent – output is of high quality and roughly equivalent to publication; exceptional productivity
- 6.1.2. Clear Pass – solid body of work, making fine progress and on a good trajectory; normal productivity
- 6.1.3. Minimal Pass – making forward progress; basic productivity that should be stepped up
- 6.1.4. Must Improve – pace not up to expectations of first year student
- 6.1.5. Clear Fail – minimal effort or commitment evident; serious concerns about ability to make progress

6.2. Comments

7. Student understands tools used, results expected and obtained, and can draw deeper conclusions

7.1. rating

- 7.1.1. Excellent – expertise with tools demonstrated, facile with expectations and in explaining any discrepancies, consistently volunteers deep analysis of work
- 7.1.2. Clear Pass – good grasp of tools used, expectations and explanation of discrepancies, can sustain deeper analysis with occasional prompting
- 7.1.3. Minimal Pass – can explain at surface level tools used, expectations and discrepancies, can analyze results with prompting
- 7.1.4. Must Improve – unsure of how tools used function, unconfident in what to expect, unsure of discrepancies, unable to sustain an analysis of results even with frequent prompting
- 7.1.5. Clear Fail – tools treated as “black boxes”, no expectations, no assessment of discrepancies, understanding of work limited to surface level, unaware of any deeper implications

7.2. comments

8. Student can see the path forward

8.1. rating

- 8.1.1. Excellent – can lay out clear plan to move forward, spontaneous in addressing path forward

- 8.1.2. Clear Pass – has a viable ideas for moving forward, will have good proposal within a year
- 8.1.3. Minimal Pass – has some ideas of what to do next, significant coaching necessary for good proposal
- 8.1.4. Must Improve – has little idea what to do next, operating in technician mode without thinking for own self
- 8.1.5. Clear Fail – has no idea what to do next, unlikely to be successful even in technician mode

8.2. comments

Overall Impression: This is the individual examiner's score for the exam. The examiner's question ratings above are *not* averaged, rather they are used by the examiner to form their opinion of the student's overall performance in the categories below. The final score for the exam will comprise the distribution of scores from each of the four examiners.

exam score

High Pass – excellent performance, exceptionally strong in all respects, excellent proposal within one year anticipated, already performing at level of a senior graduate student

Pass – reasonable to solid performance, successful proposal within one year anticipated, performing at level typical for a junior graduate student

High Retake – student capable of passing with better performance, retake would be helpful to polish skills and bring out best in student, shows promise of successful proposal within one year

Retake – student capable of passing with much better performance, retake is necessary to definitively demonstrate mastery of key skills, shows promise of successful proposal within one year

Fail – below the bar; concern that student will be able to be successful as a PhD student; path forward to proposal unclear; dramatic improvement necessary to pass if student were to retake

Low Fail – well below the bar; serious concern that student will be able to be successful as a PhD student; very unlikely to pass if student were to retake

3J.2 SCORING THE EXAM

The faculty as a whole will meet as soon as possible after the exam and assign each student one of three grades: **Pass, Retake, or Fail.**

- **Pass**

Students who pass the examination immediately become candidates for the PhD degree and must next prepare for the PhD Proposal. (See PhD Proposal, section 3K). The PhD Proposal must be presented and successfully defended within four semesters after passing the Qualifying Exam for Direct Entry students. Advanced Entry students must defend a proposal within three semesters after passing the Qualifying Exam.

- **Retake**

Students assigned a grade of "Retake" should understand that their performance on this exam must improve before they move on to preparing for the PhD Proposal. These students must retake the qualifying exam at a time to be determined by the examining faculty. The student should consult with his/her advisor about areas that need attention. The status of the student and the stipend remain unchanged. A maximum of one retake is allowed. ***Note:** Students asked to retake the PhD Qualifying Exam and desiring to complete an MS in Chemical Engineering must either verify that he/she already has satisfied MS course requirements or else must register for appropriate courses needed for completing the MS degree by the end of the semester in which the exam is taken. This requirement assures that the student can complete the MS by the end of that semester in the event that the outcome of the Qualifying Exam retake is failure. Students retaking the exam should clarify with the faculty advisor what is needed to complete an MS Project Report in the same time frame.*

- **Fail**

The student who fails the qualifier cannot complete a PhD in Chemical Engineering at CMU. Students wanting to obtain an MS degree must complete all degree requirements by the end of the student's fourth semester in residence (*e.g.* by the end of the Fall Semester of the second year for students who entered the program in the previous Fall Semester). *Note: Students must verify with their Thesis Advisor and with the Academic Advisor, Allyson Danley, that course and project requirements will be met by the end of the semester in question.* PhD core courses may be substituted for any of the MS core courses for these purposes. The MS Project Report requirements and submission deadline will be the same as for students who entered

the MS program directly. Any deviation from this policy must be approved by the Department Head.

3K PHD PROPOSAL

3K.1 PREPARING FOR THE PHD PROPOSAL

After the Qualifying Exam, the next major requirement for the Ph.D. degree is acceptance by a Thesis Committee of a proposal for PhD research. (See Sec. 3L.1 for discussion of the Thesis Committee.) The student should regard the PhD Proposal as **both** an *examination* of his/her fitness to do doctoral research on the chosen topic **and** an *opportunity* to get early input from the thesis committee into the proposed investigation. The knowledge necessary for the research, a clear conception of the scope of the work, and familiarity with the methods to be used are the prerequisites for the Proposal. These factors are more important than specific data taken or codes written.

The PhD Proposal consists of a written document describing the proposed research and an oral presentation of the proposed research.

The Written Proposal

The written proposal should include a summary of previous experimental and theoretical work relevant to the proposed research. The student is expected to have a detailed understanding of all the material reported in the written proposal. This specifically includes:

- knowledge of definitions and terminology;
- the ability to derive equations with an appreciation for the assumptions involved and the limitations thereof; and
- the ability to describe qualitatively pertinent phenomena.

The written proposal should define the thesis problem and include an outline for a plan of attack on the thesis problem, which the student should be prepared to defend. While the outcome of an investigation may be impossible to predict, the student should be aware of the possibilities and contingencies, and include the necessary research alternatives in his/her proposal. An organizational table outlining the time to be allotted to various facets of the problem (i.e. Gantt chart) should be included.

The student should answer the question, "If my research succeeds, what original research contributions will I have made?"

Twenty-five pages is the upper limit for the proposal document including the body, references, appendices, figures and tables. The document must be typed in 12-point font with no less than one-inch margins and no more than four lines per inch.

It is expected that the detailed preparation for both the written proposal and the oral presentation will result from extensive discussions between student and research supervisor, with the final responsibility resting on the student.

The Oral Presentation

At the presentation, the committee will evaluate the student's knowledge in the area of the thesis topic and the potential contributions, as described in the written research proposal. The student and his/her advisor should establish a date and time. The student should then reserve the Conference Room and any audio-visual equipment through the Department. He/she should also contact Allyson Danley at least two weeks prior to the presentation to inform her of the date and time of the proposal, the thesis title, and the names of the committee members. Allyson will then prepare a committee sheet for the required signatures. After the sheet is signed on the day of the proposal, the student should confirm with Allyson that she received the signed form.

3K.2 RESULTS OF THE PHD PROPOSAL

Passing

If the thesis committee finds that the student passes the exam, the committee will check "Pass" on the PhD Proposal certification card and the student continues in the PhD program toward the objective of defending and filing a completed thesis. If the student is beyond the deadline for passing the PhD Proposal and funding has been discontinued, then support will be restored at this time.

Not Passing

As the ultimate evaluator of the student's fitness to continue on a particular project, the PhD Thesis Committee may not pass a student at the proposal if it perceives low probability for scholarly contributions in the proposed area. The following rules govern this decision:

1. If the thesis committee recommends a new exam, the committee should not check anything (i.e. **neither Pass nor Fail**) on the certification card. If the student is not beyond the time allowed for successful completion of the

PhD Proposal, then funding can be continued at the normal level (subject to approval by the Thesis Advisor) until the deadline for successful completion of the proposal. If the student is beyond the Proposal deadline, the rules of section 3C item #4 with regard to tuition and stipend apply until the PhD Proposal is completed successfully.

2. If the Thesis Committee recommends termination, the Thesis Committee should check **Fail** on the certification card. Tuition support will be discontinued at the earliest possible time; stipend will be stopped immediately. The Student and the Thesis Advisor, in consultation with the Graduate Advisor, should discuss the final outcome of the Student's residency at CMU and make a recommendation to the Department Head who will make a final decision.

A Student who feels unfairly treated should consult the CIT Grievance policy: [College of Engineering Resolution of Grievances policy](#). Also refer to the [University's Summary of Graduate Student Appeal and Grievance Procedures](#).

3L. THESIS

The PhD Thesis is the capstone of the graduate research experience and is a requirement for the PhD degree. The final step to graduation is acceptance of a thesis by a Thesis Committee. Since it is an official record of work and achievements, there are special guidelines for its preparation. These issues are described below.

3L.1 THESIS COMMITTEE

Just as every PhD student must have an advisor, every student must have a Thesis Committee to hear the PhD Proposal and to approve the thesis. When a student is ready to present the Proposal, he/she consults with the advisor and together they identify suitable members of the PhD committee. The student contacts the prospective members and obtains their assent to serve on the student's Thesis Committee. The PhD thesis committee consists of:

- A minimum of three faculty members from the Chemical Engineering department (including the Advisor). Each student must have two chemical engineering faculty members on his/her committee who are not advisors. Thus, if a student is co-

- advised by two chemical engineering faculty, there must be four chemical engineering faculty committee members.
- A minimum of one member of the CMU faculty from a department other than Chemical Engineering. Each student must have one non-chemical engineering faculty member who is not an advisor on his/her committee. Thus, if a student is co-advised by one non-chemical engineering faculty member, there must be two non-chemical engineering committee members.
 - A maximum of one voting member from outside the University. The member from outside the University must hold a doctor's degree or equivalent. Otherwise, the person is a Visitor. There is no restriction or dependence of the composition of the committee on whether the member from outside the University is a co-advisor.
 - If it happens that a student's advisor or committee member has left Carnegie Mellon before the defense and has no continuing appointment in the department, the student must identify a thesis committee that satisfies the above requirements.

This committee will evaluate the PhD Proposal (Sec. 3K), offer suggestions concerning the scope and techniques used in the research, and evaluate the PhD dissertation after hearing a public defense of the thesis (Sec. 3L.3) by the candidate.

3L.2 WRITING THE THESIS

Preparation of the thesis is a separate topic and is described in major section 4.

3L.3 PRESENTATION OF FINAL PUBLIC ORAL DEFENSE

The Defense

The public oral defense of the thesis is the opportunity for the Student to highlight his/her accomplishments in a short opening presentation and to answer detailed questions from the thesis committee members and the public. The student must show by argument and fact that the accomplishments are both original and meet national, as well as international, standards of excellence. Evidence of publication and professional performance, as mentioned in section 3.B.3, will strengthen the case. Each member of the Thesis Committee must sign the committee sheet certifying that the student passed the thesis defense and the

advisor(s) must sign the thesis signature page before the Department and the University will confer the doctor's degree.

Logistics

The student and his/her advisor should set up a date and time. The College of Engineering has rules about timing of the defense with respect to participating in Commencement. If you foresee your defense occurring after March 31st in any year, you should consult the college's website to stay within the timeframe. The student should then reserve the Conference Room and any audio-visual equipment through the Department. The student must also contact the staff member responsible for student progress (Allyson Danley) at least two weeks before the scheduled date and pass on the date and time of the defense, the title of the dissertation and the names of the committee members. She will distribute a public notice to the campus community and prepare a sheet for the signatures of the committee members. After the sheet is signed on the day of the defense, the student should confirm with Allyson that she received the signed form. Any other materials necessary for the proposal or the defense should be coordinated beforehand with the Department's receptionist, Janet Latini.

3M. CHECKOUT PROCEDURE

Information regarding checkout procedures and thesis information is available on the PhD Canvas site. One of the most important forms is the lab safety checkout. The aim of the checkout is to make sure that waste has been disposed and chemicals are properly labeled and stored. See Section 7 and the **Department of Chemical Engineering Safety Policy** manual for the safety form and details.

