GRADUATE STUDENT HANDBOOK

Welcome to CEE



Welcome to the Department of Civil and Environmental Engineering! Faculty and staff at our department aim for your experience at Carnegie Mellon to be both productive and rewarding in helping you meet your professional goals. The CEE faculty and staff are ready to help you in any way possible.

This handbook is intended to supplement University information provided in the Carnegie Mellon Student Handbook, <u>The Word</u>. Please review both handbooks to help you become familiar with departmental and university policies. If you have any questions, either your academic advisor, our Director of Graduate Programs, David Vey or I shall be happy to discuss them with you. Again, welcome aboard, and best wishes for a successful year.

Burcu Akinci Paul Christiano University Professor and Department Head Civil and Environmental Engineering

Table of Contents

Welcome to CEE	i
Table of Contents	ii
Vison, Mission & Philosophy of Carnegie Mellon University	1
Vision	1
Mission	1
Philosophy	1
Vision, Mission, and Values of the Department of Civil and Environmental Engineering	1
The Carnegie Mellon Code	1
Statement of Assurance Policy	2
University Policies & Expectations	2
College of Engineering Academic Regulations	3
Selected Policy Sites Applicable to Graduate Students	3
Orientation	3
Maps and Area Information	3
Academic Calendar	4
Academic Programs	4
Focus Areas	4
Academic Advisors	5
General Academic Requirements	5
Graduate Student Seminar	5
Teaching Workshop Seminar Series	5
English Language Fluency	6

Make-Up Requirements for Students without a BS in Engineering	6
Masters Program Requirements	7
Master of Science in Civil and Environmental Engineering (96 units)	7
Master of Science in Civil and Environmental Engineering – Applied Study (102 units)	8
MS in AI Engineering - Civil and Environmental Engineering (108 units)	8
MS in AI Engineering - Civil and Environmental Engineering – Applied Study Option (114 units)	10
Full time vs. Part time enrollment for Master's students	11
Master Concentrations	11
Master's Degree Completion and Certification	11
Master of Science Degree Title Options	12
Integrated BS/MS Program (IMB)	13
Special Student Status	13
Statute of Limitations - Master of Science	14
Masters Students with Unsatisfactory Academic Performance	14
Doctor of Philosophy Program Requirements	14
The Qualifying Examination	15
Comprehensive Examination (part one)	15
Time Frame	15
Prior to Oral Exam	16
Grading and Evaluation	16
After Completion	17
The Comprehensive Examination Committee	17
Thesis Proposal Examination (part two)	17
Time Frame	

Prior to the Examination	
Grading and Evaluation	
After Completion	
The PhD (Doctoral) Committee	
Research and Dissertation Defense	
All But Dissertation (ABD)	
Dissertation Preparation and Submission	
PhD Degree Title Options	21
Part-Time PhD Student Residency Requirements	
Direct Entry (MS/PhD) Program	
Intern PhD Program	
Statute of Limitations - Doctor of Philosophy	
PhD Student Advising	
PhD Students with Unsatisfactory Academic Performance or Separation from Advis	ement24
Registration Policies and Procedures	
Graduate Student Course Registration	
Summer Registration	
Adding / Dropping Courses	
Course Audit	
Pass/No Pass Grades	
Transfer Courses and PCHE	
Cross-Registration	
Transfer of Graduate Credits	
Double Counting Courses	
Independent Study	
Process for Taking & Returning from Leave of Absence or Withdrawing from the Pr	ogram 27
Process for Withdrawal of a Degree	

Grading	
Process for Appealing Final Grades	
Enrollment Verification	
Change of Address	
Directory Listings	
Disciplinary Action of Matters of Cheating, Plagiarism and Academic	
Academic Integrity Policy	
PhD and Research MS Obligations, Assistantships and Financial Information	
Assistantship Appointments	
Summer Appointments	
Payroll	
Stipend Deductions	
Tax Status and Filing	
Tuition and Financial Obligations	
Employment Eligibility Verification	
Doctoral Student Health Insurance Coverage	
Semester Breaks and Time Off	
University Holidays	
Time Off Policy for Doctoral Students	
External Employment	
Research Responsibilities	
Responsible Conduct of Research (RCR) Education	
Teaching Responsibilities	
TA Assignments	

TA Training	
Requirements for Non-Native Speaking Teaching Assistants	
Faculty Mentoring	
External Fellowships and Scholarships for Graduate Students	
University Financial Aid, Loans and Fellowships for MS Students	
CEE Department-Funded Scholarships	
Emergency Loans	
External Funding Opportunities Outside Carnegie Mellon - U.S. Department of Education Resources	
Fenves Travel Grant	
Graduate Small Project Help (GUSH) Funding	
Funding Conferences and Seminars	
Summer Internships	
Employment Eligibility Verification	
CEE Contacts for Graduate Students	
CEE Career and Professional Development Services	
CEE Press and Media Relations	
Health and Wellness	
Health Insurance and Inoculations	
University Smoking Policy	
Safeguarding Educational Equity	
Assistance for Individuals with Disabilities	
Sexual Misconduct Policy	
Gestational and Parental Accommodations	
Consensual Intimate Relationship Policy Regarding Undergraduate Students	
Purchasing and Reimbursements	
Purchasing	
Reimbursement Policy	

Business Expenses	
Tax Exemption	48
Travel Expenses	48
Graduate Student Committees	50
Graduate Student Assembly (GSA)	50
CEE Graduate Student Advisory Council (GSAC)	50
CEE Facilities and Daily Operations	50
CEE Main Office	50
Mail Services	51
Graduate Student Office Assignments	51
Key Access	51
Computing	51
CEE Green Practices	52
Recycling and Composting	52
CEE Engineering Laboratories	52
Organization	52
Laboratory Safety Program	53
Laboratory Access	54
Laboratory Security and Use Policy	54
Hazardous Waste Management	55
Emergency Procedures	55
Medical Emergencies	55
Fire Emergencies	55
Evacuation	

	Other Emergencies	56
F	Resources for Exceptional or Challenging Situations	56
	Graduate Student Appeals and Grievances	56
ł	Appendix A	58
k	Key Resources for Graduate Student Support	60
	Office of Graduate and Postdoctoral Affairs	60
	Office of the Dean of Students	60
	The Division of Student Affairs	60
	Center for Student Diversity & Inclusion	61
	Assistance for Individuals with Disabilities	61
	Eberly Center for Teaching Excellence & Educational Innovation	62
	Graduate Student Assembly	62
	Office of International Education (OIE)	62
	Veterans and Military Community	63
	Carnegie Mellon Ethics Hotline	63
	Policy Against Retaliation	63
k	Key Offices for Academic & Research Support	63
	Computing and Information Resources	63
	Student Academic Success Center	63
	University Libraries	64
	Research at CMU	64
	Office of Research Integrity & Compliance	64
k	Key Offices for Health, Wellness & Safety	65
	Counseling & Psychological Services	65
	Health Services	65
	Campus Wellness	65
	Religious and Spiritual Life Initiatives (RSLI)	65

	University Police	66
	Shuttle and Escort Services	66
Tł	e WORD	67

Last updated: August 31, 2023

Vison, Mission & Philosophy of Carnegie Mellon University

Vision

Carnegie Mellon University will have a transformative impact on society through continual innovation in education, research, creativity, and entrepreneurship.

Mission

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

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

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

Philosophy

Our philosophy is grounded in the unique vision and mission developed and offered by the Department of Civil and Environmental Engineering.

Vision, Mission, and Values of the Department of Civil and Environmental

Engineering

The department's vision is to reimagine civil and environmental engineering through innovative leadership in education and research, and by integrating systems thinking and new technologies, and to empower a diverse community of socially conscious problem solvers to lead the world to a sustainable, resilient, equitable, and inclusive future.

You can learn more about our Vision Statement, Mission Statement, and Statement of Values here.

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

Statement of Assurance Policy

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 ombudsperson, 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 tit@cmu.edu/title-ix.

University Policies & Expectations

As a member of our community, it is your responsibility to understand university policies and guidelines. In addition to the Civil and Environmental Engineering Graduate Student Handbook, you should familiarize yourself with the following resources to understand community expectations:

- Carnegie Mellon Student Handbook (The Word): <u>http://www.cmu.edu/student-affairs/theword/</u>
- University Policies: <u>https://www.cmu.edu/policies/index.html</u>
- College of Engineering Policies: <u>https://engineering.cmu.edu/education/academic-policies/graduate-policies/degrees.html</u>
- Office of Graduate and Postdoctoral Affairs: http://www.cmu.edu/graduate/policies/index.html
- Office of Community Standards & Integrity (Academic Integrity): <u>http://www.cmu.edu/academic-integrity</u>

College of Engineering Academic Regulations

A complete description of existing academic policies and regulations can be found at the <u>College of Engineering Graduate Policies</u> webpage and <u>The Word</u>. Please note that when the policies of the department, college and university differ, the most restrictive policy applies.

Selected Policy Sites Applicable to Graduate Students

The following is a selection of policies applicable to graduate students. This list is by no means complete and it is recommended that students review the complete list of policies available at: http://www.cmu.edu/graduate/policies/index.html.

- Policy on Academic Integrity
- Alcohol & Drugs
- Summary of Graduate Student Appeal and Grievance Procedures
- <u>Tax Status of Graduate Student Awards</u>
- Policy on Certification of Instructors' English Fluency
- <u>Copyright (Fair Use) Policy</u>
- Doctoral Student Status Policy
- Policy on Equal Employment Opportunities/Affirmative Action
- Grading Policies
- Intellectual Property Policy
- Policy on Pets and Other Animals on Campus
- Privacy Rights of Students
- <u>Campus Security Report</u>
- Policy Against Sexual Harassment
- <u>Student Health Insurance Policy</u>

Orientation

•

The department offers an Orientation program for new students prior to the beginning of both the fall and spring semesters. Current students, as well as new faculty, staff and visitors are also encouraged to attend the orientation, which provides information about academic policy, department expectations, computing in the department, as well as general and administrative information.

Maps and Area Information

Campus maps: <u>http://www.cmu.edu/visit/</u>

Information about Pittsburgh and the surrounding areas: https://www.visitpittsburgh.com/

Academic Calendar

The Academic Calendar can be found at <u>https://www.cmu.edu/hub/calendar/index.html</u> and provides information on all deadlines including registration dates, class start dates, add/drop deadlines, exam dates and more.

Academic Programs

The Department of Civil and Environmental Engineering at Carnegie Mellon offers a unique interdisciplinary program that enables students to develop imaginative solutions to real world engineering problems. With access to cutting-edge research and technology; high achieving, energetic and approachable faculty members; and an innovative and flexible curriculum, we consistently rank among the top ten programs by US News and World Report.