3N. SWITCHING AMONG MS, PHD AND MCHE PROGRAMS

3N.1 CHANGING FROM PHD TO MS

If a student initially accepts admission into the Direct Entry PhD program and then decides to finish with a MS degree, the student can switch to the MS program at any time. The Student must send a letter requesting this change to the Graduate Advisor (Jim Schneider) with a copy to the Thesis Advisor. Continuation of financial aid for pursuit of the MS degree

is not guaranteed. The Department Head, in consultation with the Thesis Advisor, will make the decision on any request for continuation of tuition support and stipend.

3N.2 SWITCHING FROM PHD OR MS TO MChE

A student who has received full tuition support or stipend (or both) from the Department must complete a thesis to receive any chemical engineering degree. Thus a student who has received such support toward either the MS or PhD degree cannot receive the MChE degree except by approval of the Department Head.

30. CHANGING ACADEMIC REQUIREMENTS AND POLICIES

The Department changes its requirements from time to time. In these cases, every student has the right to either graduate under the policies in effect at the time of their entry into the graduate program, or to graduate under the policy in force at the time of receiving the degree.

4. PREPARATION OF THE THESIS

4A. FORMAT

Each thesis should be double-spaced on 8½" x 11" bond paper. A margin of 1" should be maintained on three sides, with a 2" left side margin (to allow for binding).

Specific details of presentation should be consistent with those recommended by the American Chemical Society (ACS) in *The ACS Style Guide: A Manual for Authors and Editors* (Section III). The *Guide* is available from the department. It contains complete guidelines for tables, figures, references, etc.

Follow the [College of Engineering's Thesis and dissertation standards](#). In particular, note the rules about the Acknowledgments section which, at minimum, requires the source(s) of support for the work even if it is self-support. For doctoral dissertations, the doctoral committee must also be listed in the Acknowledgments, and the chair of the committee should be identified. The doctoral committee should **not** be listed on the title page.

4B. COPIES

Copies of the original thesis are required on 100% cotton or non-acidic paper. The copies required are listed below:

- 1 – per advisor
- 1 - student

If photographs are used in the thesis, each copy must contain original photographs, not xerographic reproductions.

Students who have been supported by a fellowship or research grant should acknowledge the support and should check with their advisor to see if a copy for the sponsor would be in order. Students with two advisors should have three copies made.

4C. COST

Financial responsibility for typing the manuscript and providing the required number of copies rests entirely with the student. Students should NOT use the department copy machine to produce the thesis copies.

4D. BINDING

The department sends out the loose-leaf PhD Thesis for binding once processing is completed. The department pays for binding only those copies required by the department (Sec. 4B). Additional copies of a PhD thesis can be sent for binding at the student's expense.

4E. PROCESSING

All required copies of the thesis must be turned in by the deadline date (see Sec. 4F) to Allyson. Title pages will be prepared and circulated by the department for signatures. When completed, the title pages will be inserted into the theses and the copies will be distributed appropriately or sent out for binding.

4E. DEADLINE

August and December graduate theses are due in the Dean's office by the date that grades are due for that semester and no more than two weeks after the oral defense. May graduate theses are due in the Dean's office not less than ten days before commencement. If all of

the paperwork is not turned in on time, the student must register for the following semester. All students must be registered for at least five units the semester of graduation.

4F. GRADUATE CERTIFICATION PROCESS AND DEGREE TITLE

The Graduate Program Administrator will review each student's record (degree audit) to ensure they are eligible to graduate. After the final grading period of the graduation semester and if all degree requirements have been met, the student will be certified with a Doctor of Philosophy degree.

5. GRADUATE STUDENT AWARDS

The Chemical Engineering Department has established the following graduate student awards to recognize research achievement and graduate student service in education.

5A. KEN MEYER AWARD

The Ken Meyer Award was established in 2005 in his memory by the Department of Chemical Engineering and by his family and many friends. Ken joined the Department of Chemical Engineering in 1977 and served the department as instrument designer and maker. He made instrumentation used in research and teaching laboratories in the department, throughout the university, and across the country. In 1996 Ken was given Carnegie Mellon's Andy Award for Customer Satisfaction. Ken was a great friend to his colleagues and customers and earned everyone's respect through his commitment not just to excellence but to perfection. The Ken Meyer Award is presented every year to a senior doctoral student who has demonstrated excellence in graduate research in chemical engineering. The faculty base their selection of the student on research quality, productivity, recognition, and impact.

5B. MARK DENIS KARL TEACHING ASSISTANT AWARD

Mark Denis Karl, a former graduate student, was an outstanding Teaching Assistant whose commitment to education is commemorated by the TA award. Each year the Mark Denis Karl award is given to a student judged by the faculty to have done an outstanding job as a teaching assistant.

6. CHEMICAL ENGINEERING GRADUATE STUDENT ASSOCIATION

Welcome to Carnegie Mellon! We are excited to have you join our department and become part of our Chemical Engineering community. You are joining a tight knit group of students at one of the leading research and educational institutions in the world. The Chemical Engineering Graduate Student Association (ChEGSA) is here to enhance your time at CMU, both socially and professionally. ChEGSA is in part responsible for preserving and strengthening our community. We provide our members with a link to industry and the broader CMU graduate community, as well as our department's alumni, faculty, staff, and undergraduates. As a Chemical Engineering graduate student, you are automatically a member of ChEGSA. To become more involved, consider running for an officer position on our executive board. We hold elections at the beginning of the Fall semester, and you can run for positions as early as your first year.

ChEGSA offers regular social events throughout the year. We have happy hour on a weekly basis each Friday in the Graduate Student Lounge (Doherty Hall A209). It provides a great way to relax at the end the week and you will also get to know your professors and fellow students better. ChEGSA organizes other events including our Super Bowl, Spring, and Holiday Parties. We start off the fall semester with a barbeque in Schenley Park. Our social events are supported by various fundraising events throughout the year.

Distinct from these social events, our graduate students regularly assist with Outreach activities both on campus and in the city of Pittsburgh. A few examples of our involvement include providing judges for the Future City Pittsburgh competition and providing activities at the Carnegie Science Center for National Engineers Week. Our department has a strong culture of outreach, so be sure to volunteer!

ChEGSA also offers professional development opportunities to its members. Each year we organize a research symposium and an Industrial Career Seminar. The symposium is an annual event comprised of a key note speaker, student presentations, and a poster session. Students present their research to representatives from industry, faculty members, and their fellow students. As first years, you will be able to learn about the research of different groups

to aid in your advisor selection process. The Industrial Career Seminar is a daylong workshop where the PhD students (2nd year and higher) learn about careers in industry. Students learn about the job search process, have their resumes reviewed, learn how to interview for PhD-level jobs, and learn how to market their research. Both events are geared toward helping prepare students to talk about their research and prepare them for careers after graduate school.

Feel free to provide feedback and suggestions to help us improve our activities and events. We hope you enjoy your time here at CMU!

Best,

Mariah Arral
ChEGSA President

6A. GENERAL INFORMATION

ChEGSA's goal is to encourage good working relationships among students, faculty and staff. To accomplish this, ChEGSA sponsors several social events to which all graduate students, faculty, and staff are invited:

- Happy hour is held at 4:30 p.m. every Friday (unless posted otherwise) in the ChEGSA lounge (A209) at which beer, soft drinks, snacks, and (occasionally) pizza are provided. Happy hour is free to all graduate students, guests (within reason), faculty, and staff in this department.
- Two parties are organized during the fall semester: one in Schenley Park to welcome new students and another for the December holidays. Traditionally, a party at a faculty member's home is held in the spring. Recently, we have also sponsored skiing trips, a golf tournament, camping/hiking trips, a Cinco de Mayo happy hour, a Super Bowl party, a wine and cheese event, and an international potluck dinner.
- Subject to demand, ChEGSA sponsors intramural sports: football, basketball, soccer (1985, 1986 and 1998 intramural champs), volleyball (2005 intramural

champs), softball (1985, 2004, 2009, 2013 GSA league champs; 2005, 2014 IM champs), swimming (1988 intramural champs), floor hockey, and racquetball (2001 intramural champs). If you are interested in these or other sporting events, please talk to any of the ChEGSA officers.

CHEGSA SYMPOSIUM

The ChEGSA Symposium, held in the fall, gives students the opportunity to make formal technical presentations in a setting similar to the one used at technical meetings and conferences. Students at various stages of their studies present symposium papers, and all the session chairpersons are student volunteers. Members of the faculty and industrial guests serve as judges to determine the winners of the awards given at a follow-up banquet.

We highly encourage everyone, particularly students who are new to the department, to take full advantage of the symposium. It provides an excellent setting for students to get a panoramic view of a large part of the research being conducted in the department. It also affords an opportunity for students to interact with the industrial representatives who attend the symposium. In addition to providing the bulk of the financial support for the symposium, many of these representatives also recruit on campus.

CHEGSA LOUNGE

ChEGSA maintains a lounge in DH A209 that features:

- A place to sit and relax and have your lunch and/or dinner as well as a coffee machine, a microwave oven, refrigerator, CD player, and television
- Foosball, shuffleboard, pool table, and ping-pong table
- Equipment for volleyball, softball, soccer, football, and ultimate Frisbee

PERSONAL PARTICIPATION

ChEGSA may be the only organization that offers its members so many benefits without asking for any responsibility in return. There are no dues and events are either completely free or heavily subsidized.

In return for this privilege, we ask that you plan to "**do something for ChEGSA**" at least once a year. There are several ways to do this: you can help organize a party or the symposium, assist with the delivery of soft drinks, or help with the purchase of supplies

needed for happy hour. Whatever it is that you can offer, the important thing is to **participate**. Help enlarge the small circle of student non-officers who give so much of their time to ChEGSA throughout the year.

6B. CURRENT OFFICERS

For a list of current officers and more information about ChEGSA please the [Chemical Engineering Graduate Student Association's website](#). The officers are here to serve you and the larger CMU community. Please bring any suggestions or concerns to our attention.

6C. CONSTITUTION

Constitution of the Chemical Engineering Graduate Student Association
of Carnegie Mellon University
(rev. 9-14-2017)

Article 1. Name

The official name of the association shall be “The Chemical Engineering Graduate Student Association of Carnegie Mellon University,” hereinafter referred to as ChEGSA.

Article 2. Object

The object of ChEGSA shall be:

- i) to provide a link between its members and industry, chemical engineering societies in other universities, the Graduate Student Assembly of Carnegie Mellon and the American Institute of Chemical Engineers.
- ii) to represent and promote the views of its members, and to implement academic, cultural, educational, physical, professional, social and other programs of interest to its members.

Article 3. Membership

The regular members of ChEGSA shall be students currently registered at Carnegie Mellon University in the graduate Chemical Engineering program. These members shall constitute the ChEGSA constituency.

Article 4. Fiscal Year

The fiscal year of ChEGSA shall be from the commencement of the Spring semester of one academic year until the preceding day of the commencement of the Spring semester of the next academic year.

Article 5. Members of the Governing Board

Section 5.01

The Governing Board shall consist of:

- i) the President
- ii) the Vice-President
- iii) the Symposium Chairs
- iv) the Social Chairs
- v) the Webmaster
- vi) the Graduate Student Assembly (G.S.A.) Representatives
- vii) the Fundraising Officer
- viii) the Outreach Coordinator

Section 5.02

The terms of office for the members of the Governing Board shall be congruent with the length of the fiscal year.

Section 5.03

Any member of the governing board may resign from their position by presenting the governing board with a letter of resignation.

Section 5.04

Upon leaving the Chemical Engineering graduate program, a member of the governing board automatically resigns their position.

Article 6. Powers and Duties of the Governing Board

Section 6.01

The Governing Board shall, to the best of its ability, fulfill the object of ChEGSA, as described in Article 2.

Section 6.02

The Governing Board shall meet on a monthly basis to discuss previous and upcoming events, receive updates from each position of the Governing Board, and discuss other issues relevant to the ChEGSA constituency. One-half of the governing board must be present to establish a quorum. These meetings of the Governing Board shall be open to any member of the ChEGSA constituency.