Focus Areas

The department offers graduate programs at the MS and PhD levels in three focus areas in which we have established both educational and research strengths:

Advanced Infrastructure Systems (AIS)

The Advanced Infrastructure Systems (AIS) education and research area focuses on the application and exploration of emerging Information and Communication Technologies (ICT) to improve the design, construction and operations of infrastructure systems including: buildings and other facilities; transportation infrastructure; telecommunications networks; environmental systems; and the electric power grid.

Environmental Engineering Sustainability and Science (EESS)

The Environmental Engineering, Sustainability, and Science (EESS) education and research area focuses on air quality, water quality, remediation, industrial ecology, sustainable engineering, energy, and nanotechnology to provide skills, analysis tools, and technologies to meet environmental stewardship and sustainability challenges of the 21st Century.

Mechanics, Materials and Computing (MMC)

The Mechanics, Materials and Computing (MMC) education and research area focuses on the scientific understanding and practical application of the emergent complex behavior of materials through computer simulation techniques for the analysis of the deformation, flow and failure of natural and engineered materials.

Our graduate programs maintain a commitment to excellence in education and research, and offer additional advantages that serve the needs of our students.

Flexibility

Students are able to develop an individually focused program with their faculty advisors and are encouraged to pursue studies in line with their professional interests and goals. These tailored programs may be directed toward more fundamental engineering science, or more applied engineering design or management, depending on the career goals of the individual student. Students from a variety of engineering and science educational backgrounds pursue graduate study in our department.

Academic Advisors

All graduate students are assigned a faculty member as their academic advisor. Advisors are assigned during the semester prior to your enrollment, matching your interests with those of your advisor. Faculty advisors are charged with guiding you in the development of your personal curriculum, monitoring your progress through the program, and discussing your professional goals with you. Our aim is for this personal student-advisor relationship and mentoring to help you customize your curriculum to achieve your educational goals. The advisor also provides you with career advice.

Typically, academic advisors are also research supervisors for those students with research assistantships. Early in the program, the research advisor guides you along some research initiative and helps with strategic planning for courses and other educational activities. Later, the advisor helps to focus your research towards a thesis topic. Near the conclusion of your program, the advisor chairs your thesis committee, and helps to select the other members of the committee.

If you feel that you would like to switch advisors or have concerns about your advising experience you should consult with the Director of Graduate Programs, Manager of MS Programs, or Department Head. PhD students are also strongly encouraged to seek advice from the members of their Doctoral Committee.

General Academic Requirements

As a full-time student pursuing an advanced degree (MS or PhD) in Civil and Environmental Engineering, you must register for a minimum of 36 units (including 12-794, Graduate seminar) per semester. Students in the MS program may register for a maximum of 48 units each semester.

Graduate Student Seminar

All full-time, joint degree, and ABD students are required to register for and attend Graduate Seminar (12-794) each semester. Part time students will register for seminar at the discretion of your advisor.

Attendance is required as follows:

- CEE Department Seminars (four per semester) MANDATORY for all graduate students
- CEE Professional Development Seminars (two per semester) MANDATORY for all MS students
- Research Group Seminars Mandatory for <u>all PhD</u> and <u>research MS</u> students. Course MS students are welcome, but not required to attend the research group seminars.

For MS students to receive attendance credit for the Department and Professional Development Graduate Seminar, you must attend a minimum of four of the six CEE Department and Professional Development Seminars each semester. PhD students must attend all four of the Department Seminars each semester.

If you are a PhD or Research MS student, you must attend research group seminars in addition to the Department and Professional Development seminars.

If you are unable to meet the attendance requirements for graduate seminar you will need to complete and submit either the <u>Full</u> <u>Semester Seminar Waiver Request</u> or the <u>Single Session Seminar Make-Up Request</u> form for consideration.

Teaching Workshop Seminar Series

In order to meet the department's goal to prepare our Teaching Assistants for the best teaching experience, CEE provides a mandatory series of seminars crafted specifically for CEE Teaching Assistants. This series, titled Teaching Workshop (12790) is taught by the Eberly Center's asynchronous learning modules available during the early part of the fall and spring semester. Registration and attendance is mandatory for all new Teaching Assistants prior to beginning their TA assignment. These seminars are designed to give our TAs the pedagogical advantage of becoming familiar with relevant educational research and related teaching strategies. Students with this requirement must register for course 12790 and will be contacted with additional instructions and dates of the workshops prior to the Fall semester.

English Language Fluency

Regardless to whether you will be assigned Teaching Assistant responsibilities, if you are a non-native speaker you are strongly encouraged to consult the <u>Student Academic Success Center</u> for language and cross-cultural support. In as much as all graduate students may participate in some instructional activity, it is the Department's policy that this evaluation is essential and in your best interest.

Make-Up Requirements for Students without a BS in Engineering

Students with a variety of educational backgrounds undertake graduate work in the Department of Civil and Environmental Engineering. Engineering backgrounds are most common, especially civil, chemical, environmental, and mechanical engineering, however, students with undergraduate degrees in mathematics and science are also admitted to the graduate program. Examples of the non-engineering undergraduate backgrounds of these students include biology, chemistry, environmental science, geology, and physics.

1 Semester	General Chemistry
2 Semesters	Calculus
1 Semester	Differential Equations
2 Semesters	Physics
1 Semester	Biology (or other science)
1 Semester	Probability and Statistics; or 1 semester Linear Algebra
1 Semester	Computer Programming, Applications or Tools

An outline of the math and science background expected for <u>all</u> entering students:

If you do not have an engineering undergraduate degree and are pursuing a MS in Civil and Environmental Engineering degree, you will need to take the equivalent of four basic undergraduate engineering courses in addition to the courses required for the graduate degree. You may be able to substitute equivalent or closely related courses at the discretion of your faculty advisor. Required Makeup Courses for students with a degree outside of engineering:

12-320	Engineering Mechanics (9 Units - First Fall Semester)
12-335	Soil Mechanics (9 Units Second Fall Semester)
12-355	Fluid Mechanics (9 Units - First Fall Semester)
12-411	Project Management Construction (9 Units - First or Second Fall Semester)

If you have entered the program with a non-engineering undergraduate degree, you can pursue the standard MS or PhD degree in Civil and Environmental Engineering, or a special degree title as outlined below.

The department offers additional degree options that do not have undergraduate makeup requirements:

- MS in Environmental Management and Science
- MS in Advanced Infrastructure Systems
- MS in Computational Mechanics

Descriptions of each of these programs are found in the "Degree Title Options" section below. Consult with your academic advisor and the CEE Director of Graduate Programs if you are interested in submitting a petition to the Department Head for one of these special non-engineering degree titles. Additional coursework may be necessary to obtain the necessary background for these degrees. All requests for a special degree title must be processed and approved before the 10th day of classes in your last semester prior to graduation.

Special Degree Title Request Form

Masters Program Requirements

Master of Science in Civil and Environmental Engineering (96 units)

Each course unit in the master's program generally requires one hour of work per week. Semester length courses are 12 units each. Mini courses run for half of a semester and are worth 6 units each. You have the option to mix and match semester length courses and mini courses to complete the 96-unit degree requirement.

The 96 units counted towards the MS in CEE degree course option must satisfy the following requirements:

- A minimum of 78 units (including both course and independent study units) must be at the graduate level (600 level and above) with at least 48 units at the 700 level.
- A minimum of 60 units must be from CEE, though up to 12 units of technical graduate courses from other departments can be counted towards this requirement if consistent with the students program of study and with the approval of the academic advisor and department head prior to taking the course.
- Up to 18 units of applicable upper level undergraduate courses (defined as courses 300 level and above) may be counted towards the 96 unit requirement with the approval of the academic advisor. Courses numbered XX-299 and lower do not qualify as MS degree electives.
- A minimum of two semesters of Graduate Seminar (12-794) are required for the MS degree.
- No more than 12 units of independent study will be counted towards an MS degree.
- Students must maintain a 3.0 GPA to receive their degree.

Master of Science in Civil and Environmental Engineering – Applied Study (102 units)

Each course unit in the master's program generally requires one hour of work per week. Semester length courses are 12 units each. Mini courses run for half of a semester and are worth 6 units each. You have the option to mix and match semester length courses and mini courses to complete the 102-unit degree requirement.

The 102 units counted towards the MS in CEE-Applied Study degree course option must satisfy the following requirements:

- A minimum of 78 units (including both course and independent study units) must be at the graduate level (600 level and above) with at least 48 units at the 700 level.
- A minimum of 60 units must be from CEE, though up to 12 units of technical graduate courses from other departments can be counted towards this requirement if consistent with the students program of study and with the approval of the academic advisor and department head prior to taking the course.
- Up to 18 units of applicable upper level undergraduate courses (defined as courses 300 level and above) may be counted towards the 96 unit requirement with the approval of the academic advisor. Courses numbered XX-299 and lower do not qualify as MS degree electives.
- Completion of 12-994 Internship in Civil and Environmental Engineering (3 units). Internships will be completed during the summer term, allowing students to apply their education in industrial, government, or research settings to gain professional experience. Students will plan and prepare for the internship through consultation with supervising faculty members and the CEE graduate career consultant.
- Completion of 39-699 Career and Professional Development for Engineering Masters Students (3 units). This course will be completed in the semester just prior to the internship experience.
- A minimum of two semesters of Graduate Seminar (12-794) are required for the MS degree.
- No more than 12 units of independent study will be counted towards an MS degree.
- Students must maintain a 3.0 GPA to receive their degree.

Applied Study Internship Requirements:

- 1. Applied study students are required to complete an internship during the summer term after the conclusion of the spring semester.
- 2. CEE will not place the student in their internship assignment. Each student has the responsibility to connect with prospective employers, apply, and secure their internship offer.
- ALL Applied Study students are REQUIRED to meet with a representative from the CMU Career and Professional Development Center (CPDC) within 30 days of the beginning of their enrollment. CPDC resources are available to assist with your internship search.
- 4. Students enrolled in one of the traditional MS programs still have the option to complete an internship during their program. Applied Study students have the option to switch to the traditional program if you do not secure an internship prior the summer term.
- 5. CEE is under no obligation to make "Summer Research" appointed positions available to students to fulfill the internship requirements.

MS in AI Engineering - Civil and Environmental Engineering (108 units)

The MS in AI Engineering in Civil and Environmental Engineering program requires a minimum of 108 course units and must be completed in three full-time semesters. The curriculum is divided into three parts: (1) core courses in AI Engineering fundamentals, (2) a

project course experience in CEE in which AI Engineering fundamentals are applied, and (3) CEE domain specialization electives grouped by concentration areas. The curriculum segments are outlined below.

Curriculum for MS in AI Engineering in Civil and Environmental Engineering

Core Courses (42 Units)

Systems and Tool Chains for AI Engineering (12 units, Fall and Spring) Introduction to Machine Learning for Engineers (12 units, Fall) Introduction to Deep Learning for Engineers (6 units, Fall) Trustworthy and Ethical AI Engineering (12 units, Spring)

<u>AI Engineering Project Experience in CEE:</u> 12-770 Autonomous Sustainable Buildings: From Theory to Practice (12 units)

CEE Concentration Electives (54 units)

These courses are selected in consultation with the student's CEE faculty advisor. Examples of courses in the three focus areas (EESS, AIS, MMC) of the CEE graduate program are provided below.

Environmental Engineering, Sustainability, and Science (EESS) concentration:

12-657 Water Resource Systems Engineering (9 units)
12-714 Environmental Life Cycle Assessment (12 units)
12-726 Mathematical Modeling of Environmental Quality Systems (12 units)
12-749 Climate Change Adaptation (6 units)

Advanced Infrastructure Systems (AIS) concentration:

12-644 Intro to Transportation Systems Analysis (6 units)
12-645 Smart Cities: Growth and Intelligent Transportation Systems (6 units)
12-711 BIM for Engineering, Construction and Facility Management (12 units)
12-735 Urban Systems Modeling (12 units)
12-778 Special Topics: Sensors, Circuits, and Data Interpretation for Management for Infrastructure (12 units) 12-774
Foundations of Intelligent Infrastructure Systems (12 units)
12-750 Infrastructure Management (12 units)
12-768 Decision Analytics for Business and Policy (12 units)

Mechanics, Materials and Computing (MMC) concentration:

12-623 Molecular Simulation of Materials (12 units)12-703 Numerical Methods12-755 Finite Elements in Mechanics I (12 units)

12-758 Intro. to Continuum Mechanics, Nonlinear Elasticity and Structural Mechanics (12 units)

Students in the MS AI Engineering in CEE program are required to be registered full-time with a minimum of 36 units and a maximum of 48 units in each semester in which they are enrolled. The 108 units counted towards the MS degree course option must satisfy the following requirements:

- A minimum of 78 units (including both course and independent study units) must be at the graduate level (600 level and above) with at least 48 units at the 700 level.
- A minimum of 60 units must be from CEE, though up to 12 units of technical graduate courses from other departments can be counted towards this requirement if consistent with the students program of study and with the approval of the academic advisor prior to taking the course.
- Up to 18 units of upper level undergraduate courses (defined as courses 300 level and above) may be counted towards the 108 unit requirement with the approval of the academic advisor. Courses numbered at XX-299 and lower do not qualify as MS degree electives.
- A minimum of two semesters of Graduate Seminar (12-794) are required for the MS degree.
- No more than 12 units of independent study will be counted towards an MS degree.
- Students must maintain a 3.0 GPA to receive their degree.

It is university policy to deem a student as graduated at the end of the semester in which s/he has fulfilled a minimum of 108 units acceptable for the MS degree.

MS in AI Engineering - Civil and Environmental Engineering – Applied Study Option (114 units)

In addition to the requirements listed in the traditional 108 unit MS in AI Engineering option, students in the Applied Study Option program will take two additional required courses:

- 39-699 Career and Professional Development for Engineering Master's Students (3 units)
- 12-994 Internship in Civil and Environmental Engineering (3 units)

Applied Study Internship Requirements:

- 1. Applied study students are required to complete an internship during the summer term after the conclusion of the spring semester.
- 2. CEE will not place the student in their internship assignment. Each student has the responsibility to connect with prospective employers, apply, and secure their internship offer.
- ALL Applied Study students are REQUIRED to meet with a representative from the CMU Career and Professional Development Center (CPDC) within 30 days of the beginning of their enrollment. CPDC resources are available to assist with your internship search.
- 4. Students enrolled in one of the traditional MS programs still have the option to complete an internship during their program. Applied Study students have the option to switch to the traditional program if you do not secure an internship prior the summer term.
- 5. CEE is under no obligation to make "Summer Research" appointed positions available to students to fulfill the internship requirements.

Full time vs. Part time enrollment for Master's students

Students in the Civil and Environmental Engineering Masters programs are required to be registered full-time with a minimum of 36 units and a maximum of 48 units in each semester in which they are enrolled. Please refer to the Registration Policies and Procedures Section for maximum unit registration information.

Part-time and non-degree enrollment options are available to non-traditional students. If you are enrolled as a part-time MS student, you are required to enroll for a minimum of 12 units each semester. Part-time students are encouraged to complete the degree program as quickly as possible.

In compliance with U.S. Department of Homeland Security immigration regulations, International Students are not permitted to register as part time students. International Students must be registered full time, with a minimum of 36 units in each of the fall and spring semesters. International students are permitted to register as a part time student during their mid-degree summer "vacation" semester. However, if an international student intends to graduate with their MS degree at the conclusion of the summer semester, they are required to register full time (36 units, minimum) in the given summer semester.

Master Concentrations

Our MS concentrations offer course suggestions and highlight complementary crosscutting courses, but you will work with your academic advisor and other faculty members to identify appropriate coursework to fit your interests and professional goals.

You can find more information about our MS Concentrations here.

Master's Degree Completion and Certification

Carnegie Mellon graduate students are expected to complete their degree requirements within the standard length of time for their program of study as outlined within this handbook. In CEE, masters students normally complete the degree in three semesters (fall and spring semesters, not including any summer internship). Students who are qualified and interested may elect to take a heavier course load and complete the degree in two semesters. Students who are able to satisfy the MS degree requirements in two semesters (nine months) will be deemed as graduated and will be unable to continue to the third semester. Upon completion of the graduate program degree requirements, the degree will be certified by CEE in the semester in which the student completes the requirements.

Note that two semester completion is only possible in the MS in Civil and Environmental Engineering program (96 units). The MS in CEE Applied Study (102 units) requires a minimum of three semesters of course enrollment. The MS in AI Engineering programs (108 and 114 units) require a minimum of three semesters of course enrollment.

Early Completion

Graduate students who consider the completion of all degree requirements in less than the standard length of time for their program of study may consult with their degree-granting program or department to determine if early degree certification is allowed and under what circumstances.

Extended or Longer-than-Standard Completion

Longer-than-standard degree completion may occur due to academic interruptions in making progress toward the degree as defined by the academic program, interruptions of full-time study or progress towards the degree due to serious, documented medical issues, or other unusual or unforeseen circumstances.

Master's students who require longer than the standard time to complete their degree requirements are expected to remain in close contact with their graduate program and will be certified at the end of the semester in which they have completed their degree requirements. Students shall reference CMU Policy on <u>Master's Student Statute of Limitations</u> regarding guidelines and restrictions which place an upper limit on the maximum length of time allowable for master's degree completion and certification.

Additional Guidance for Students

Program of study. Students seeking guidance about their program of study and degree requirements should consult with their academic advisor and/or appropriate associate dean.

Financial aid and student account. Students are expected to make normal progress toward their degree in order to graduate within the standard timeframe for their program of study. Under U.S. Federal Title IV regulations, student eligibility for federal financial aid is contingent upon enrollment in and successful completion of courses that are counted as credit toward their current degree program. To receive the maximum amount of federal financial aid for which they may be eligible, students must enroll each semester in at least 36 units that count toward their current degree level. (See separate guidance regarding integrated degree completion.)

Students should consult with their designated college liaison in The HUB regarding billing and financial aid, particularly for early completion, longer-than standard completion, or integrated undergraduate and master's degree programs.

International students. Immigration status for students in F-1 and J-1 nonimmigrant status is tied to making normal progress toward completing degree requirements. Therefore, F-1 and J-1 students who are considering completing their degree requirements early, anticipating longer-than-standard completion, or moving from an undergraduate to a graduate student classification (integrated undergraduate-graduate study) should consult with their designated advisor in the Office of International Education (OIE) to ensure compliance with immigration regulations.

Master of Science Degree Title Options

Unless otherwise indicated by your offer of admission, the standard title of the MS degree awarded to candidates in the Department of Civil and Environmental Engineering is "Master of Science in Civil and Environmental Engineering" (or Master of Science in Civil and Environmental Engineering – Applied Study, where applicable). In recognition of the varied interests of the students entering the department, several degree title options are offered. Students wishing to receive a degree title other than MS in Civil and Environmental Engineering must formally petition (see below) the Department Head for the special title. All requests for a special degree title must be processed and approved before the 10th day of classes in your last semester prior to graduation. Note that for students who have enrolled in the Applied Study Master's program, these same alternate degree titles are available.

MS in Advanced Infrastructure Systems

The MS in Advanced Infrastructure Systems is an option for students desiring advanced studies in this area who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with focus in advanced infrastructure systems may also be interested in this degree title.

MS in Civil Engineering

The MS in Civil Engineering is appropriate for students intending professional practice, and particularly those planning on obtaining a Professional Engineering license in Civil Engineering. A candidate for this degree must be a graduate of an accredited undergraduate engineering curriculum or equivalent. Students who hold an undergraduate degree outside of engineering will also be considered, but will be required to take <u>basic undergraduate engineering makeup courses as specified by the department</u>.

MS in Computational Mechanics

The MS in Computational Mechanics is an option for students desiring advanced studies in mechanics, materials and computing who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with a focus in computational mechanics may also be interested in this degree title.

MS in Environmental Engineering

The MS in Environmental Engineering is an option for students whose curriculum focuses on environmental engineering. A candidate for this degree must be a graduate of an accredited undergraduate engineering curriculum or equivalent. Students who hold an undergraduate degree outside of engineering will also be considered, but will be required to take <u>basic undergraduate engineering</u> <u>makeup courses as specified by the department</u>.

MS in Environmental Management and Science

The MS in Environmental Management and Science is an option for students desiring advanced studies in this area who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with focus in environmental management and science may also be interested in this degree title.

Special Degree Title Petition Form

All requests for a special degree title must be processed and approved before the 10th day of classes in your last semester prior to graduation.

Integrated BS/MS Program (IMB)

Carnegie Mellon CEE undergraduate students have the opportunity to plan a course of study that leads to both a BS in Civil Engineering and a MS in Civil and Environmental Engineering. With the approval of your advisor, you may take courses while an undergraduate that will count toward your MS degree. These courses are beyond the 379 units required for the BS in Civil Engineering degree. This course of study will ordinarily require ten semesters of study, although advanced placement or other study may reduce this time.

If you are interested in pursuing this option, you must submit an <u>IMB Program Declaration</u> form to <u>Melissa Ritchie</u>, the CEE Manager of MS Programs, no later than the beginning of your senior year. As an IMB student, you will be registered with graduate status in your 9th and 10th semesters of study; after all of your BS degree requirements have been satisfied. You are expected to meet with your graduate advisor in selecting courses that you plan to take for your graduate studies. You will also be required to attend two semesters of graduate student seminar.

Special Student Status

If you have already earned your Bachelor of Science you may be admitted as part-time special student if you have no intention of working toward a graduate degree.