Section 6.03

The President shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7 and shall not be a first year student nor a student with preconceived plans to forfeit membership as outlined in Article 3 or otherwise vacate the position prior to the prescribed term of office defined in Article 5. It is preferred that candidates for the presidency have served a minimum of one term on the Governing Board.
- ii) be charged with the general management and supervision of the affairs of ChEGSA.
- iii) be charged with all duties relating to public relations on behalf of ChEGSA.
- iv) be charged with arranging regular Governing Board meetings whose dates will be chosen upon the discretion of the Governing Board, and preside over the meetings.
- v) have signing authority for the ChEGSA business account.

Section 6.04

The Vice-President shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7 and shall not be a first-year student nor a student with preconceived plans to forfeit membership as outlined in Article 3 or otherwise vacate the position prior to the prescribed term of office defined in Article 5. It is preferred that candidates for the vice-presidency have served a minimum of one term on the Governing Board.
- ii) be charged with receiving all moneys and have signing authority for the ChEGSA business account.
- iii) be charged with keeping a proper account of all financial affairs of ChEGSA and reporting and/or presenting financial statements at meetings.

- iv) be charged with preparing, in cooperation with the Governing Board, the annual budget of ChEGSA. The budget shall be prepared and agreed upon by the Governing Board prior to the beginning of the fiscal year and after the election of the Governing Board for the following fiscal year.
- v) assume, in the absence of the President, all of the duties of the office of the President.

Section 6.05

The Symposium Chairs shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7 and shall preferably consist of 2-3 students, where at least one representative is preferably a non-first-year student.
- ii) be charged with the responsibility of increasing and improving relations between ChEGSA and industrial/external groups.
- iii) be charged with the responsibility of ensuring the successful financing and organization of the annual ChEGSA Symposium.

Section 6.06

The Social Chairs shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7 and shall preferably consist of at least 3 students, where at least one representative is preferably a non-first-year student.
- ii) be charged with the responsibility of increasing and improving relations between the Chemical Engineering graduate students and Faculty/Staff.
- iii) be charged with the responsibility of increasing and improving relations between the Chemical Engineering graduate students and undergraduate students.
- iv) be charged with the responsibility of organizing Happy Hour every week, unless other departmental or ChEGSA events conflict.
- v) be charged with the responsibility of organizing off-campus department events throughout the year. Examples include the first-year party, the holiday party, the spring party and the summer picnic.
- vi) be charged with organizing faculty/staff appreciation events and other intra-departmental events as called upon by members of the Chemical Engineering department.
- vii) be charged with providing basic supplies and maintaining the cleanliness and good condition of the grad lounge and the equipment therein.

Section 6.07

The Webmaster shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7.
- ii) be charged with the responsibility of maintaining ChEGSA email distribution list(s).
- iii) be charged with the responsibility of ensuring the proper functioning of the ChEGSA website(s).

- iv) be charged with the responsibility of taking minutes during ChEGSA meetings and ensuring electronic communication of ChEGSA matters to and from the constituency.

Section 6.o8

The Graduate Student Assembly Representatives shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7.
- ii) be charged with representing ChEGSA in the Graduate Student Assembly.
- iii) be charged with ensuring, in conjunction with the GSA, that their constituency is up to date regarding current GSA events, policies and benefits.
- iv) be charged with attending monthly GSA meetings on the first Wednesday of every month as well as attending meetings of their respective sub-committees within GSA.

Section 6.09

The Fundraising Chair shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7.
- ii) be charged with ensuring the maintenance and successful operation of the A-level and 2nd floor soda machines, including but not limited to communicating with the supplier regarding physical problems with the machine, ensuring regular delivery of inventory for the machine from the supplier, and collecting and depositing cash from the machine to the ChEGSA business account.
- iii) be charged with managing other fundraising activities, such as the selling of departmental pint glasses.

Section 6.10

The Outreach Coordinator shall:

- i) be elected from the ChEGSA constituency in accordance with election procedures described in Article 7.
- ii) be charged with organizing the annual ChEGSA food drive before the beginning of the fall semester
- iii) be charged with encouraging graduate student participation in departmental service opportunities and organizing volunteers for these events.
- iv) be charged with acting as a liaison between the local service organizations and communicating chemical engineering related outreach opportunities to the ChEGSA constituency.

Article 7. Elections of the Governing Board

Section 7.01

Elections for the Governing Board shall be held at a meeting open to all members of the ChEGSA constituency, prior to the selection of advisors by first-year students and after the commencement of the fall academic semester.

Section 7.02

The current president and vice-president shall serve as moderators for the election and remain impartial during the voting. In the event that the current president or vice-president is running for a position, he/she will name an impartial replacement from the ChEGSA constituency to moderate in his/her absence during the voting for said position.

Section 7.03

A quorum, as defined in Section 6.02, must be present at the elections.

Section 7.04

The order of elections is as follows:

- i) the President
- ii) the Vice-President
- iii) the Symposium Chairs
- iv) the Social Chairs
- v) the Webmaster
- vi) the Graduate Student Assembly (G.S.A.) Representatives
- vii) the Fundraising Officer
- viii) the Outreach Coordinator

Section 7.05

Nominations shall be conducted as follows:

- i) Any member of the ChEGSA constituency may be nominated for a governing board position by any member of the ChEGSA constituency, including his- or herself, if the nominee is eligible for the position as stipulated in Article 6.
- ii) Members are eligible to be nominated for multiple positions, but may only be nominated for one position at a time.
- iii) If not elected to a position, members are still eligible to be nominated for other governing board positions.
- iv) Nominees are permitted to give a brief speech with respect to their nomination at the discretion of the moderator.

Section 7.06

Voting shall be conducted as follows:

- i) After the moderator has closed nominations for a position, the nominees will leave the room and the moderator will open the floor for discussion.
- ii) After the moderator closes discussion, a blind vote of the ChEGSA constituency will be held.
- iii) The nominee with the most of the votes will be elected to the position in the Governing Board.
- iv) In the event of a tie or a vote deemed too close by the moderator, the moderator has the authority to hold a runoff vote between the top two candidates.

Section 7.07

Special Elections shall be conducted as follows:

- i) In the event that a ChEGSA governing board position is empty mid-term, any member of the ChEGSA constituency may be nominated by a member of the governing board to fill a vacancy.
- ii) Upon acceptance of the nomination and a vote of two-thirds majority of the ChEGSA governing board during a monthly meeting, the nominee may assume the powers and duties of the position for the remainder of the fiscal year.
- iii) The governing board may choose to hold a mid-term election to fill the position operating under the procedures of Article 7 if the ChEGSA governing board is not able to nominate another member of the ChEGSA constituency.

Article 8. Amendments to the Constitution

The Constitution may be amended by a two-thirds majority vote of members of the Governing Board.

7. FACILITIES & SERVICES

7A. HOURS

The Department office in Doherty Hall 1107 is open 8:30 AM – 5:00 PM, Monday through Friday.

7B. EQUIPMENT

The office has two Gestetner copiers, a paper cutter, staplers and a paper punch available for your use. No equipment is available outside of regular office hours.

7C. SUPPLIES

Office supplies are not provided for your use, but the Bookstore carries a wide selection and is conveniently located in the Cohon University Center.

7D. ADMINISTRATIVE ASSISTANTS

No administrative services are provided for graduate students.

7E. EMERGENCIES

The University Security Office is equipped to deal with all emergencies or to obtain the aid needed. It is open 24 hours a day. Call 8-2323 (or 412-268-2323).

7F. YOUR OFFICE

Desks are available to all full-time PhD graduate students in the department. If the student is involved in experimental research, the desk will often be located in the assigned lab space. If the student is involved in theoretical research, the desk will generally be in an office. Julie Tilton makes the room assignment for the first semester. The student's research advisor coordinates the room assignment with Julie after that time.

Students who are assigned to one of the cubicle areas should note that nothing is permitted to be attached to any laminate or vinyl surface. There are rubber tack boards at each desktop that can be used to attach notes, photos, etc.

Please remember that many different students will eventually use your cubicle so take special care to keep it looking clean and undamaged. Because there are a large number of students in each office, please be considerate of your neighbors by talking quietly and keeping walkways clear and clutter free. Please use the office chair that is provided to you; do not exchange chairs or move chairs from other Chemical Engineering offices.

7G. KEYS

You will be assigned a key to your office, the mailroom, and copy room. If you move to a new office you must turn in your keys to Janet, at which time you will be issued new keys. At the termination of your studies, return all your keys to the department.

Do not under any circumstances pass on your keys to another student or lend them to anyone. You are responsible for the keys issued to you and a record is kept in your file

until all keys are returned. Failure to return keys will result in delays during the degree certification process and may result in fines.

7H. COMPUTER SERVICES

Each student is assigned an Andrew account automatically from the university's computing services. This account will also be used to access restricted Chemical Engineering resources. Each student's Andrew account will be added to the Chemical Engineering access group based on their program

Chemical Engineering Computer Services maintains the Computer Laboratories and other Department computer resources/services including, but not limited to, printing, file storage, web hosting, backups and remote access. End-user and research group support is available for all Chemical Engineering faculty, researchers, staff, and students. Additionally, support for personally owned computers is available as time permits. If you have any questions about computing here in the department, please visit [Chemical Engineering Computing](#) or contact the computing staff. All help requests should be sent to the helpdesk email account: cheme-computing@andrew.cmu.edu

The Chemical Engineering IT staff is available weekdays from 9:00am to 6:00 pm. Before 10:00am or after 6:00pm, please make arrangements in advance. Please email the helpdesk, at cheme-computing@andrew.cmu.edu or stop by DH A225 (behind the computer lab). If you have an urgent request or cannot access email, you may contact the computing office by telephone at extension 8-7993. In emergency after-hours situations, the Director of Computing is available 24/7 by calling the helpdesk from an on-campus extension and following the prompts to forward to the manager on duty.

Additional information regarding computing in the department is available at [Chemical Engineering Computing](#)

7I. PHD LAPTOPS

All entering PhD students will receive a laptop computer from the Department during orientation. The student can use it as his/her computer or sell/trade it to cover the cost of an alternative model such as a Mac.

Laptops provided by the Department are covered by a 4-year accidental damage warranty and a 1-year battery warranty. The computing support group will cover costs for batteries

that fail after 1 yr. The accidental damage warranty covers the computer against all non-intentional damage. It does not cover the laptop against loss, theft or “intentional damage.” Intentional damage includes engraving, stickers or paint or modifying the system hardware in any preventable way.

In the event a student does not complete the degree program, he/she must return the laptop in good working condition. In the event of preventable damage, loss, or theft, the student who does not complete the program will be assessed a fee to cover the cost of returning the unit in good working condition. If the laptop was sold to cover the cost of an alternative computer, the student will be required to pay fair market value for an identical laptop in good but used condition.

Additional information regarding the PhD laptop is provided at the time of distribution.

7J. CHEMICAL ENGINEERING COMPUTER LABORATORIES

There are multiple computer facilities located in the department; these include the Gary J. Powers Educational Computer Lab, the Undergraduate Lounge, the A-level Master Suite print station, the 3rd floor print station, and the 1st floor elevator lobby print station (open to all of campus, but supported by Chemical Engineering).

The Gary J. Powers Educational Computer Laboratory is located in DH A226 and may be used by all faculty, researchers, staff, and students in the Chemical Engineering Department. Undergraduate students who have declared a major in Chemical Engineering are the primary users. All users must abide by the general usage policies posted inside the Computer Laboratory and on the web site given below.

The Gary J. Powers Educational Computer Laboratory is a two-room collaborative work space. The main room consists of 22 PCs with one available for instructional purposes and a color scanner. Basic multimedia services are available. The smaller room is equipped with 9 PCs, a black and white printer, and color printer.

The Undergraduate Lounge consists of six public access computers with 4k monitors, a black/white printer, and a color printer. The Undergraduate Lounge is located in DH 2103. The computers in DH 2103 should be reserved for undergrad use, or grad use while assisting in undergraduate education only. The A-level master suite contains both a black and white and a color printer. The other two print stations are black and white only. Any problems

with these facilities should be reported to the computing staff at <cheme-computing@andrew.cmu.edu>.

In order to use any of the computer labs you must have a valid Andrew account and be provisioned access to Chemical Engineering resources. Chemical Engineering faculty and staff may reserve either part of the Computer Laboratory. Please see the reservation policy posted on the door and at [Chemical Engineering Computing](#)

7K. HOUSEKEEPING

The university-contracted cleaning company is responsible for vacuuming and emptying office trash once per week. They will do occasional dusting but will not pick up or move items on shelves or desks. This means that some cleaning will be left as your responsibility. Trash receptacles in the hallways and corridors are emptied nightly so food waste should be left in hall trashcans. Cardboard boxes should be broken down and placed next to paper recycling containers in the corridors for removal by the nightly cleaning crew. The department owns a vacuum and other cleaning supplies that can be borrowed for “emergency” cleaning needs. If your office is not receiving regular vacuuming and trash removal (at least weekly), please email Julie Tilton (jrtilton@andrew.cmu.edu, Chemical Engineering Facility Coordinator. If you are cleaning out offices or lab space and have larger items, such as furniture, microwaves, or boxes of materials to discard, you must contact Julie in advance and provide an Oracle string to be charged for these special trash pick-up services. The cleaners will not discard any equipment left in the hallway even if marked as trash.

7L. WORK ORDERS

Facility maintenance requests for Doherty Hall are handled by Julie Tilton, the Chemical Engineering Facility Coordinator. Please contact Julie by email (jrtilton@andrew.cmu.edu) or phone (412) 268--9537 if you have a work request. Please provide the room number (or location such as a stairwell) and as many details as possible to describe the location/problem/need/symptoms. If there is an emergency after regular business hours, call the Service Response Center directly at 412-268-2910 or Security at 412-268-2323. Emergencies include any loss of utilities, leaks, broken door handles, and elevator

entrapments. Non-urgent requests will be handled by the facility coordinator during regular business hours.

7M. PAYMENT OF STIPEND

For graduate students with financial awards, the University payday occurs two times each month according to the following schedule: Paydays are semi-monthly on the closest working day to the 15th and last day of the month. For example, if the 15th is a Saturday then payday is the 14th. If the 31st is a Saturday then payday is Friday the 30th.

Direct deposit of student stipends to the student's checking or savings account is initially set up when the student enters direct deposit information into the Workday system.

Employment Eligibility Verification

If you are receiving a stipend, you are going to be a TA or you are planning to have a position with CMU then Employment Eligibility Verification is required.

Form I-9 must be completed within 3 business days of beginning work for any type of compensation (stipend or employment). Additional details are highlighted below.

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

Every individual receiving a stipend from CMU or employed by CMU must comply with the I-9 Policy by completing the Form I-9 within three business days following the first day of stipend start date/employment.

Individuals who expect to work on a federally funded project are further responsible for submitting an E-Verify Processing Request Form to the Office of Human Resources.

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

7N. MAILING

Each PhD student has a mailbox in the mailroom, DH 1108. There is also a box for outgoing campus and stamped mail in DH 1103. Mail is delivered and picked up at the department once each day, usually before 10am. Postage is provided only for official department business.

The gray mailboxes on campus are for campus mail; delivery is guaranteed the following day if mail is deposited before 6 p.m. There is a U.S. Post Office branch in the University

Center (lower level), open Monday through Friday from 8:30 a.m. to 4:30 p.m. In addition, the U.S. mailbox outside Baker Hall has a 5:00 p.m. pick-up.

7O. COPYING

Copying is for research work only. You must enter your advisor's copy code into the copier login system before copying is permitted.

7P. TRAVEL

If you are traveling for departmental business with your advisor's consent, you can either purchase your travel ticket(s) with your personal funds and request expense reimbursement, or purchase through a university-approved travel agent with a Transportation Ticket Request form (TR). The TR can be used to purchase airline or railroad tickets for domestic or international travel. When you use a TR, you do not have to pay for the ticket from your own pocket. The form can be found at this site:

<http://www.cmu.edu/finance/controller/bte/tools.html>

To use this form:

- Call one of the travel agents listed at the top of the page.

Work with the travel agent to determine the dates of travel and the price.

- Complete the "traveler information" section with your name and Organization name (Chemical Engineering).

- List the purpose of travel - do not use acronyms. If you are attending a conference for an organization - spell it out. Be specific and detailed.

- Write in the amount of the ticket and the dates of the travel. You must also denote the account number that will be charged for this ticket. Get this "GM" account number from your Advisor.

Most of the time you will use a GM number (i.e. 2232.1.500000). It is broken down in 3 segments by PROJECT.TASK.AWARD.

The Expenditure Type is the type of travel - Domestic Airline or Foreign Airline.

The Organization Type is Chemical Engineering.

The ticket price and trip MUST be approved by your advisor. Once you have his or her approval, sign as the traveler at the bottom of the form.

Email or drop the form off in your advisor's administrative assistant's office. Once the account has been approved, a copy will be emailed to you or put in your mailbox and the original will be put on Janet's countertop. Your tickets will be dropped off or e/mailed to you.

All of these steps must be completed BEFORE a ticket can be issued to you.

It is YOUR responsibility to get the TR filled out correctly, signed and ready for the travel agent in a timely manner. The travel agencies will not issue a ticket without the completed TR.

7Q. COLLEGE OF ENGINEERING MACHINE SHOP, THE TECH SPARK

- Services provided by the College of Engineering Machine Shop, The Tech Spark, include the design and fabrication of research equipment and the production of parts and assemblies from specifications. The shop has manual machines, Computer Numerical Control machines and Rapid Prototyping machines and can produce precise parts in large or small quantities. The shop can machine and weld a wide variety of materials to exact tolerances. The shop has a certified Co-ordinate Measuring Machine, which can measure parts to ISO standards. The staff can make Computer Aided Design drawings for you if needed and act in an advisory capacity to help you with design specifications. In addition, the staff can refer you to technical suppliers to help solve your purchasing problems and has connections with regional manufacturers for subcontracting special work. Phone: 412-268-2817
- As work comes into the shop, it goes onto the queue and is processed on a first-in first-out basis. Special requests for expedited delivery will be handled on a case-by-case basis. Here is the link to the online work request Form:
<http://shoporders.its.ece.local.cmu.edu/>
- If the job requires material from an outside source, the shop staff can handle the purchasing. If you prefer to purchase the material, we can advise you regarding specifications and suppliers. A modest selection of material and hardware is available in the machine shop.
- The philosophy of the shop includes training and education of students, staff and faculty in actual machine shop practice. The goal is to encourage participation and

hands-on experience of machine shop work as a key component of CMU's engineering and arts education through formal courses offered in the shop in manufacturing technology, rapid prototyping, and agile robotics.

8. SAFETY PROCEDURES

The Chemical Engineering Department takes safety practices very seriously. The safety practices concerning the handling of laboratory glassware and chemicals, the use of safety glasses and respiratory and fire hazards as set forth in the American Chemical Society publication, "Safety in Academic Chemistry Laboratories," are applicable to all Chemical Engineering laboratories and a copy is available at the door of each laboratory. The department, as a reference and reminder for safety practices, has designed a safety manual called the *Department of Chemical Engineering Safety Policy*, which is included in the following section. Included at the back of the manual is a Safe Laboratory checkout list. Students are required to have a safety inspection prior to graduation. A complete and authorized safety checkout list must be turned in to Allyson along with other graduation papers before the student is considered to have graduated.

Safety Practices and Procedures

Upon entering a laboratory, students should familiarize themselves with the safety features available in case of emergency:

1. The location of fire extinguishers, their type and method of operation, and fire escape routes.
2. The location of emergency eyewash fountains and safety showers.
3. The location of the nearest telephone. To report a fire or obtain help in other emergencies, call Security, ext. 8-2323.

If you feel that additional safety equipment is needed, or if the existing equipment is not working properly, talk to a member of the safety committee (Sec. 7A) about acquisition or replacement of the safety items.

The following safe practices should be observed in the laboratory:

1. Wear proper eye protection. **Safety glasses must be worn in laboratories at all times.** If a faculty member identifies a student in violation of this policy, a warning will be issued and the student

will be barred from the laboratory for one week. Repeated violations can result in dismissal from the program.

2. Maintain and handle chemicals properly. Refer to Safety Data Sheets (SDS) for proper storage, handling and personal protective equipment (PPE) required for chemicals.

<https://msdsmanagement.msdsonline.com/526cc69c-6196-4abe-86a4-fba834c22610/msdsonline-search/>

3. Keep all chemicals and materials out of sinks and drain lines. Disposal of chemicals through sinks can only be authorized by Environmental Health and Safety (EH&S). Check chemical waste disposal manual for listing of authorized chemicals.
4. Good housekeeping is essential for safety and efficiency.
5. Label all bottles and containers. Review the Chemical Hygiene Plan to determine what labeling is required for bottles and chemicals. The plan can be found online at <https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/documents/CHPFinal.pdf>

PARTICULARLY HAZARDOUS SUBSTANCES

There are some chemicals which are considered particularly hazardous due to their reactivity, toxicity, reproductive effects or carcinogen potential. Please refer to the [List of Particularly Hazardous Substances](#).

Handling of PHSs requires filling out special forms before use, which is available at the EHS website

<https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/documents/PHSformblank.pdf>. All PHS must be ordered via purchase order, not credit card.

WORKING ALONE

Working in a laboratory alone is hazardous. Working alone outside the hours of 7am to 10pm, Monday through Friday, is not permitted unless you have completed a “Laboratory Work Alone Exemption Form” (<https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/documents/ehs-guideline--working-alone-in-labs---final1.pdf>). It is not suggested that you work alone at any time on hazardous processes, and you **must** either arrange with

an associate to check with you frequently or arrange a periodic check by Security, (412-268-2323).

OPERATING MACHINES AND EQUIPMENT

You must receive instruction in operating machinery or equipment by the PI or the senior lab technician/researcher. Do not use equipment without the permission of the person responsible for the laboratory. When working around moving machinery, secure hair and loose clothing (ties, sleeves, etc.)

COMPRESSED GAS CYLINDERS

Except when gas cylinders are being moved, they **must** be securely fastened with an approved strap or chain to prevent falling. If a cylinder should fall over and the valve breaks, **the cylinder can become a dangerous, jet-propelled projectile**. A leaking gas cylinder in an enclosed space is a suffocation hazard.

- Cylinders of compressed gas **must not** be placed near sources of heat.
- Do not use pipe wrenches on cylinder valves.
- All valves should be closed tightly on cylinders that are not being used.

If you require gas cylinders for your research, they can be ordered through the department business office (see Gas Cylinders, Section 8F). Cylinders are normally delivered to your laboratory. If not, you will be notified and they may be delivered to an area on the Wean Hall loading dock (get key to freight elevator from main office). In order to transport these cylinders back to your laboratory, use the special carts designed for this purpose. These carts are kept in the machine shop and can be obtained by asking any of the shop personnel. Fasten the cylinder in the cart with the chain. While actually moving the cylinders or while they are stored in your laboratory, make sure that the cylinder cap that protects the valve is firmly secured in place. NEVER move a cylinder with a pressure regulator installed on it. Remove the regulator and put the safety cap on the cylinder before releasing it from its safety mooring. All valves should be closed tightly on cylinders that are not being used. Please refer to the [Environmental Health and Safety Compressed Gas Cylinders Guideline](#)

CHEMICAL WASTE DISPOSAL

All chemicals must be stored in the laboratories until removed. The Environmental Health and Safety (EH&S) group at CMU offers **CURBSIDE PICKUP OR TRANSFER** <https://www.cmu.edu/ehs/Laboratory-Safety/chemical->

[safety/documents/LSHW%2oHandbook.pdf](#) . This makes it easy to dispose of both chemical waste and chemicals still in the jar but no longer being used. The department requires the use of this service to remove chemical waste from the laboratory. The department strongly recommends that when a chemical is no longer going to be used, that it be removed from the lab with this service rather than storing it indefinitely. Please contact EHS if you need to have chemicals moved from one lab to another. Prior to pickup, you will need to label all separate items. The tags and wires are available in the graduate student lounge. Advice on handling of waste, containers, etc. can be obtained from EHS at the above website or by dialing extension 8-8182. When you call, please clearly state your name, department, and the nature of the problem; this will expedite handling of your question.

A special problem occurring frequently in our department is that of unidentified chemicals in unmarked containers. If you find such a situation in your laboratory, it should be corrected immediately.

Graduate students are responsible for disposal or proper storage of all chemicals they have been using. Each student must complete a checkout form signed by the advisor before leaving or graduating. If the advisor is unavailable for an extended time, a member of the Safety Committee can also perform the inspection. See the *Department of Chemical Engineering Safety Policy* manual for details.