Should you decide to pursue a MS degree later you will be able to count all relevant, graduate level courses taken at Carnegie Mellon with a grade of B or better toward your degree.

Statute of Limitations - Master of Science

All units required for a MS degree, whether earned in residence or transferred from another institution, must be recorded on your transcript within seven years of the date on which you are enrolled in the program.

The College of Engineering's Associate Dean for **Graduate and Faculty Affairs** can extend this statutory period if you have special circumstances that do not allow you to complete the degree requirements within the statutory period. The CEE department head and College of Engineering's Associate Dean for **Graduate and Faculty Affairs must approve this waiver**. The waiver request must explain the exceptional circumstances that warrant an extension. For cases in which a waiver is granted, the waiver will cover specific courses and will specify a time period for completion of the program.

Masters Students with Unsatisfactory Academic Performance

At the end of each semester, after final grades have been posted, the academic performance of each CEE student is reviewed (grades of dual degree students are reviewed for CEE academic performance only during the semesters in which they are assigned to CEE). Students with a cumulative QPA of less than 3.0, or who have earned a QPA of less than 3.0 in the most recent full semester completed, will be placed on academic probation. Students placed on academic probation will be notified in writing and should meet with their advisor to determine an academic plan of action.

Academic probation includes the following consequences:

- Students on academic probation may have any scholarships, research assistantships and/or financial awards rescinded.
- Students on academic probation cannot be selected to receive awards.

For a student on academic probation, this status will be automatically removed during the next academic review if the semester and cumulative QPA are 3.0 or better.

Students with a cumulative QPA lower than 3.0 at the end of two consecutive semesters may be removed from the CEE program. The student will be notified in writing and should meet with their advisor as soon as possible to discuss their academic situation. The student will then meet with the Department Head. If a decision for removal from the program is made, the student will receive the decision in writing and may appeal the decision by sending a formal letter stating the basis for appeal to the CEE Department Head. The student will have an opportunity to appeal a removal decision by the CEE Head to the College of Engineering Associate Dean for Graduate and Faculty Affairs. If the removal decision is not overturned, the student is not entitled to a refund of tuition or student fees incurred during the semester in which the appeal was being considered.

Doctor of Philosophy Program Requirements

After completion of the MS degree, students are eligible to apply for admission to the PhD degree. The PhD program typically requires an average of five years of graduate study following an undergraduate degree, or four years of study following an MS degree.

As a candidate for the degree of Doctor of Philosophy in Civil and Environmental Engineering, you are expected to have demonstrated a breadth of knowledge of and understanding of all aspects of engineering that impact upon your field of specialization, and demonstrate the ability to continue to grow without guidance in that field.

You are expected to have received a proper grounding in the fundamentals of engineering, science, mathematics, and the humanities in your undergraduate and masters studies. The PhD degree, however, is a research-oriented degree, and that implies that the holder of the degree is well versed in the fundamentals of one of the departmentally recognized fields of specialization and is up-to-date regarding the state-of-the-art of research and knowledge in that field. In addition, one must

have the ability to utilize those fundamentals and knowledge in solving ill-defined or new problems and demonstrate critical analysis and imagination.

While it is recognized that it is not possible to require each student to have a broad knowledge in every area of civil and environmental engineering due to the extreme diversity of the discipline, the department nevertheless works to ensure that you will develop breadth within your chosen areas of specialization, including fundamental subjects and related fields. It is expected that you exhibit an ability to integrate accumulated knowledge and be able to apply the fundamentals in your chosen field to new situations, including problems that may be open-ended or not well-defined.

The Qualifying Examination

PhD students are required to take a Qualifying Examination consisting of two parts:

- Comprehensive Examination (part one)
- Thesis Proposal Examination (part two)

Students must satisfy the requirements for both parts to pass the Qualifying Examination. Passing the PhD Qualifying Examination admits a student to All But Dissertation (ABD) status 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 must reapply for admission to the graduate program and will be judged competitively with other students applying at the same time.

PhD candidates will be examined in a public Doctoral Defense of the PhD thesis. The decision regarding the acceptability of a PhD Defense will rest with the candidate's Doctoral Committee. Once the final dissertation is submitted and approved by the Doctoral Committee, the student will be deemed to have satisfied all requirements for the PhD degree.

Comprehensive Examination (part one)

This examination is designed to evaluate the student's general knowledge and preparation for undertaking a doctoral program in their chosen area of study. The examination is customized for each student.

The Comprehensive Examination consists of two parts:

- A written examination appropriate to the academic background and research focus area of the students is developed by the <u>Comprehensive Exam Committee</u>. The committee is responsible for preparing the examination questions and evaluating the results.
- An oral examination administered by the <u>Comprehensive Exam Committee</u>. The oral examination generally consists of follow up
 questions on the responses provided by the students in the written examination. It may include questions on other topics related
 to the academic background and research focus area of the student.

Time Frame

The Comprehensive Examination will be scheduled immediately following the end of the fall semester. The written examinations will be open book and will involve four days of work. Each student receives four questions, one from each of four different questioners and will be structured so that the student can do a reasonable job on each question in one working day. The questions typically are related to a course that a student has taken with the faculty member, an equivalent course taught by the examiner that the student has taken elsewhere, or relative to the student's research area for which the examiner has particular knowledge. The question should be more open-ended than a typical homework problem, with different solution approaches possible, and perhaps with multiple "correct" answers. The idea is to see how the student can formulate and approach a problem that is not posed for them. In answering the questions, the student can use any source of information except for people.

Students are not permitted to submit revisions or supplementary information once the written Comprehensive Examination has concluded. Updated documents, addendums and reports will not be evaluated or considered in determining exam outcome. Students may use concise materials, such as a graph, or an aid to clarify or explain a point during the oral exam, however this aid will not be considered as part of the official Comprehensive Examination solution packet.

The oral examination will take place following review of the written parts of the Comprehensive Examination, typically two to four weeks after the written exam. Oral exam questions usually focus on follow-up to the written exam, i.e. on areas of the response that were incorrect, weak or not fully developed. Students are made aware of this format and are encouraged to do further work on the weak areas of their written responses as preparation for the oral exam. Questions on the oral exam can be on topics other than those covered in the written exam, but follow-up on the written exam is the norm.

A student should plan to take the first-scheduled Comprehensive Examination following one semester of full-time residence in the PhD program or after three semesters for direct-entry PhD students.

The oral examination should be scheduled within one month after the written examination. In the interim period, students may not communicate or discuss with questioners or others the content of the written examination or their responses, but they may (and should) review their written responses prior to the oral examination and be prepared to defend their responses.

Prior to Oral Exam

The <u>Committee Signature Sheet</u> must be prepared by the student prior to the Comprehensive Examination and presented by the student to the Committee Chair at the exam. This sheet will be signed by the Doctoral Committee at the completion of the exam and returned to the Director of Graduate Programs by the Committee Chair.

Grading and Evaluation

The grading and evaluation of the Comprehensive Examination will not be announced until a review has been conducted by the entire faculty of the Department of Civil and Environmental Engineering. Possible examination outcomes are as follows:

- Unconditional pass: the student performs satisfactorily in both written and oral portions of the Comprehensive Exam.
- **Conditional pass**: the student must satisfy a set of conditions before s/he can be considered as being deemed to have passed the exam. The committee should be specific on the timeframe for completion of the conditions. A conditional pass should not be awarded when a portion of the exam is to be retaken. A conditional pass does not require another review by the committee.
- No decision: the committee has agreed and decided that the student should re-take all or a portion of the exam at a time specified by the committee and agreed upon by the examinee. It is recommended that retakes are scheduled the following May, but no later than the traditional scheduled exam period the following January. New questions must be written for partial or full retakes.
- Fail: the student did not perform satisfactorily in the exam. When a student fails, there is no option for that student to retake the exam.

Comprehensive Exam outcomes, whether official or unofficial, will not be communicated to the examinee until after the faculty as a whole have discussed the outcome and agreed on the decision.

There should be NO discussion of the exam amongst examinees until after the final candidate's oral exam is held and the outcome communicated.

After Completion

The Comprehensive Exam outcome will be communicated to the student after the CEE Faculty have reviewed the committee recommendation.

The Comprehensive Examination Committee

The Comprehensive Examination Committee consists of four members including:

- A minimum of two full-time faculty from the Department of Civil and Environmental Engineering, one of whom must be tenured faculty
- A third faculty member from either the Department of Civil and Environmental Engineering or another department at Carnegie Mellon University
- A fourth member from another department at Carnegie Mellon University, another university, or a governmental or industrial research group as appropriate

The composition of the committee should be mutually agreed upon by the student and his/her advisor. It is important to note that the examination committee members are not necessarily the same as members of the student's doctoral committee.

It is the responsibility of the Chair of the candidate's doctoral committee to:

- Organize the committee
- Make necessary requests to depart from the established requirements
- Gather committee signatures of the examination results on the committee sheet
- Make recommendations on the examination results to department faculty

It is the responsibility of the student to:

- Invite the questioners to write your question and to participate in the oral examination
- Coordinate the oral examination date with committee, schedule the room location and notify the Director of Graduate Programs of the scheduled date
- Prepare the <u>Committee Signature Sheet</u> to present to Chair of committee for approval once the oral examination is completed

Thesis Proposal Examination (part two)

The Thesis Proposal Examination is designed to evaluate a candidate's ability to plan, conduct and communicate independent research in both oral and written form. The quality of the proposal document is an important part of the evaluation. The thesis proposal document should include the following elements:

- Title page
- Table of Contents

- Abstract
- Introduction
- Background (optional)
- Research Plan
- Schedule
- References
- Appendices (optional)

Each year the department holds a thesis proposal preparation guidance session. Students who have completed the Comprehensive Examination are encouraged to attend.

Time Frame

The Thesis Proposal Examination is typically taken between twelve and twenty-four months following the successful completion of the Comprehensive Examination and more than nine months prior to the final PhD Dissertation Defense. The candidate must submit a written thesis proposal to the Doctoral Committee a minimum of two weeks prior to the oral examination date.

In some circumstances, student advisors may recommend a different timeline for this examination, and students should discuss this possibility with their individual advisor. It is the responsibility of the advisor to communicate any modifications of the examination schedule to the Director of Graduate Programs.

Prior to the Examination

The <u>Committee Signature Sheet</u> must be prepared by the student prior to the Thesis Proposal Exam and presented by the student to the Committee Chair at the exam. This sheet will be signed by the Doctoral Committee at the completion of the exam and returned to the Director of Graduate Programs by the Committee Chair.