8A. SAFETY COMMITTEE

MEMBERS: Mike Domach, Larry Biegler, Andy Gellman, Kris Dahl, Zachary Ulissi, Ilhem Hakem

The Safety Committee serves only an advisory role. As such, the members rely heavily on the comments, questions and concerns of individuals within the department. It should be clearly understood that the individuals involved in research are primarily responsible for the existence of safety equipment in research laboratories and that all activities associated with research projects are safely conducted.

LABORATORY GUIDELINES

Each faculty member involved in research appoints a graduate student as a research group representative. The representative helps to inform the committee about existing situations in each of the faculty member's laboratories. The representative should ensure that each laboratory under his/her jurisdiction meets the following guidelines.

- Each area must have at least one recently inspected (every month) fire extinguisher. Check the inspection record label on each extinguisher.
- All gas cylinders **must** be secured in a stable manner to the wall or a bench.
- Emergency numbers where the lab occupants and the lab supervisor can be reached outside working hours should be posted inside the laboratory.
- Each area must have a first aid kit.
- Areas in which flammable gases are used must have posted "No Smoking" and "Flammable Gas" signs on all doors and walls near the apparatus. There should be no smoking in any lab or area adjacent to a lab regardless of the type of materials present.
- Evacuation directions must be posted near each door.
- Each laboratory will make the American Chemical Society publication, *Safety in Academic Chemical Laboratories* available to all workers in the laboratory, as well as CMU's *Chemical Hygiene Plan* and *Guidelines for Hazardous Waste Disposal*.
- Each phone should be labeled the campus emergency number ext. 412-268-2323 (police, fire, ambulance).
- The Safety Committee will provide each group representative with an inspection checklist; the completed lists are reviewed and then kept on file. Inspections must be performed monthly.

DEPARTMENT OF CHEMICAL ENGINEERING SAFETY POLICY DOCUMENT

The Department of Chemical Engineering fully endorses Carnegie Mellon University's Chemical Hygiene Plan (CHP) as the document that defines its laboratory safety policy. This policy is to be adhered to by all members of the faculty and staff and by graduate and undergraduate students. The plan can be found at <https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/documents/CHPFinal.pdf>

The issues that are of particular importance to the chemical engineering laboratories and that must be emphasized are:

1. The use of protective eyewear and appropriate personal protective equipment for the materials and procedures of the laboratory at all times in the laboratories. Repeated violations of this most basic precaution are grounds for dismissal.
2. All new students should be added to Bioraft for their specific labs. <https://cmu.bioraft.com/>
3. The maintenance of a set of standard CMU data sheets for all Particularly Hazardous Substances (PHS) that are being used or stored in a laboratory. For guidance see <https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/index.html>.
4. Prior to graduation all students will complete a laboratory checkout form documenting the fact that they have disposed of or stored all chemicals used during their research, repaired or documented all equipment problems, and made adequate copies of all laboratory notebooks and digitally stored data. If a student used other labs, such as the CPS Lab, s/he must fill out a form for each additional lab.

Emergency and Information Contacts

1. Police / Emergency Services – 412-268-2323
2. Environmental Health & Safety (Chemicals) – 412-268-8182
3. Environmental Health & Safety (Radiation) – 412-268-8182
4. Environmental Health & Safety Web page - <http://www.cmu.edu/ehs/>

LABORATORY SAFETY GUIDELINES

The Department of Chemical Engineering laboratories operate under the safety guidelines and policies described in Carnegie Mellon University's Chemical Hygiene Plan (CHP, a link to the CHP can be found at <https://www.cmu.edu/ehs/Laboratory-Safety/chemical-safety/documents/CHPFinal.pdf>). In addition, the following guidelines describe the policies of the department and the expectations of all students, faculty, and staff working in laboratory environments.

POLICIES

1. **Eye protection** shall be worn at all times by persons actively performing experiments in the laboratories or working in the laboratories in spaces that are in line-of-sight with experimental work areas. Individuals working at desks that are protected by partitions from the experimental areas of the lab need not wear safety glasses although they are encouraged to do so and must have safety glasses available. Individuals working with lasers shall wear laser safety goggles appropriate for that laser frequency and power.
2. **Bioraft** access should be provided to all new lab members to keep up to date with needed training. **Food and drink** shall not be stored, prepared, or consumed in the laboratories. The only exceptions to this are for persons working at desks that are separated from laboratory work areas by partitions.
3. **Emergency contact phone numbers** of all personnel working in the lab and of the professor or staff member with primary responsibility for the lab shall be posted on the door to each lab.
4. **New experiments or new apparatus** being built in the labs will be brought to the attention of the safety committee, who will review the safety issues and the SOP (see next item) associated with that experiment.
5. **Standard operating procedures (SOP)** shall be maintained for all procedures in the laboratory that are performed on a regular basis. These should describe the procedure and the potential hazards associated with that procedure. All personnel performing that procedure are responsible for having read the SOP.
6. **Shutdown procedures** for all apparatus normally left running will be written and posted on the apparatus for emergency personnel.
7. **Use of Class 3b and Class 4 lasers** requires special training and an inventory through Environmental Health and Safety. Details are available at <https://www.cmu.edu/ehs/Laboratory-Safety/radiation-safety/laser-safety.html>.

EDUCATION

The department will offer a safety-training course (o6-6o8, Safety Issues in Science and Engineering Practice) during each academic year. All graduate students, postdocs, and all

undergraduates participating in undergraduate experimental research projects are expected to take or audit this course. In addition, they are expected to be aware of the contents of the Chemical Hygiene Plan pertinent to their work and to be aware of the contents of the SDS sheets for chemicals that they are using. Undergraduates or others who have not taken or audited 06-608 will need to attend, at a minimum, the Laboratory Safety and Hazardous Waste Generation training session by Environmental Health and Safety (for information see <https://www.cmu.edu/ehs/Training/index.html>); the only exception is for lab students who have successfully completed Carnegie Mellon Course 09-221, Laboratory 1: Introduction to Chemical Analysis. It has been determined that the safety and environmental elements of this course meet the OSHA requirements.

INSPECTION

The departmental safety committee will conduct full inspections of all the laboratories once each year in order to ensure that equipment is being properly maintained and that safe procedures are in practice. In addition there will be several impromptu safety inspections throughout the year in which Environmental Health and Safety personnel will be asked to visit some of the labs in order to evaluate safety practices.

ENFORCEMENT

Personnel working in the laboratories who are found to be using unsafe practices will be reprimanded by a letter from the department head (copied to their advisor) and prohibited from working in the labs for a period of one week. Repeated violations may result in immediate dismissal from the graduate program.

CHECK-OUT

Personnel leaving the department will be responsible for disposal or storage of all chemicals that they have been using. In addition they are expected to make sure that all instrumentation is left in working order and that the laboratory areas are left orderly. Copies of lab notebooks and electronic copies of all data should be made and given to the advisor in a form that is useful. In the case of graduate students, the following checkout form must be completed and signed by the advisor before the department head signs the thesis. In the case of undergraduates, grades for research will not be assigned until the lab checkout has been completed.

LABORATORY CHECKOUT FORM

Department of Chemical Engineering Laboratory Checkout Form

Student Name: _____

Date of Graduation: _____

Student and Advisor: Please identify laboratory sites used and check as appropriate, then fill in the requested information and obtain signature(s). Where not relevant, indicate N/A.

_____Advisor's Lab Space

_____CPS Lab

_____Rothfus Lab

_____Other Lab(s) _____

Laboratory Site #1 (Bldg/Rm) _____

Date of exit inspection: _____

_____ Lab is clean and ready for use by the next person

_____ Office is clean and ready for use by the next person

_____ The computer is ready for the next person; administrator or other passwords are available

_____ Chemicals are stored or disposed properly

_____ Equipment is properly organized and its condition is known

_____ Data and notebooks are properly stored.

Please sign below ONLY if all appropriate inspection points are acceptable. All chemicals must be labeled, properly stored, or disposed.

_____ _____
Lab Supervisor/Advisor Date

If lab is NOT acceptable, please write actions to be taken and date of re-inspection:

Actions: _____

Date of re-inspection: _____

9. PURCHASING SUPPLIES

The purchasing of all supplies and equipment by members of the Chemical Engineering department is coordinated through the department and handled by Julie Tilton, the Buyer. All purchases automatically become the property of the Department of Chemical Engineering. A completed Purchase Request Form submitted electronically through the Chemical Engineering Department's website is required to initiate a purchase. Purchase Request Forms, comprehensive instructions for using the forms, as well as university policies/requirements for various types of purchases can be found on the Chemical Engineering website. PLEASE TAKE THE TIME TO READ THROUGH THE INSTRUCTIONS BEFORE COMPLETING ANY REQUEST FORMS, AND NEVER ARRANGE TO MAKE PURCHASES PRIOR TO COMPLETING AND SUBMITTING A PURCHASE REQUEST FORM! To navigate to the purchasing portion of the Chemical Engineering website, first access the department's main page: <https://www.cmu.edu/cheme/index.html> then select "Department Resources" from the drop-down menu in the upper right-hand corner, then choose "Purchasing Procedures." A Chemical Engineering affiliated Andrew ID is needed to access this portion of the department's website.

9A. PURCHASING IN UNIVERSITY STORES

Items can be purchased using an Oracle account from University Stores including the Bookstore, Art Store or Computer Store. You will need the account number, proper identification and a signed authorization form in order to purchase goods. See the departmental business manager in DH 1100 for the authorization form you will need to present to the store clerk. Please give the store receipt to Janet Latini after you have made your purchase.

9B. EXPENSE REPORTS

Students who accrue business-related costs, such as conference and research travel, should seek reimbursement using the Expense Reimbursement Request form which can be obtained by contacting Maria Stefanova, Financial Administrator, at mstefano@andrew.cmu.edu. Expenses must be submitted **within 60 days of purchase date**.

Reimbursed expenses may be taxable and will require additional approvals and paperwork if submitted after 90 days.

Submit all original receipts for reimbursement, with the research advisor's approval, to our Financial Administrator.

Reference the university policies for travel and non-travel business expenses online at: <http://www.cmu.edu/finance/controller/bte/index.html>.

Domestic per diem rates can be found at this site: <https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-lookup>. International per diem rates can be found at this site: https://aoprals.state.gov/web920/per_diem.asp.

Expense report reimbursements will be paid via direct deposit. To ensure that payments can be made electronically, complete the [AP Employee Expense Direct Deposit Form \[.pdf\]](#). This form must be emailed to Accounts Payable department at AP-Supplier-doc@andrew.cmu.edu from your CMU email account before submitting your first expense reimbursement request. Processing time for this initial setup is approximately 2 weeks.

9C. PROCEDURE FOR PICKING UP PACKAGES

Packages are delivered to the package room in the Chemical Engineering main office in Doherty Hall 1107. The package area is in the small room behind the partition, DH 1103.

- You will be notified via email when your package arrives.
- Pick up packages immediately after receiving notice. The package area is small so prompt removal of packages is necessary to provide space for deliveries. If you pick up a package addressed to someone else, you will need to sign for it using the clipboard hanging on the shelving unit.
- If you order something that will need to be refrigerated or frozen upon arrival, you must be available to pick up the package immediately or else make arrangements to have someone else pick up your package. If you do the latter, please inform both Julie Tilton and Janet Latini the name of the person that will be picking up your package.

- Check your package to be sure your order is complete and in good condition.

9D. SHIPPING VIA FREIGHT

Freight is considered anything likely to be shipped on a pallet and to not be coming via regular UPS or FedEx delivery. Long sections of Unistrut, sheets of plywood and heavy equipment are examples. Freight arrives at CMU by truck and is normally drop-shipped. That means that it will be left at the loading dock and not delivered inside the building to your lab. If you are ordering something large you must inquire with the vendor about their shipping terms. Please arrange to have “inside delivery” to your lab as pallets and large packages cannot be accepted in our main office package area. If you cannot arrange an inside delivery, you must be available to meet the truck driver to bring the item into the building from the loading dock. For drop-shipments, a pallet jack is available for use from the former Machine Shop, DH B211.