Grading and Evaluation

The grading and evaluation of the Thesis Proposal Examination will not be announced until a review has been conducted by the entire faculty of the Department of Civil and Environmental Engineering. Possible examination outcomes are as follows:

- Unconditional pass: the student performed satisfactorily in the Thesis Proposal Examination.
- **Conditional pass**: the student needs to satisfy a set of conditions before s/he can be considered as being deemed to have passed the Thesis Proposal Exam. The committee should be specific on the timeframe for completion of the conditions. A conditional pass requires another review by the committee.

Fail: the student did not perform satisfactorily in the exam. When a student fails, there is no option for that student to retake the exam.

After Completion

The Proposal Exam outcome will be communicated to the student after the CEE faculty has reviewed the committee recommendation and made a final decision.

A student is deemed to have passed the Qualifying Examination upon successful completion of both the Comprehensive and Proposal Examinations. The student is entered into All But Dissertation (ABD) in residence status and must complete all requirements for the PhD degree within a maximum of six years from passage of the Qualifying Examination.

The PhD (Doctoral) Committee

Each PhD candidate in the department will be directed and advised by a Doctoral Committee. The Committee will be responsible for:

- Advising the student on appropriate course work
- Assisting with thesis development
- Evaluating the final thesis product
- One member of the Doctoral Committee serves as Chair and typically this individual will serve as the candidate's principal thesis advisor. The Doctoral Committee must consist of at least four members, including:
- a minimum of two full-time faculty from the Department of Civil and Environmental Engineering, one of whom must be a tenured faculty member;
- a third faculty member from either the Department of Civil and Environmental Engineering or another department at Carnegie Mellon University;
- a fourth member from another department at Carnegie Mellon University, another university, or a governmental or industrial research group as appropriate. The composition of the committee should be mutually agreed upon by the student and his/her advisor. It is important to note that the Comprehensive Examination committee members are not necessarily the same as members of the student's Doctoral Committee.

Research and Dissertation Defense

After passing the Qualifying Examination, students will enter into full-time research and preparation of the dissertation in All But Dissertation status. To complete the requirements of the PhD, the dissertation must be reviewed by the Doctoral Committee and defended in a public oral examination. A <u>defense announcement</u> must be posted publicly a minimum of two weeks prior to the scheduled date. The completed defense announcement will be submitted to the Director of Graduate Programs prior to the posting deadline.

All But Dissertation (ABD)

The College of Engineering and Carnegie Mellon University policies recognize two main categories of ABD (All but Dissertation) doctoral students:

- ABD In Residence this is the standard status for students upon completion of the qualifying exam
- ABD In Absentia see below

An ABD doctoral candidate may, upon departmental certification thereof, be regarded as being ABD *in absentia* when and, so long as, the following three conditions concur:

- 1. The candidate has been enrolled as a full-time doctoral candidate at Carnegie Mellon University for at least one academic year. Part-time graduate enrollment may, at the department's discretion, be counted pro rata towards this total.
- 2. The candidate does not receive a stipend predicated on his or her status as a graduate student or doctoral candidate and paid by or administered by the university (whether teaching or research assistantship, scholarship, or fellowship).

3. The student does not require substantial use of University resources.

While an All But Dissertation student is *In Absentia*, no tuition will be assessed. The student will, however, be responsible for all applicable fees.

NOTE: students in absentia are not verified as students (either full or part time) to any outside agencies. Because they are not in an enrolled status, some international students cannot become "in absentia." Absentia students have only limited access to University facilities such as libraries and computer labs. Carnegie Mellon ID Card access privileges are deactivated during the absentia period.

An All But Dissertation (ABD) student who is In Absentia and returns to defend their dissertation has several options:

1. A student who **will receive** financial support may return to ABD *In Residence* (on campus) status. Funded in residence students must register as a full time student (36 units) and the University will assess any applicable tuition and fees. A stipend may be paid for or administered by CEE.

2. A student **who is not receiving** any financial support (such as tuition, stipend, fees or health insurance, whether full or partial) may return to ABD *In Residence* (on campus) status and register for five units of graduate study, based on applicable College of Engineering policy. The University will assess tuition and fees based on the five units of registration and the student is responsible for these expenses. The tuition rate will not be adjusted based on degree certification date.

3. A student returns to the university solely for the purpose of their defense is considered "ABD in Absentia – Limited Time On-Campus Defense" status. These students are on campus for 10 or fewer days and must register for five graduate study units in their final semester. The University will assess relevant tuition and fees for their five units and the student is responsible for these expenses. The tuition rate will not be adjusted based on degree certification date.

4. With approval from their doctoral committee and the Department of CEE, an ABD In Absentia student may elect to declare for an *"ABD Offsite Defense"* status during their final semester. These students do not physically return to campus in any capacity. No use of campus facilities is permitted. Students will complete their thesis defense via a remote video conferencing format. ABD Offsite Defense students will not be charged tuition in their final semester, but the University will assess a Dissertation Completion fee of \$3,000. This fee must be paid for by the student.

Refer to the complete ABD in residence and ABD in absentia policies at: College of Engineering Graduate Policies website.

Dissertation Preparation and Submission

The PhD dissertation should be prepared in accordance with the standards and guidelines of the College of Engineering: https://engineering.cmu.edu/education/academic-policies/graduate-policies/graduate-policies/thesis-dissertation.html

The final stage of completing the PhD degree requirement is submitting a successfully defended Dissertation prior to the posted deadline. The following guidelines, forms and links must be followed in completing this process.

CEE Student Dissertation Submission Process (follow these instructions prior to posted deadline)

- <u>Committee Signature Page</u> (complete the form and give to your committee at the defense)
- <u>Defense Announcement</u> (submit this completed form to David Vey no less than two weeks prior to the defense)
- <u>CIT Dissertation Standards, Instructions, Templates and Policies</u>
- Online Dissertation Submission

PhD Degree Title Options

The standard title of the PhD degree awarded to candidates in Civil and Environmental Engineering is the PhD in Civil and Environmental Engineering. In recognition of the varied interests of the students entering the department, several degree title options are offered, as listed below. Students wishing to receive a degree title other than PhD in Civil and Environmental Engineering must formally petition the Department Head for the special title. All requests for a special degree title must be processed and approved before the 10th day of classes in your last semester prior to graduation. <u>Petition for Special Degree Title Form</u>

PhD in Advanced Infrastructure Systems

The PhD in Advanced Infrastructure Systems is an option for students desiring advanced studies in this area who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with focus in advanced infrastructure systems may also be interested in this degree title.

PhD in Civil Engineering

The PhD in Civil Engineering is appropriate for students intending professional practice, and particularly those planning on obtaining a Professional Engineering license, in Civil Engineering. A candidate for this degree must be a graduate of an accredited undergraduate engineering curriculum or equivalent. Students who hold an undergraduate degree outside of engineering will also be considered, but will be required to take <u>basic undergraduate engineering makeup courses as specified by the department</u>.

PhD in Computational Mechanics

The PhD in Computational Mechanics is an option for students desiring advanced studies in mechanics, materials and computing who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with focus in computational mechanics may also be interested in this degree title.

PhD in Environmental Engineering

The PhD in Environmental Engineering is an option for students whose curriculum focuses on environmental engineering. A candidate for this degree must be a graduate of an accredited undergraduate engineering curriculum or equivalent. A candidate for this degree must be a graduate of an accredited undergraduate engineering curriculum or equivalent. Students who hold an undergraduate degree outside of engineering will also be considered, but will be required to take <u>basic undergraduate engineering makeup courses as specified by the department</u>.

PhD in Environmental Management and Science

The PhD in Environmental Management and Science is an option for students desiring advanced studies in this area who do not have an undergraduate engineering degree. The candidate may be a graduate in engineering or other disciplines. Any student who completes a program of study with focus in environmental management and science may also be interested in this degree title.

PhD in Civil and Environmental Engineering/Engineering and Public Policy

This is a PhD program administered jointly with the Department of Engineering and Public Policy.

Current students interested in the joint PhD CEE and EPP degree program must successfully complete one year of your PhD program in EPP or CEE before you are eligible to apply to the Joint PhD in CEE and EPP. Current students in the PhD program in EPP will need to submit an application for the PhD program in CEE and must begin the Joint PhD program at least one year prior to their expected graduation date. Current students in the PhD program in CEE should contact the Engineering and Public Policy department for additional information.

Students in the CEE/EPP Joint PhD degree program will complete the Comprehensive Exam in both departments, however the EPP Comprehensive Examination will be used to satisfy one of the four CEE Comprehensive Examination questions. One defense committee is formed which must satisfy the requirements of each department, however, only one proposal exam, final defense and dissertation will be required for the joint degree. Students in the CEE/EPP Joint PhD degree program must satisfy the teaching requirements of both departments.

Part-Time PhD Student Residency Requirements

Part-time PhD students are required to complete two semesters in residency (full-time status). The two residency semesters do not have to be continuous, however at least one full-time semester should be completed prior to the semester in which you take your PhD Comprehensive Exam.

The purpose of the residency requirement is to ensure that all PhD graduates have spent time interacting closely with CEE faculty members and graduate students as part of their PhD experience. The time in residence also ensures you an adequate opportunity to prepare for and complete the PhD qualifying examinations at the beginning of graduate study. You should work with your faculty advisor concerning the appropriate format and timing of their qualifying examinations and residency before or upon initiation of your PhD studies. Special situations may warrant modifications of the residency requirement, e.g., pursuit of a PhD degree by a Carnegie Mellon staff member. The Department Head and the CIT Associate Dean for Graduate and Faculty Affairs must approve petitions for modification of the residency requirement.

Part-time PhD students in CEE are required to register for a minimum of five (5) units each semester prior to the proposal exam. After completion of the proposal exam, students are moved to All But Dissertation (ABD) *in residence* status and eligible to petition for reduced units. If you are working towards your PhD *in absentia*, you are required by the University to register for five units in the semester your dissertation is completed and the degree is awarded. Additional information regarding the policy on in absentia PhD students is provided at the <u>College of Engineering graduate degree policies website</u>. Also, refer to the All But Dissertation (ABD) policy section earlier in this handbook.

According to U.S. Department of Homeland Security regulations, all International students are required to maintain a minimum of 36 units per semester to retain their student status. This requirement is reduced to a minimum of 5 units in the final semester of the international student's graduate program with the approval of the Department of Homeland Security.

Direct Entry (MS/PhD) Program

A PhD student in the Direct Entry program usually will complete the requirements for the MS degree "along the way" in their PhD studies. Students in the Direct Entry program are required to complete successfully the doctoral qualifying examination.

Intern PhD Program

The Intern PhD program is designed to be interactive with practice in industry, consulting firms or government. The program has these major requirements:

- One academic year of full-time residence at Carnegie Mellon
- Intern PhD students may register for part-time status for the semesters not in residency, subject to eligibility in regard to visa status. During these semesters, part-time students in CEE must register for a minimum of five units each semester prior to the proposal exam. After completion of the proposal exam, students are moved to ABD (all but dissertation) status and eligible to petition for reduced units, or if applicable, ABD in absentia.
- · Satisfactory completion of a two-part examination (comprehensive examination and thesis proposal examination)
- A formal arrangement with an industrial sponsor that includes regular release time for work on campus when not full-time, a co-advisor for the thesis and a commitment to provide support to complete the PhD research work.
- Completion and public defense of a thesis.

Statute of Limitations - Doctor of Philosophy

Once you have completed all formal PhD degree requirements including the completion of and approval of the PhD Qualifying Examination, you shall be regarded as ABD (all but dissertation) in residence. PhD students in ABD may remain in this status for a period no longer than six calendar years. If you have not completed your PhD degree within six years, you will be automatically dropped as a degree candidate. You will need to reapply to the department for admission as part of that year's applicant pool. You may also be required to petition the College of Engineering's College Council for permission to be readmitted to the program. If you are readmitted, you may be required to retake and successfully pass the Qualifying Examination before your PhD is awarded.

In addition to ABD residency requirements, As outlined in the Doctoral Student Status Policy:

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

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.

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.

PhD Student Advising

Every admitted student in the Ph.D. program conducts research with one or more specific CEE (full time or courtesy) faculty member who serves as the student's faculty advisor. The faculty advisor guides the student through the entire Ph.D. process including course selection, research, and selection of the research committee. This faculty member serves as chair of the student's Comprehensive Exam and Doctoral Thesis Committees and will often provide a Research Assistantship to the student.

Advising is monitored by the CEE Director of Graduate Programs and the Department Head. While Ph.D. students are responsible for ensuring that they are satisfying the requirements of their degree, the faculty advisor is responsible for providing feedback and guidance to ensure that research progress is made. All students must have a faculty advisor to maintain academic standing in the Ph.D. program.

In rare situations, students may wish to change faculty advisors (for example, if a student finds that there is an unsustainable mismatch between their learning style and their faculty advisor's mentorship style, or realize that their research project is not aligned with their future career goals). A student wishing to consider the possibility of changing advisors should consult with the Director of Graduate Programs or the CEE Department Head. Students are also encouraged to discuss their concerns with their faculty advisor(s) or Doctoral Thesis Committee members. The Director of Graduate Programs can join such meetings upon request. The process of changing advisors is complete when the new faculty advisor and CEE Department Head agree, and the change is recorded by the Director of Graduate Programs.

PhD Students with Unsatisfactory Academic Performance or Separation from Advisement

Maintaining satisfactory academic standing in the PhD program includes maintaining a minimum QPA of 3.0 and displaying academic progress. Making adequate progress towards the degree includes completing the PhD Comprehensive Exam, the PhD Proposal Exam and the thesis defense on a timetable agreed to with the advisor, and meeting research/academic expectations established in consultation with the advisor and project sponsor(s). If a student fails to maintain satisfactory academic standing or to make satisfactory progress towards the degree, they will be required to leave the PhD program. Except in unusual situations, students will be placed on academic probation prior to being removed from the program. The probationary period provides a final opportunity for the student to address shortcomings with academic performance.

To place a student on probation, the faculty advisor(s) must first discuss the situation with the Department Head. The Department Head will then send a formal letter to the student, with a copy to the student's PhD committee, indicating the probationary status for failing to make adequate academic progress. This letter will outline the issues and describe explicitly the specific progress that the student must achieve in order to be removed from probation and the associated timeline. If satisfactory progress on the actions specified in the letter is not made, as determined by the faculty advisor(s) and the PhD committee, the student will be required to leave the program.

Upon the beginning of the probationary period, the student's current faculty advisor will continue to financially support (if the student is on a Research Assistantship) the student's standing in the program through the completion of the following term (including summer terms). The purpose of this timeframe is to give the student time to prepare in the event that they are asked to leave the program upon completion of the probationary period.

Registration Policies and Procedures

Graduate Student Course Registration

Course registration is conducted online via SIO. You will be asked to login with your Andrew ID and password. If you have problems with registration, PhD students should contact <u>David Vey</u>, the Director of Graduate Programs in Porter Hall 118N. MS students should contact <u>Melissa Ritchie</u>, CEE Manager of MS Programs in Porter Hall 118D. Full-time students are required to register for a minimum of 36 units and a maximum of 48 units. Students are permitted to register for up to 54 units at the beginning of the semester in order to select the courses that best meet their academic objectives, however the total number of units in which a student is registered must not exceed 48 by the end of the 10th day of classes, which is the deadline to add courses. Students who are registered above the 48 unit maximum on the 10th day of classes will be required to drop excess units immediately. Note that International Students will have visa restrictions that prohibit registering for fewer than 36 units in any semester.

After the first semester, students in good academic standing may request special permission from their academic advisor to carry up to 54 units for the semester (audit units are included). It is the student's responsibility to solicit and submit Advisors written approval to the Director of Graduate Programs no later than the 10th day of the classes to avoid having units over 48 dropped. Note that requests to register for greater than 48 units will be considered only for students who currently hold a QPA of 3.0 or greater.

Part-time MS students must register for a minimum of 12 units. Part-time PhD students in CEE are required to be registered for a minimum of five (5) units each semester prior to passage of the proposal exam. After completion of the proposal exam, students are moved to ABD status and may be eligible to petition for reduced units.

Petition to Increase Units

Summer Registration

If you are a full-time PhD student (36 units or more) during the Spring semester, you will register for Summer semester reading and research units. There is no additional cost for Summer research units and they cannot be applied toward your degree requirements.

MS and PhD students may choose to register for academic courses (as opposed to reading and research units) in the Summer semester to make up a deficiency in degree requirements or for academic research credit. Tuition charges are assessed for regular graduate academic courses and research units.

Please notify David Vey (PhD students) or Melissa Ritchie (MS students) if you are planning to register for academic research during the summer session.

Adding / Dropping Courses

Graduate students may add courses without administrative approval through SIO until the 10th day of classes. It is recommended that you discuss course enrollment changes with your advisor.

After the 10th day of classes, a course may be added up to the published deadline on the academic calendar with Dean's approval. Please see David Vey (PhD students) or Melissa Ritchie (MS students) if you need to add a class after the 10th day of classes.

Graduate students may drop a course online on or before the deadline published in the official university calendar. Note that some non-CEE departments may hold more restrictive drop deadlines that should be noted prior to enrolling in the course. CEE will not provide approval for requests to drop courses outside of these deadlines.

When a course is dropped by the deadline, the course is removed entirely and disappears from your academic record. When a graduate student drops a course between the official university deadline to drop a course and the published withdrawal deadline, 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.

Requests for adding or dropping of courses after the published deadlines must be approved by the appropriate instructors and the student's department head or faculty designate. For special actions, such as changes in grade or petitions to College Council, the department head's signature is required.

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

Course Audit

Auditing a course is "presence in the classroom without receiving academic credit". To audit a course, you must register for the course and complete the course audit form which is available through the Hub forms page. Approval of the course instructor for an audit must be obtained by the student; there is a space on the audit form for this purpose. Audit units will count toward your unit maximum, but you will not receive academic credit, a pass/no pass, or a letter grade. Audit courses receive an "O" grade.

Pass/No Pass Grades

Pass/No Pass grades are an alternative to course audit as it indicates a greater level of engagement in the course than the audit. Pass/No Pass grades are permitted at the discretion of the instructor and you will need to provide written approval from the course instructor to use this grading option. Pass/No Pass grades will not be counted toward completion of CEE degree requirements and are not permitted for courses used to satisfy MS course requirements. Graduate students who are required to take additional undergraduate courses to build up the core foundations of engineering may not elect the pass/fail option for these courses.

Transfer Courses and PCHE

https://www.cmu.edu/policies/student-and-student-life/transfer-credit-evaluation-and-assignment.html

Carnegie Mellon University offers students the opportunity to take courses for credit through a cross-registration program (see Pittsburgh Council on Higher Education (PCHE) and Cross-registration below) and through the receipt of transfer credit from other accredited institutions. The Carnegie Mellon University transcript will include information on such courses as follows: Carnegie Mellon courses and courses taken through the university's cross-registration program will have grades recorded on the transcript and be factored into the QPA. All other courses will be recorded on the transcript indicating where the course was taken, but without grade. Such courses will not be taken into account for academic actions, honors or QPA calculations.

Cross-Registration

As a CMU student, you have the ability to take courses for credit at several local universities through a Cross-Registration program. Please refer to the policy at: <u>Pittsburgh Council on Higher Education</u>. If you take courses through the cross registration program your grades will be recorded on your CMU transcript and be factored into your QPA.

Cross-Registration forms and instructions are available on the Hub's website, and must be completed, approved by your advisor, the Department Head, and the College of Engineering's Associate Dean for Graduate Students and Faculty Affairs.

Transfer of Graduate Credits

You are permitted to transfer up to 24 units of graduate work from another institution toward your graduate degree in Civil and Environmental Engineering provided these credits were not used for other degree requirements. Transferring credits is not automatic, regardless of the grade earned for those courses. Students wishing to transfer credit will need to submit a <u>Graduate Transfer Credit Request form</u>, including the course description, syllabus and final transcript for Department Head approval.

If you are planning to take a course elsewhere with the intention to transfer the credit you will need to submit a <u>Graduate</u> <u>Transfer Credit Request form</u> for Department Head approval <u>prior to beginning the course</u>. You will need to include a course description with the transfer credit request form. If your request is approved, you will also be required to present a transcript proving completion of the course in order to finalize the transfer credit.

The Department of Civil and Environmental Engineering will not approve the transfer of any course with a grade below 'B'. The course must be suitable for your area of study and approved by both your advisor and the Department Head.

Transfer courses will be recorded on your transcript indicating where the course was taken, but without grade. These courses will not be taken into account for academic actions or QPA calculations.

Double Counting Courses

"Double Counting" refers to instances when a course taken to fulfill one requirement counts simultaneously toward a requirement in another program. Double Counting is not permitted in the graduate program. We will not accept credits or units toward the MS degree in CEE that were used to satisfy another degree requirement.

Independent Study

Advanced Independent Study (12-792) is designed to provide students with an opportunity for intensive study of a subject that is either unavailable or insufficiently covered in regular course work. Independent study is not intended to substitute for existing courses, but to provide the opportunity for a specialized educational and research experience.

Any faculty member in the Department of Civil & Environmental Engineering is eligible to serve as your supervisor for an Independent Study project. You will need to submit a brief prospectus of the project to the faculty supervisor as a basis for reaching agreement on the objectives of the study.

Students who register for an approved Independent Study project may not receive pay for the associated project work and still earn academic units in the given semester the work takes place.