Freight can be shipped to Central Receiving if necessary. That address is:

Carnegie Mellon, Central Receiving

6555 Penn Avenue

Pittsburgh, PA 15206

(Phone: 412-268-3301)

Central Receiving has a loading dock accessible to large trucks, someone available during normal business hours to meet the driver, accept the delivery and help unload the truck, and has a mechanism available to unload and temporarily store large, heavy items.

Typically, Central Receiving will bring freight shipments to Doherty Hall with their other deliveries. If the item is of extraordinary size and/or weight, special arrangements will need to be made with a rigger. We can help you make these arrangements if you provide advance notice.

9E. GAS CYLINDERS

The university maintains a service through the Mellon Institute Storeroom for purchasing compressed gas cylinders. Cylinder Request Forms are available from the purchasing section of the ChemE website or from Julie Tilton. Julie is the only person in Chemical

Engineering who is authorized to order cylinders. **DO NOT order directly from the company. This is against university policy and orders will not be processed.** For common gases that are already in stock, the cylinder usually arrives at your specified lab on Tuesday, Thursday, or Friday of the same week. See Section 8 (**Safety**) for important and essential safety procedures related to cylinder transportation.

When the cylinder is ordered and processed in the system, the cylinder request form will be returned to you. Record the cylinder number inscribed on the barcode onto the form. Return the form to Julie. The information will be recorded and the form will again be returned to you. Keep this form until you return or exchange the cylinder. When cylinders are empty they must be returned in order to cancel the monthly demurrage charges. Mark them "MT" (empty) and leave them in your lab. Notify Julie that you have an empty cylinder to return and inform her of the location. Once the empty cylinder has been picked up, complete the return portion of the cylinder request form and return it to Julie. The tracking of the receipt and return of gas cylinders is done to aid the business manager in keeping an accurate check of cylinder demurrage charges.

10. LABORATORIES

10A. PPG INDUSTRIES COLLOIDS, POLYMERS AND SURFACES LABORATORY

The Colloids, Polymers and Surfaces (CPS) Program is an interdisciplinary effort of the Chemical Engineering, Chemistry and Physics departments under the direction of Professor Annette Jacobson. The PPG Industries Colloids, Polymers and Surfaces Laboratory operated under this program contains equipment for measuring numerous physical and chemical properties that are important in the characterization of fine particles, macromolecules and interfaces. The primary function of the lab (located in DH 3200/3207) is educational, providing a full year of laboratory instruction and experience at the graduate level, as well as a year of training for undergraduates enrolled in the CPS minor. In addition, training in techniques of polymer characterization provided by the PPG CPS Lab is required of undergraduate Chemistry majors pursuing the polymer option and of all Chemistry graduate students who plan to do a thesis in the polymers area. Priority in the use of the Lab is therefore given to these educational functions. However, the instruments in the laboratory are available to graduate students and faculty for research. If your thesis entails experimentation of the sort that the PPG CPS Lab affords, your advisor will send you to see Professor Annette Jacobson, CPS Program Director, Professor Susana Stepan, Associate Director, CPS Program, or Professor Ilhem F. Hakem, Assistant Director, CPS Program, for help in gaining access to the available equipment and in obtaining whatever instruction you may require.

Access to the 3200 lab is by card reader only. Students who have completed the required training can request access by contacting Professors A. Jacobson, I. Hakem, or S. Steppan.

PPG Industries CPS Laboratory

User Regulations

1. All instrument users must be trained by authorized personnel. Students are not permitted to train others in their research group without permission of CPS Program Directors.
2. You must bring your own glassware, chemicals and supplies, including gloves and paper towels. Please clean up your workspace before you leave the lab.
3. Do not leave anything behind in the lab or it will be discarded. Please remove whatever you brought when you leave. The exception is chemical waste which must remain where it is generated. Please bring an appropriately labeled container. A completed waste tag must be attached, listing contents and responsible party.
4. SDS sheets must be brought to the lab for each chemical that you are using.

All containers and samples brought into the lab must be labeled with chemical contents and your full name. Anything not in compliance will be removed.

5. Instrument log books must be signed before using the instrument and after completing use.
6. Some instruments have Yahoo calendars for scheduling use time. Please check for availability and schedule your usage. If you are not on the instrument's schedule, you may be asked to leave by CPS staff if another student has signed up. You may schedule up to 48 consecutive hours on an instrument. At the end of your scheduled time, if no one else has reserved the instrument, you may schedule an additional 48 hours.
7. Data should not be stored on CPS Lab computers longer than a few weeks. Make arrangements to retrieve your data ASAP. All data will be purged by CPS staff at the end of each semester.
8. **No instrument, equipment, or supplies may be removed from the CPS labs.**
9. No instrument may be left running unattended. Plan to remain in the lab for the duration of your work. Exceptions are only by permission of the CPS staff. Instruments left unattended will be shut down by CPS staff.
10. The lab is available strictly for use of the instruments there -- other lab work should be done in the space allotted by your advisor.
11. Misuse and/or damage to an instrument will result in loss of privilege to use the CPS Labs. Your advisor will be responsible for the cost of the repair. Changes to instrument or software configurations are not permitted.
12. In scheduling use of the lab equipment, use for the CPS Lab courses is given priority. Researchers are not permitted to be in the lab during scheduled CPS classes.
13. Safety glasses must be worn at all times while in the lab. No opened-toed shoes are permitted.

14. Absolutely, no food or drink is permitted in the lab.

15. To keep track of the impact that the CPS facilities have on research within Carnegie Mellon University, students publishing their data generated in the CPS lab are requested to add the following sentence to Acknowledgement section of their paper: **The authors gratefully acknowledge the use of facilities in the PPG Industries Colloids, Surfaces, and Polymer Laboratory at Carnegie Mellon that is supported by grant CMU 678083-769798.**

Failure to abide by the rules will result in loss of access to the lab and its equipment.

10B. ROBERT R. ROTHFUS LABORATORY IN CHEMICAL ENGINEERING

The undergraduate lab maintains a wide array of analytic equipment, instrumentation, and laboratory hardware such as fittings, tubing, and other sundry parts. These may be used or borrowed by PhD students in urgent cases, upon prior arrangement. Long-term usage of equipment may be feasible in special cases. Cubed ice, filtered and DI water, and some chemicals may be similarly available in the Lubrizol Lab, located within DH A100. Access to these facilities must be arranged by contacting Matt Cline at mc86@andrew.cmu.edu or at x8-2818.

11. CAMPUS FACILITIES

11A. ATHLETIC FACILITIES

You are welcome to use the athletic and recreational facilities in the gymnasium and University Center, including the swimming pool, handball courts, weight room, golf room and main gym, as well as the tennis courts. These facilities may be used during scheduled periods when they are not in use for instructional purposes. You may be asked to show your I.D. card to identify yourself as a student or to obtain a permit. There is a charge for use of some facilities.

11B. CLEANERS/LAUNDRY

The laundry facility is open 24 hours a day, with validated CMU ID. An attendant is on duty Monday through Friday, 8:00 a.m. to 4:30 p.m. It is located in Margaret Morrison Plaza 4 (phone 8-8878). There are over 200 machines on campus that have Laundry View for monitoring available machines: <http://www.laundryview.com/lvs.php?s=7513>.

11C. CAMPUS DINING SERVICES

CMU Dining Services provide meals at reasonable prices in several locations. Complete menus are posted at each location. Hours of operation may be verified by calling 412-268-2139 or by checking <http://www.cmu.edu/dining>. Some of the locations include:

- University Center
- Resnik House
- Food carts are also scattered around campus, including Wean Hall, Porter Hall, Newell-Simon Hall, Hamburg Hall, and Scott Hall.

You will find vending machines for snacks and candy located in various buildings across the campus.

11D. HEALTH SERVICES

Health Office (412-268-2157)

The Health Office is located on the first floor of E Tower in Morewood Gardens (Room 144). It is open on Monday, Tuesday, and Wednesday from 8:30am-7:00pm; Thursday from 10:00am-7:00pm; Friday 8:30am-5:00pm, and Saturday from 11:00am until 3:00pm. The services normally expected of a family physician are provided. Gynecological services are available by appointment only.

If an emergency occurs during hours when Health Services is closed, call the after-hours physician on-call service at 412-268-2157 (Identify yourself as a Carnegie Mellon student.) Also, call campus police for transport at 412-268-2323 (on campus, 8-2323).

Insurance

All students are required to have medical insurance: [University Health Services - Student Insurance](#).

11E. LIBRARIES

Students are invited to use the collections in Hunt Library and the Engineering & Science Library. In addition to a large collection of books, the libraries also contain current and past issues of magazines, newspapers, manuals, encyclopedias and many other reference materials. Circulating material may be borrowed by presenting your I.D. card. Each library has a reserve book room for books designated by a professor as assigned reading in class.

11F. PARKING FACILITIES

A charge is made for use of parking spaces by meter or by permit. Parking tags and key cards (for lots requiring them) are obtained from the Parking & Transportation Services in the East Campus Garage. Fines are given for meter, general and hazard violations. Many of the local streets near the campus have parking limited to residents.

11G. PUBLICATIONS

The following regular CMU communications are available at the information desk in the University Center.

Tartan - The CMU student weekly publication that reflects student thought, highlights campus activities such as athletic schedules and scores, lectures, seminars and meetings, concerts and art exhibits, and other information.

Campus Calendar - A weekly listing of current campus events (plays, concerts, recitals, seminars, etc.) and local events of special interest to the academic community.

8½ x 11 News - A single-sheet weekly update of news about campus events.

11H. STUDENT PHOTO I.D.

Student I.D.s are necessary for many university services including use of athletic facilities, purchasing meal plans, special events, etc. Student I.D. is also required for current CMU students to board PAT buses free of charge. You may need to return to the HUB to update your I.D. from time to time.

11I. ACADEMIC CALENDAR

The [Academic Calendar](#) provides information on all deadlines including registration dates, class start dates, add/drop deadlines, exam dates and more.

12. MISCELLANEOUS ISSUES

12A. POLICY ON “OUTSIDE” EMPLOYMENT

The possibility exists that a student might be approached to consult on a project for an entity outside the university and be offered a fee for services in addition to the stipend. Alternately, a student conceivably could operate some other extracurricular business. **The**

Department strictly forbids such arrangements while the student is registered full time and pursuing a degree. The student is expected to devote his/her full time and energy to timely completion of the degree.

12B. POLICY ON THE AVAILABILITY OF SUMMER EMPLOYMENT

If applicable, the fellowships offered by the Department are full time and paid year round. While the student is registered and receiving a stipend, no summer employment other than full time research is allowed. This is not meant to preclude cases where students are temporarily placed in industries relevant to their thesis work and are paid by a company (e.g. internships). In these cases, the student should collect the normal stipend, plus an allowance for extra expenses due to any relocation or maintenance of a second dwelling place. Financial arrangements should be made in consultation with the Department Director of Finance.

It is a requirement that international students consult with the Office of International Education for eligibility before seeking an internship/co-op or signing an offer.

12C. POLICY ON OUTSIDE FELLOWSHIPS

A student receiving any kind of fellowship or external support other than through family or prior investments must notify the Department of that support so that appropriate arrangements can be made for equitable pay.

12D. UNIVERSITY POLICY ON ACADEMIC INTEGRITY

The Department will take strong action consistent with CMU policies against any student who engages in cheating or plagiarism in courses or in research.

Please review the University Policy on Academic Integrity

(<https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html>)

The policy includes the University expectations around academic integrity and provides definitions of cheating, plagiarism, and unauthorized assistance.

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

The Department of Chemical Engineering embraces requirements for education in Responsible Conduct in Research. All researchers must take the available online course and pass it. New graduate students will take this training and fulfill this requirement as part of the o6-6o8 Graduate Professional Development course. The website for this training is <https://www.citiprogram.org/Default.asp>

12E. POLICY ON VACATION TIME

As a guideline, each student should plan no more than two weeks of vacation per year in addition to the ten official University Holidays. Some members of our department may wish to work on these days, and instead take time off on other days. This includes long weekends, short vacations, and religious holidays that are not one of the official university holidays. The department encourages this kind of flexibility, provided it is clearly communicated to advisors.

Graduate students are expected to discuss their plans to take time off with their advisors at least two weeks in advance and prior to finalizing any travel arrangements (except in emergencies). The department does not keep track of graduate student work schedules. All vacation time should be cleared in advance with the student's thesis advisor to make sure that progress is satisfactory and deadlines are being met.