The following procedure must be followed for anyone wishing to register for independent study:

Supervisor is CEE Faculty:

- Register for 12792 Independent Study
- Required Administrative Documentation of Project: None
- Academic Credit: Up to 12 CEE graduate level units

Supervisor is Non-CEE Faculty:

- Register for Independent Study course number in faculty supervisor's department
- Required Administrative Documentation of Project submitted to CEE: Outline of work being done, including the name of the non-CEE Faculty Supervisor, non-CEE course number and number of units. Your CEE Advisor must approve this request.
- Academic credit: Up to 12 non-CEE graduate level units

Supervisor is Non-CEE Faculty, and student desires 12792 credit for the units:

- Register for 12792 Independent Study
- Required Administrative Documentation of Project submitted to CEE: Outline of work being done, including the name of the non-CEE Faculty Supervisor and number of units. Outline must also include an explanation of how this work relates to CEE. This documentation must be approved by the student's CEE Advisor. If the faculty supervisor is outside of the College of Engineering, the CEE Department Head must also approve the request.
- Academic Credit: up to 12 CEE graduate level units

Process for Taking & Returning from Leave of Absence or Withdrawing from the Program

Students intending to take or return from a Leave of Absence or withdrawing from the graduate program are encouraged to meet with their CEE advisor or department head, and the Director of Graduate Programs. Complete information as form can be found at: <u>https://www.cmu.edu/hub/registrar/leaves-and-withdrawals/</u>

Process for Withdrawal of a Degree

The university reserves the right to withdraw a degree even though it has been granted should there be discovery that the work upon which it was based or the academic records in support of it had been falsified. In such a case, the degree will be withdrawn promptly upon discovery of the falsification. The complete reference to this university policy is available at: https://www.cmu.edu/policies/student-and-student-life/withdrawal-of-a-degree.html.

Grading

The general grading policy is described on the <u>university grading policy page</u>. The following are specific policies for College of Engineering graduate students:

- No A+ may be recorded for a CIT graduate student.
- Project and research work may be given an S (Satisfactory) grade on a semester-by-semester basis, but a letter grade (A, A-, B+, B, B-, C+, C, C-, D+, D, or R) must be given in the final semester for a multi-semester project. The units with an S grade are counted toward degree requirements but are not included in computing the average grade.
- Course work or graduate project units with a grade of C- or lower are not acceptable toward graduate degree requirements.
- The average grade of 96 units applied to the MS degree shall be at least B (3.0 QPA), and the student may choose any 96 units of the first 120 units attempted to compute the grade average.
- For students in MS programs of greater than 96 units in length (102, 108, 114, etc.), the average grade of the program's overall unit requirement applied to the MS degree shall be at least B (3.0 QPA), and the student may choose any of the first 120 units attempted to compute the grade average.

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 University policy: https://www.cmu.edu/policies/student-and-student-life/transfer-credit-evaluation-and-assignment.html.

Enrollment Verification

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 online through The HUB at:

https://www.cmu.edu/hub/registrar/studentrecords/verifications/.

Change of Address

CEE students are responsible for notifying CEE, the HUB and OIE (as appropriate) of all address changes in a timely manner. Students will be held responsible for any failure to receive official college notices due to not having a correct address on file; F1 students may jeopardize their status if address information is not kept current.

Students can change their address using SIO, which is available via the HUB website: http://www.cmu.edu/hub/index.html.

Directory Listings

Carnegie Mellon generally will not disclose personally identifiable information from your education records without your consent **except for directory information** and other exceptions specified by law.

Directory information is personally identifiable information of a general nature that may be disclosed without your consent, unless you specifically request the university not to do so. It is used for purposes like compiling campus directories.

If you do not want your directory information to be disclosed, you must notify The HUB, in writing within the first 15 days of the semester by completing the "<u>Directory Information Restriction Form</u>" at: <u>https://www.cmu.edu/hub/forms.html</u>. The "<u>Consent to Release Information</u>" form is also available within.

Disciplinary Action of Matters of Cheating, Plagiarism and Academic Integrity

Academic integrity is taken very seriously at Carnegie Mellon, theCollege of Engineering, and the Department of Civil and Environmental Engineering. The department follows the <u>university policy on academic integrity</u> and disciplinary actions for violations.

First, cheating in any form is not permitted as an ethical or professional behavior and will not be tolerated. Cheating includes, but is not necessarily limited to:

- The use of unauthorized materials including computer programs in preparation of an assignment or during an examination.
- The submission or use of falsified data.
- The submission of work that is not the student's own. Plagiarism
- The use of an alternate/stand-in/proxy during an examination.
- Supplying unauthorized data to another student for the preparation of an assignment or during an examination.
 Collaboration in the preparation of an assignment, unless specifically required by the instructor, will usually be viewed as cheating. Each student, therefore, is responsible for understanding the policies of the instructor offering any course as they refer to the amount of help and collaboration permitted in preparation of assignments.

Should any student be found guilty of cheating on a quiz, exam, homework, or project, at minimum a zero grade will be recorded and then averaged in with the other grades (should there be any) for the term. Depending on the circumstances, and at the discretion of the instructor and the Department Head, the student may be failed in the course and placed in academic suspension. A repeated occurrence of cheating in a course will be treated as an automatic failure (R grade), removal from the program, and a recommended expulsion from the University.

Plagiarism

Plagiarism is defined as "passing off as one's own the ideas or works of another". Making use of reference material and failing to note (either at all or properly) the original source constitutes plagiarism.

When two or more people work together on an individual project and each then turns in his/her individual report as though no collaboration was involved, this also is plagiarism. Simply rewriting another's words or thoughts, or rearranging another's materials, is in every sense plagiarism - unless the student properly and completely references such material, each and every time it is used and to the full extent of usage.

Should a case of plagiarism arise, the initial responsibility for judging the seriousness of the offense will rest with the Instructor of the course. If the instructor feels that the student was simply sloppy in referencing the material used and plagiarized, a judgment of sloppy professionalism rather than cheating will be made. The grade for the paper, project or thesis will be lowered by one grade point. On the other hand, if the instructor feels that the student plagiarized flagrantly and intentionally meant to mislead the instructor into thinking that the work was the student's own original work, the grade for the report, project or thesis will be recorded as zero.

It should be emphasized that any collaboration that involves individual take-home projects, papers or theses should be carried out only with considerable discretion. Students are encouraged to discuss and collaborate among themselves on the various principles which are exposited in class or covered in the reading material, etc.; but any group discussion or collaboration which involves any specifics of take-home projects, papers or theses should be avoided - unless the ideas or efforts of others are to be properly noted. Put differently, when individual work and thinking is called for, group thinking and/or work is entirely inappropriate and is a form of plagiarism.

Group projects are often assigned in classes. In a group project, it is important for all members of the group to hold each other to high standards of academic integrity. It is important for all members of the group to review the entire product of the group effort, e.g., the entire final report, before it is submitted and to be confident that the product meets high standards of academic integrity. If there is an academic integrity problem with any part of the group product, the entire group will face the same disciplinary action.

In any case of cheating or plagiarism, and depending on the nature of the offense, research assistantships and scholarships may be temporarily or permanently rescinded. The student may request a review of the instructor's decision by the department head, who will make the final decision for the department. The student, of course, can appeal any faculty decision to the University Committee on Discipline. In a case of flagrant cheating by a graduate student on a thesis, the matter may be forwarded to the Disciplinary Committee for stronger action.

In accordance with the university's policies, a student who violates the academic integrity policy will not be permitted to drop the course in which the offense occurred in order to avoid penalty.

University Policy on Cheating and Plagiarism

University Academic Disciplinary Actions Overview for Graduate Students

Academic Integrity Policy

Please review the University Policy on <u>Academic</u> Integrity. 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

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.

PhD and Research MS Obligations, Assistantships and Financial Information

Support for graduate study is only offered to full-time students (36 units). This support is given on a selective and competitive basis. All graduate students, regardless of support status, are required to participate in educational and professional activities such as the creation of thesis research or projects, teaching, and participation in departmental seminars.

Assistantship Appointments

Graduate research assistantship appointments are offered as support of full-time graduate study and not as regular employment; the appointments do not carry employee fringe benefits such as paid vacation, sick leave, or health insurance.

Academic Year Appointment		Renewed after the academic records have been reviewed in the spring and, in some cases, at the end of the summer.
Split Appointment (One Semester)	Fall: Aug 16 to December 31 Spring: January 1 to May 15	
Summer Appointment	1-3 months May 16 to Aug 15	Summer support for one to three months from June through August is often available, no commitments to the students will be made prior to April 1 of the same year.

Appointments for the following academic year may not be made until the department has reviewed resources, particularly externally funded research contracts. Some academic year appointments may be made conditionally, contingent, for example, upon the completion of the MS project report or the completion of the Doctoral Qualifying Examination.

As a research assistant you should discuss your progress with your faculty advisor(s) periodically to ensure that you are meeting the obligations of your appointment and to determine if you will be able to renew your appointment. Continuation of a research assistantship is dependent on a student maintaining satisfactory academic and research performance. Typically, the Department reviews all graduate appointments during the Spring semester for consideration of new and continuing appointments for the following academic year. Questions concerning your reappointment should be directed to your academic advisor or to the Department Head.

Faculty members generally budget student financial assistance over the standard duration of the student's tenure at Carnegie Mellon. However, research funding is often reliant on external sources and is not guaranteed. If lack of funding becomes an issue, you will be notified in writing of any change in financial support at least one semester in advance of the semester in which the termination of funding is to occur. In the event that your funding is terminated, additional funding resources may be secured. Alternatively, you can attempt to locate another advisor with research assistantship funding. We strongly encourage all graduate students to seek funding from external sources such as fellowships and grants (see Fellowships and Scholarships below).

Summer Appointments

Summer appointments are primarily research based but there are occasionally appointments that will include some teaching, academic course preparation etc. If you are interested in a Summer appointment you will need to discuss this with your advisor prior to April 1. Summer appointment offers are made during the period April 1 – May 1, and need to be arranged in advance among you, your advisor and <u>Cathy Schaefer</u>, the CEE Director of Finance and Operations.

Payroll

Most stipends and fellowships are processed via the CMU Works Service Center. Students with stipends or fellowships will visit the Service Center office in person to present required documents and complete an I-9 form regarding level of tax withholding. Stipends are issued semi-monthly. Specific payment dates can be found on the payroll calendar, listed here:

https://www.cmu.edu/finance/calendar/index.html. Payroll information and payment is disseminated electronically at CMU, through the "Workday" system: https://www.cmu.edu/my-workday-toolkit. You can access and update your personal information, tax withholding, enter hours (if applicable) and view pay slips in WorkDay. You can also enroll in direct deposit through Workday to have stipends deposited automatically into your bank account.

You can visit the CMU Works Service Center in person at 4516 Henry Street, by phone at 412-268-4600, or email cmuworks@andrew.cmu.edu.