Advisors may ask students who wish to take more than the typical amount of time off to make up work time or to take an unpaid leave of absence. Sometimes students make up work by working remotely part time while traveling or by working on evenings or weekends before or after their time off.

Students with a serious illness, chronic illness or a disability may contact the Office of Disability Resources to request accommodations. The Office of Disability Resources may require medical documentation of the condition.

In case a protracted issue significantly interferes with a student's ability to make progress, students must inform their advisor and the department and potentially initiate the formal

process of taking extended leave from the department/university. Students considering a leave of absence should discuss the possibility with their advisor as early as possible.

12F. UNIVERSITY POLICIES & EXPECTATIONS

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

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

[College of Engineering Graduate Student Handbook](#)

12G. CARNEGIE MELLON UNIVERSITY STATEMENT OF ASSURANCE

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

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

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

Information regarding the application of Title IX, including to admission and employment decisions, the sexual misconduct grievance procedures and process, including how to file a report or a complaint of sex discrimination, how to file a report of sexual harassment, and how the university responds to such reports is available at www.cmu.edu/title-ix. The Title IX coordinator may be reached at 5000 Forbes Ave., 140 Cyert Hall, Pittsburgh, PA 15213; 412-268-7125; or tix@cmu.edu.

12H. THE CARNEGIE MELLON CODE

Students at Carnegie Mellon, because they are members of an academic community dedicated to the achievement of excellence, are expected to meet the highest standards of personal, ethical and moral conduct possible.

These standards require personal integrity, a commitment to honesty without compromise, as well as truth without equivocation and a willingness to place the good of the community above the good of the self. Obligations once undertaken must be met, commitments kept.

As members of the Carnegie Mellon community, individuals are expected to uphold the standards of the community in addition to holding others accountable for said standards. It is rare that the life of a student in an academic community can be so private that it will not affect the community as a whole or that the above standards do not apply.

The discovery, advancement and communication of knowledge are not possible without a commitment to these standards. Creativity cannot exist without acknowledgment of the creativity of others. New knowledge cannot be developed without credit for prior knowledge. Without the ability to trust that these principles will be observed, an academic community cannot exist.

The commitment of its faculty, staff and students to these standards contributes to the high respect in which the Carnegie Mellon degree is held. Students must not destroy that respect by their failure to meet these standards. Students who cannot meet them should voluntarily withdraw from the university.

The Carnegie Mellon Code can also be found on-line at:
<https://www.cmu.edu/student-affairs/theword/>.

12I. SAFEGUARDING EDUCATION EQUITY/SEXUAL MISCONDUCT POLICY

Safeguarding Educational Equity / Sexual Misconduct Policy

The University prohibits sex-based discrimination, sexual harassment, sexual assault, dating/ domestic violence and stalking. The University also prohibits retaliation against individuals who bring forward such concerns or allegations in good faith. The University's Sexual Misconduct Policy is available at <https://www.cmu.edu/policies/administrative-and-governance/sexual-misconduct/index.html>. The University's Policy Against Retaliation is available at <https://www.cmu.edu/policies/administrative-and-governance/whistleblower.html>. If you have been impacted by any of these issues, you are encouraged to make contact with any of the following resources:

- Office of Title IX Initiatives, <https://www.cmu.edu/title-ix/> 412-268-7125, tix@cmu.edu
- University Police, 412-268-2323

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

12J. BIRTH OR ADOPTION OF A CHILD

[Student Maternity Accommodation Protocol](#)

The university maternity accommodation protocol provides 6 weeks of paid leave (plus 2 additional weeks if medically necessary) for birth mothers, but currently does not provide paid leave for non-birth parents (including fathers, adoptive parents, and non-birth mothers). Advisors are expected to be flexible in allowing all prospective and new parents some extra time off (in addition to the typical 15 days), but generally this will be less than the 6 weeks of paid leave provided under the university maternity accommodation protocol. Special circumstances may require special accommodations. Prospective parents should discuss their options with their thesis advisor and the department head. Prospective parents should also consult with Allyson Danley or the university ombudsperson to ensure that they have information on taking time off, course registration and student status, finances, and other concerns.

Prospective and new parents may, if needed, be exempt from attending seminars and annual meetings, postpone their qualifier exams, thesis proposal, or thesis defense; work remotely, and take a longer than typical amount of time to graduate (as long as they do not exceed time limits placed by the department, college, or university). Advisors will be open to accommodations due to medical as well as non-medical circumstances, including parental responsibilities such as pediatrician appointments. However, new parents who wish to take an extended time off will need to take a leave of absence.

Course instructors are expected to provide reasonable accommodations for new parents to complete their course after their time off (i.e. extensions on homework/projects, flexible exam period/completion, option to take an incomplete grade and complete coursework in the next semester, options for attending class remotely). Prospective parents are encouraged to discuss these options with their course instructors in advance, and may include the ombudsperson in these discussions if they wish.

12K. CONSENSUAL INTIMATE RELATIONSHIP POLICY REGARDING UNDERGRADUATE STUDENTS

Consensual Intimate Relationship Policy Regarding Undergraduate Students

<https://www.cmu.edu/policies/student-and-student-life/consensual-relationships.html>

This policy addresses the circumstances in which romantic, sexual or amorous relationships/interactions with undergraduate students, even if consensual, are inappropriate and prohibited. The purpose of this policy is to assure healthy professional relationships. This policy is not intended to discourage consensual intimate relationships unless there is a conflicting professional relationship in which one party has authority over the other as in the policy.

Appendix A

2020-2021

HIGHLIGHTED UNIVERSITY RESOURCES FOR GRADUATE STUDENTS

AND

THE WORD, STUDENT HANDBOOK

Key Offices for Graduate Student Support

Graduate Education Office

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

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

Examples of resources offered through the Graduate Education Office include-

but are not limited to:

- Website with university resources, contact information for CMU programs and services, calendar of events related to graduate students
- Bi-monthly email to all graduate students with information on activities, resources and opportunities
- Professional Development Seminars and Workshops
- GSA/Provost Conference Funding Grants
- GSA/Provost Small Research Grants (GuSH)
- Consultations on issues related to the graduate student experience

The Graduate Education Office also works with the colleges and departments by informing and assisting in developing policy and procedures relevant to graduate students and working with departments on issues related to graduate students. Additionally we partner with many other offices and organizations, such as the Graduate Student Assembly, to support the holistic graduate student educational experience.

Office of the Dean of Students

<https://www.cmu.edu/student-affairs/dean>

The Office of the Dean of Students provides central leadership of the metacurricular experience at Carnegie Mellon including the coordination of student support. Vice President of Student Affairs and Dean of Students Gina Casalegno leads the Division of Student Affairs which includes the offices and departments listed below (not an exhaustive list).

Graduate students will find the enrollment information for [Domestic Partner Registration and Maternity Accommodations](#) in the Office of the Dean of Students or on their [website](#). This Office also manages the [Emergency Student Loan \(ESLs\)](#) process. Emergency Student Loans are made available through generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable to the university within 30 days. Loans are available to enrolled students for academic supplies, medication, food or other expenses not able to be met due to unforeseeable circumstances.

Additional resources for graduate students include [College Liaisons](#) and the [Student Support Resources](#) team. [College Liaisons](#) are senior members of the Division of Student Affairs who work with departments and colleges addressing student concerns across a wide range of issues. College Liaisons are identified on the student SIO page in the Important Contacts list. The Student Support Resources team offers an additional level of support for students who are navigating any of a wide range of life events. [Student Support Resources](#) staff members work in partnership with campus and community resources to provide coordination of care and support appropriate to each student's situation.

The Division of Student Affairs includes (not an exhaustive list):

- [Athletics, Physical Education and Recreation](#)
- [Career and Professional Development Center \(CPDC\)](#)
- [Center for Student Diversity and Inclusion](#)
- [Cohon University Center](#)
- [Counseling & Psychological Services \(CaPS\)](#)
- [Dining Services](#)
- [Office of Community Standards and Integrity \(OCSI\)](#)
- [Office of Student Leadership, Involvement, and Civic Engagement \(SLICE\)](#)
- [University Health Services \(UHS\)](#)
- [Wellness Initiatives](#)

Center for Student Diversity & Inclusion

<https://www.cmu.edu/student-diversity/>

Diversity and inclusion have a singular place among the values of Carnegie Mellon University. The Center for Student Diversity & Inclusion actively cultivates a strong, diverse and inclusive community capable of living out these values and advancing research, creativity, learning and development that changes the world.

The Center offers resources to enhance an inclusive and transformative student experience in dimensions such as access, success, campus climate and intergroup dialogue. Additionally, the Center supports and connects historically underrepresented students and those who are first in their family to attend college in a setting where students' differences and talents are appreciated and reinforced, both at the graduate and undergraduate level. Initiatives coordinated by the Center include, but are not limited to:

- First generation/first in family to attend college programs
- LGBTQ+ Initiatives
- Race and ethnically-focused programs, including Inter-University Graduate Students of Color Series (SOC) and PhD SOC Network
- Women's empowerment programs, including Graduate Women's Gatherings (GWGs)
- Transgender and non-binary student programs

Assistance for Individuals with Disabilities

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

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical, digital, and programmatic access to ensure that students with disabilities have equal access to their educational experience. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973. Students who would like to receive accommodations can begin the process through [Disability Resources' secure online portal](#) or email access@andrew.cmu.edu to begin the interactive accommodation process.

Students with physical, sensory, cognitive, or emotional disabilities are encouraged to self-identify with the Office of Disability Resources and request needed accommodations. Any questions about the process can be directed to access@andrew.cmu.edu, or call (412) 268-6121.

Eberly Center for Teaching Excellence & Educational Innovation

www.cmu.edu/teaching

We offer a wide variety of confidential, consultation services and professional development programs to support graduate students as teaching assistants or instructors of record during their time at Carnegie Mellon University and as future faculty members at other institutions. Regardless of one's current or future teaching context and duties, our goal is to disseminate evidence-based teaching strategies in ways that are accessible and actionable. Programs and services include campus-wide Graduate Student Instructor Orientation events and our Future Faculty Program, both of which are designed to help participants be effective and efficient in their teaching roles. The Eberly Center also assists departments in creating and conducting customized programs to meet the specific needs of their graduate student instructors. Specific information about Eberly Center support for graduate students is found at www.cmu.edu/teaching/graduatestudentsupport/index.html.

Graduate Student Assembly

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

The Graduate Student Assembly (GSA) is the branch of Carnegie Mellon Student Government that represents, and advocates for the diverse interests of all graduate students at CMU. GSA is composed of representatives from the different graduate programs and departments who want to improve the graduate student experience at the different levels of the university. GSA is funded by the Student Activities Fee from all graduate students. GSA passes legislation, allocates student activities funding, advocates for legislative action locally and in Washington D.C. on behalf of graduate student issues and needs, and otherwise acts on behalf of all graduate student interests. Our recent accomplishments are a testament to GSA making a difference, and steps to

implementing the vision laid out by the strategic plan. <https://www.cmu.edu/stugov/gsa/About-the-GSA/Strategic-Plan.html>.

GSA offers an expanding suite of social programming on and off-campus to bring graduate students from different departments together and build a sense of community. GSA is the host of the Graduate Student Lounge on the 3rd floor of the Cohon University Center- a great place to study or meet up with friends. GSA also maintains a website of graduate student resources on and off-campus. Through GSA's continued funding for professional development and research conferences, the GSA/Provost Conference Funding Program and GSA/Provost GuSH Research Grants are able to run, as managed by the Graduate Education Office. As we move forward, GSA will continue to rely on your feedback to improve the graduate student experience at CMU. Feel free to contact us at <gsa@cmu.edu> to get involved, stop by our office in the Cohon University Center Room 304 or become a representative for your department.

Office of International Education (OIE)

<http://www.cmu.edu/oie/>

Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. The Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars, as well the repository for study abroad opportunities and advisement. OIE provides many services including: advising on personal, immigration, study abroad, academic, and social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; international education and statistics on international students in the United States; posting pertinent information to students through email and the OIE website, and conducting orientation and pre-departure programs.

Veterans and Military Community

<http://www.cmu.edu/veterans/>

Military veterans are a vital part of the Carnegie Mellon University community. Graduate students can find information on applying for veteran education benefits, campus services, veteran's groups at CMU, and non-educational resources through the Veterans and Military Community website. There are also links and connections to veteran resource in the Pittsburgh community. The ROTC and Veteran Affairs Coordinator can be reached at uro-vaedbenefits@andrew.cmu.edu or 412-268-8747.

Carnegie Mellon Ethics Hotline

<https://www.cmu.edu/hr/resources/ethics-hotline.html>

The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to areas below:

- Academic and Student Life
- Bias Reporting
- Environmental Health and Safety
- Financial Matters
- High-Risk Incident
- Human Resource Related
- Information Systems
- Research
- Threat of Business Interruption
- Threat of Violence or Physical Harm
- Title IX

Students, faculty and staff can anonymously file a report by calling 877-700-7050 or visiting www.reportit.net (user name: tartans; password: plaid). All submissions are reported to appropriate university personnel.

The hotline is NOT an emergency service. For emergencies, call University Police at 412-268-2323.

Policy Against Retaliation

It is the policy of Carnegie Mellon University to protect from retaliation any individual who makes a good faith report of a suspected violation of any applicable law or regulation, university Policy or procedure, any contractual obligation of the university, and any report made pursuant to the Carnegie Mellon University Code of Business Ethics and Conduct.

Additional details regarding the Policy Against Retaliation are available at <https://www.cmu.edu/policies/administrative-and-governance/whistleblower.html>

Key Offices for Academic & Research Support

Computing and Information Resources

www.cmu.edu/computing

Computing Services maintains and supports computing resources for the campus community, including the campus wired and wireless networks, printing, computer labs, file storage, email and software catalog. As members of this community, we are all responsible for the security of these shared resources. Be sure to review the Safe Computing (<https://www.cmu.edu/computing/safe/>) section and the University Computing Policy (<https://www.cmu.edu/policies/information-technology/computing.html>)

Visit the Computing Services website (<https://www.cmu.edu/computing/>) to learn more. For assistance the Computing Services Help Center is available at 412-268-4357 (HELP) or it-help@cmu.edu.

Student Academic Success Center

<https://www.cmu.edu/student-success/>

Student Academic Support Programs

Tartan Scholars

- The Tartan Scholars program was created to provide support for limited resourced students through an intentional first year undergraduate experience with the goals of enhancing the cohort's skill and community building through a lens of self-authorship, growth mindset, and a sense of belonging. As part of the Student Academic Success Center, Tartan Scholars are invited to join the University and participate in summer initiatives and pre-orientation activities prior to their first year at the University.
- There are opportunities for graduate students to serve as accountability, learning, or development partners, workshop facilitators, and presenters. Contact Diane Hightower at ddhighto@andrew.cmu.edu for more details.

Learning Support

- **Supplemental Instruction:** Supplemental Instruction (SI) is an academic support model that utilizes peer-assisted study sessions. The SI program provides regularly scheduled review sessions on course materials outside the classroom. SI is a non-remedial approach to learning as the program targets high-risk courses and is available in select courses based on data related to past student performance and feasibility.
- **Peer Tutoring:** Weekly Tutoring Appointments are offered in a one-on-one

and small group format to students from any discipline who need assistance with a course that may not be supported by our other services. Weekly appointments give students the opportunity to interact regularly with the same tutor to facilitate deeper understanding of concepts. Students can register online through the Student Academic Success website.

- **Academic Coaching:** Academic Coaching provides holistic one-on-one peer support and group workshops to help students find and implement their conditions for success. We assist students in improving time management, productive habits, organization, stress management, and study skills. Students will request support through the Academic Success Center website and attend in-person meetings or meet using video and audio conferencing technology to provide all students with support.
- **“Just in Time” Workshops:** The Student Academic Success team is available to partner with instructors and departments to identify skills or concepts that would benefit from supplemental offerings (workshops, boot camps) to support students’ academic success and learning. We are eager to help convene and coordinate outside of the classroom skill-building opportunities that can be open to any student interested in building skill or reinforcing course concept mastery.
- **Study Partners:** Support for students to create and benefit from their own study groups: The Student Academic Success team assists students in forming and benefiting from peer study groups, whereby all students can reap the benefits of peer-to-peer learning, student agency, and collaboration skill development. Staff from the Student Academic Success Center will be made available to instructors and students to assist with the formation of peer-led study groups. This level of support is open to any course where the instructor requests or agrees such support is appropriate and students are interested in both leading and participating.

Language and Cross-cultural Support

More than 60% of graduate students at Carnegie Mellon are international students, and others are nonnative speakers of English who have attended high school or undergraduate programs in the US. Many of these students want to hone their language and cross-cultural skills for academic and professional success. Students can choose from sessions on

- how to give a strong presentation,
- writing academic emails,
- expectations and strategies for clear academic writing,
- how to talk about yourself as a professional in the U.S.,
- developing clearer pronunciation,
- using accurate grammar,
- building fluency, and more.

- Students can make an appointment with a Language Development Specialist to get individualized coaching on language or cross-cultural issues.

The Student Academic Success Center is also charged with certifying the language of International Teaching Assistants (ITAs), ensuring that nonnative English speakers have the language proficiency needed to succeed as teaching assistants in the Carnegie Mellon classroom. Students preparing to do an ITA Certification should plan to take classes offered by the language support team at the SASC from the beginning of their first semester. Start by contacting the language support team at the SASC website or attend a Language Support Orientation at the SASC or in your department.

University Libraries

www.library.cmu.edu

The University Libraries offers a wide range of information resources and services supporting graduate students in course-work, research, teaching, and publishing. The library licenses and purchases books, journals, media and other needed materials in various formats. Library liaisons, consultants and information specialists provide in-depth and professional assistance and advice in all-things information - including locating and obtaining specific resources, providing specialized research support, advanced training in the use and management of data. Sign up for workshops and hands-on topic-specific sessions such as data visualization with Tableau, cleaning data with OpenRefine, and getting started with Zotero. Weekly drop-in hours for Digital Humanities and for Research Data Research Management are scheduled during the academic year. Start at the library home page to find the books, journals and databases you need; to identify and reach out to the library liaison in your field; to sign up for scheduled workshops; and to connect with consultants in scholarly publishing, research data management, and digital humanities.

Research at CMU

www.cmu.edu/research/index.shtml

The primary purpose of research at the university is the advancement of knowledge in all fields in which the university is active. Research is regarded as one of the university's major contributions to society and as an essential element in education, particularly at the graduate level and in faculty development. Research activities are governed by several university policies. Guidance and more general information is found by visiting the Research at Carnegie Mellon website.

Office of Research Integrity & Compliance

www.cmu.edu/research-compliance/index.html

The Office of Research Integrity & Compliance (ORIC) is designed to support research at Carnegie Mellon University. The staff work with researchers to ensure research is conducted with integrity and in accordance with federal and Pennsylvania regulation. ORIC assists researchers with human subject research, conflicts of interest, responsible conduct of research, export controls, and institutional animal care & use. ORIC also provides consultation, advice, and review of allegations of research misconduct.

Key Offices for Health, Wellness & Safety

Counseling & Psychological Services

<https://www.cmu.edu/counseling/>

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

Health Services

www.cmu.edu/HealthServices/

University Health Services (UHS) is staffed by physicians, advanced practice clinicians and registered nurses who provide general medical care, allergy injections, first aid, gynecological care and contraception as well as on-site pharmaceuticals. The CMU Student Insurance Plan covers most visit fees to see the physicians and advanced practice clinicians & nurse visits. Fees for prescription medications, laboratory tests, diagnostic procedures and referral to the emergency room or specialists are the student's responsibility and students should review the UHS website and their insurance plan for detailed information about the university health insurance requirement and fees.

UHS also has a registered dietician and health promotion specialists on staff to assist students in addressing nutrition, drug and alcohol and other healthy lifestyle issues. In addition to providing direct health care, UHS administers the

Student Health Insurance Program. The Student Health Insurance plan offers a high level of coverage in a wide network of health care providers and hospitals. Appointments can be made by visiting UHS's website, walk-in, or by telephone, 412-268-2157.

Campus Wellness

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

At Carnegie Mellon, we believe our individual and collective well-being is rooted in healthy connections to each other and to campus resources. The university provides a wide variety of wellness, mindfulness and connectedness initiatives and resources designed to help students thrive inside and outside the classroom. The BeWell@CMU e-newsletter seeks to be a comprehensive resource for CMU regarding all wellness-inspired events, announcements and professional and personal development opportunities. Sign up for the Be Well monthly newsletter via <https://bit.ly/BeWellNewsletter> or by contacting the Program Director for Student Affairs Wellness Initiatives, at alusk@andrew.cmu.edu.

Religious and Spiritual Life Initiatives (RSLI)

www.cmu.edu/student-affairs/spirituality

Carnegie Mellon is committed to the holistic growth of our students, including creating opportunities for spiritual and religious practice and exploration. We have relationships with local houses of worship from various traditions and many of these groups are members of CMU's Council of Religious Advisors. We also offer programs and initiatives that cross traditional religious boundaries in order to increase knowledge of and appreciation for the full diversity of the worldview traditions. Our RSLI staff are here to support students across the spectrum of religious and spiritual practice and would be more than happy to help you make a connection into a community of faith during your time at CMU.

University Police

<http://www.cmu.edu/police/>

412-268-2323 (emergency only), 412-268-6232 (non-emergency)

The University Police Department is located at 300 South Craig Street (entrance is on Filmore Street). The department's services include police patrols and call response, criminal investigations, fixed officer and foot officer patrols, event security, and crime prevention and education programming as well as bicycle and laptop registration. Visit the department's website for additional information about the staff, emergency phone locations, crime prevention, lost and found,

finger print services, and annual statistic reports.

Carnegie Mellon University publishes an annual campus security and fire safety report describing the university's security, alcohol and drug, sexual assault, and fire safety policies and containing statistics about the number and type of crimes committed on the campus and the number and cause of fires in campus residence facilities during the preceding three years. Graduate students can obtain a copy by contacting the University Police Department at 412-268-6232. The annual security and fire safety report is also available online at

<https://www.cmu.edu/police/annualreports/>.

Shuttle and Escort Services

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

The WORD

<http://www.cmu.edu/student-affairs/theword//>

The WORD is Carnegie Mellon University's student on-line handbook and is considered a supplement to the department (and sometimes college) handbook. The WORD contains campus resources and opportunities, academic policy information and resources, community standards information and resources. It is designed to provide all students with the tools, guidance, and insights to help you achieve your full potential as a member of the Carnegie Mellon community.

Information about the following is included in The WORD (not an exhaustive list) and graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at:

<http://www.cmu.edu/policies/>.

Carnegie Mellon Vision, Mission

Statement of Assurance

Carnegie Code

Academic Standards, Policies and Procedures

Educational Goals

Academic and Individual Freedom

Statement on Academic Integrity Standards for Academic & Creative Life

Assistance for Individuals with Disabilities

Master's Student Statute of Limitations
Conduct of Classes
Copyright Policy
Cross-college & University Registration
Doctoral Student Status Policy
Evaluation & Certification of English Fluency for Instructors
Final Exams for Graduate Courses
Grading Policies
Intellectual Property Policy
Privacy Rights of Students
Student's Rights
Research
 Human Subjects in Research
 Office of Research Integrity & Compliance
 Office of Sponsored Programs
 Policy for Handling Alleged Misconduct of Research
 Policy on Restricted Research
Tax Status of Graduate Student Awards
Campus Resources & Opportunities
 Alumni Relations
 Assistance for Individuals with Disabilities
 Athletics, Physical Fitness & Recreation
 Carnegie Mellon ID Cards and Services
 Cohon University Center
 Copying, Printing & Mailing
 Division of Student Affairs
 Domestic Partner Registration
 Emergency Student Loan Program
 Gender Programs & Resources
 Health Services
 Dining Services
 The HUB Student Services Center
 ID Card Services

Leonard Gelfand Center
LGBTQ Resources
Multicultural and Diversity Initiatives
Opportunities for Involvement
Parking and Transportation Services
Shuttle and Escort Services
Spiritual Development
University Police
Student Activities
University Stores

Community Standards, Policies and Procedures

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

Student Accounts Receivable and Collection Policy and Procedures

Student Activities Fee

Student Enterprises

Workplace Threats and Violence Policy