Social Security numbers (SSN) are necessary for taxation purposes. You may begin your position without a SSN, but must apply as soon as possible within the federal guidelines. Specific guidance can be found at: https://www.cmu.edu/oie/foreignstudents/docs/ssdirect.pdf.

Please contact <u>CMU HR Services</u> if you are unable to access or update the information in WorkDay referenced above.

Stipend Deductions

Tuition is only a portion of the cost of attendance at CMU; fees including transportation, activity, and technology are also assessed. The Student Accounts office is provided with the tuition and stipend information for each student prior to the start of the semester, however, you should review your student account to ensure that proper tuition and fees are deducted from your student account, and that the deductions are properly credited to your account. You can reference your student account information through the Student Information Online (SIO) system. Information about tuition rates and fees can be found at: https://www.cmu.edu/sfs/tuition/graduate/cit.html.

If you find a discrepancy in your billing, please contact HUB liaison, Melissa Skasik, at mailto:skasik@andrew.cmu.edu.

Tax Status and Filing

CMU fellowships and assistantships are intended to provide financial support for graduate students and are not regarded as regular employment by the University regardless of whether the sources of funding are internal or external. The University will cooperate in providing information necessary for you to file claims for income tax exemptions.

At the present time, Civil and Environmental Engineering graduate assistantships (stipend portion) are exempt from PA State and Pittsburgh Local earned income tax. Federal tax is assessed on stipends. The tuition portion is exempt from federal, state and local taxes. Statements to this effect are on file in the payroll office for each graduate student on an assistantship. Graduate student scholarships are not taxable.

International students should consult the Payroll Office (4516 Henry Street) regarding taxability and tax treaties. Please consult the policy on <u>Tax Status for Graduate Student Awards</u> for detailed information about tax-exempt status. **Note that CEE staff are legally prohibited from answering student questions about their individual tax status.**

The deadline for filing local, state, and federal tax returns is April 15 each year, for the previous calendar year. You can obtain tax forms in the mail, at the post office, or at the Carnegie Library. Tax forms related to your stipend will be mailed to you by the CMU Works Service Center. Questions about your tax status should be addressed to the IRSTeleTax at 412-261-1040, or the Pennsylvania Department of Revenue at 412-565-7540. Although subject to federal taxes, student stipends are generally not assessed local or state taxes.

Tuition and Financial Obligations

New fall tuition rates are approved each spring by the Board of Trustees and published on the University's <u>website</u>. Tuition and fee payment arrangements are made directly through the <u>Hub</u>. It is your responsibility to assure that your student debt is settled by the published dates. Diplomas and transcripts will not be presented until the student's financial debt is settled.

Please see The Word for additional information.

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 <u>Guidance for Completing the Form I-9 and E-Verify Requirements at CMU [pdf]</u>, or visit the Human Resources Service website to <u>learn more about Form I-9 and E-Verify</u> and to <u>schedule an appointment to complete the Form I-9</u>.

Doctoral Student Health Insurance Coverage

Students are responsible for covering the cost of their health care insurance, which is mandatory. For doctoral students who elect to enroll in Carnegie Mellon University's <u>Student Health Insurance Plan (SHIP</u>), the University will cover 100% of the premium cost for your individual coverage under SHIP. While you will have the opportunity to purchase partner, spouse or dependent coverage under the SHIP plan, the University's support will be limited to 50 percent of the individual coverage amount. Please note that if you wish to elect the required health insurance coverage under an alternate plan, you will not be eligible for the University support referenced here.

To be eligible for the health insurance financial support, you must enroll in the SHIP program no later than the deadline posted at <u>University Health Services</u>. Please be advised that we will verify your enrollment with University Health Services prior to processing the insurance premium support. More information can be found here: <u>Health Insurance Only Payment Plan</u>

For questions concerning health coverage, please contact University Health Services at <u>shinsure@andrew.cmu.edu</u> or call (412) 268-2157.

Semester Breaks and Time Off

Students with graduate assistantships are expected to continue with their research during academic breaks (including the summer months) with the exception of the official university holidays. Please see <u>The Word</u> for additional information.

University Holidays

Independence Day Labor Day Thanksgiving Day After Thanksgiving Christmas Eve Christmas Day

New Year's Eve New Year's Day Martin Luther King, Jr. Day Memorial Day Juneteenth

Time Off Policy for Doctoral Students

In accordance with the policy announcement from the Carnegie Mellon Provost in March 2022, CEE will observe the guidelines for providing doctoral students in a 12 month program, 10 annual days away from the program. These days are in addition to official university holidays and are to encourage student well-being and balance.

If you need to take a longer period of personal time off you will need to have your research advisor approve your request a minimum of four weeks prior to when you would like to take your time off. Extended periods of time off are taken without pay. Please complete a "Research Assistant Personal Time-Off Request Form" (linked below) and have it signed by your advisor. You can get this form from the Director of Graduate Programs. The advisor will notify the <u>Director of Graduate Programs</u> and/or the <u>Department Business Office</u> of your arrangements so that an appropriate adjustment in your stipend can be processed. <u>Research Assistant Personal Time-Off Request Form</u>

External Employment

If you are receiving university support, you are not permitted to accept employment for compensation outside of the department for the duration of your appointment.

Research Responsibilities

The second part of a Graduate Assistantship is work in research, which in many cases is supported by external funding. Usually the research will be on a subject which will become your thesis, so it is difficult to separate the time required for the research segment of your assistantship from the time spent working on your thesis.

In combination, the amount of time you spend on your research is often thirty hours or more per week. However, those few cases where the research assistance is not on the same topic as your thesis, it is necessary to clearly define the requirements for the assistantship as 20 hours.

During a semester in which you are serving as TA and doing research, the obligation for research is no more than ten to fifteen hours per week. In combination with teaching, the total obligation is 20 hours. It is the intention of the Department to have all students doing research that leads to a thesis so that the situation noted above does not develop.

Academic requirements are the same for all students pursuing a research-based degree. Self-funded MS and PhD students are not required to participate in the research program.

Responsible Conduct of Research (RCR) Education

CEE fully supports the position of the university on research ethics, as stated on the Office of Research Compliance site:

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

If you are involved with research you are required to take the appropriate online training offered by the Collaborative Institutional Training Initiative (CITI) prior to beginning your research program. For CEE graduate students, the CITI <u>Physical Science Module</u> package is recommended rather than the module package for engineers, although both are acceptable.

The course(s) may take a few hours to complete but can be done over a period of time. Upon completion of the course, print your certificate of completion and submit to the <u>Director of Graduate Programs</u>.

Teaching Responsibilities

The teaching part of the program is a fundamental part of your graduate experience. This experience will provide both a valuable learning and mentoring experience. All graduate students (with the exception of non-research masters and part time students) are expected to serve as a Teaching Assistant (TA) for one course each year with an average time commitment of ten hours a week. Typical teaching responsibilities are varied, depending on the needs of the course and the instructor. Examples of some of the most common responsibilities are:

- Attending class
- Grading (homework, exams, labs, quizzes, reports)
- Preparing for and assisting students in laboratory sessions
- Preparing and teaching recitation
- Assisting students during office hours
- Creating problem sets and solutions

TA Assignments

PhD students entering the graduate program directly from their undergraduate degree will be required to TA a maximum of five times and those who enter with their MS degree will be required to TA a maximum of four times. MS research assistants will be required to serve as a TA for one or two courses while in the MS program. Students serving as TA will register for 12-793 Graduate Teaching Assignment for each semester that you serve as a TA. This will provide documentation of your teaching assistant experience.

Faculty will be contacted each May and November with a request for TA recommendations for each of their advisees. At that time, faculty members are encouraged to meet with each student eligible for TA responsibilities to discuss their strengths, interests, and TA preferences. Advisors will then make TA recommendations to the Department Head, who will in turn, make the final assignments. The final TA assignments are ultimately the decision of the Department Head.

Teaching assistant responsibilities are normally confirmed approximately one month prior to the start of the fall and spring terms. If you are interested in being assigned to a particular course or for a specific term, you should communicate your interest to your advisor in May for classes in the fall semester and in early November for classes in the spring semester. When assignments are made the department considers your requests as well as the obligations to your funding source(s). Every effort will be made to match your interests, but perfect matching cannot be guaranteed.

You may not be enrolled in a course in which you assigned as a TA. Exceptions will be considered upon faculty request in special situations when the TA responsibilities are limited to software support, lab set-up, or course logistics. In these cases, however, you will not be permitted to grade.

Teaching assistants will typically be assigned to classes with an enrollment of 11 or above at the discretion of the Instructor and the Department Head. Additional TAs will be added should the enrollment and workload warrant. The

Department Head, on a case-by-case basis, will consider faculty TA requests for classes with less than 11 students but with lab or other significant logistical requirements.

TA Training

To ensure adequate preparation for assigned TA duties, all graduate students with TA requirements must register and attend course 12-790 "Teaching Workshop." This course is comprised of a series of asynchronous learning modules, distributed early in the fall and spring semesters.

The Eberly Center for Teaching Excellence assists both faculty and graduate students to improve teaching practices through seminars, classroom observation and feedback, documentation of teaching development, and a monthly reading and discussion group. For more information about the services offered through The Eberly Center, visit their website at: http://www.cmu.edu/teaching/eberlycenter/

Requirements for Non-Native Speaking Teaching Assistants

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

https://www.cmu.edu/policies/faculty/evaluationcertificationenglishfluency-instructors.html.

Non-native speaking teaching assistants (TAs) must apply for International Teaching Assistant (ITA) certification administered by the <u>Student Academic Success Center</u>. Please refer to the <u>Overview of ITA</u> website for instructions.

Faculty Mentoring

Faculty members aim to provide a positive and meaningful TA mentoring experience. You should meet with your assigned faculty member prior to the first class each semester to discuss their requirements and expectations. If the faculty member has not contacted you beforehand, you should initiate contact and request a meeting with them.

Faculty supervising more than one TA in a class should make every effort to ensure that the TA responsibilities are distributed equally between TAs assigned to that class. Faculty members should also monitor TA workloads to ensure that it does not average more than ten hours per week. Any workload which regularly requires more than ten hours of work per week of the TA's time should be reported to the instructor or the department head so that additional TAs or alternate arrangements can be considered.

As stated above, it is expected that your teaching assistant experience will be mutually beneficial to both you and the instructor and that a positive Instructor/TA relationship will be established. Should a conflict arise, it is recommended that both the instructor and TA do their best to resolve the issue among themselves. However, in situations where this is difficult, the instructor and/or teaching assistant are encouraged to bring their concerns to the Department Head for resolution.

External Fellowships and Scholarships for Graduate Students

Fellowships look great on resumes and the department encourages students to apply for all fellowships for which they are eligible, even if they are currently supported by departmental, grant or research money. Aside from the professional advantage, full and partial fellowships can help to defray the cost of the educational experience and the burden on the research group. Faculty and the Director of Graduate Programs will make every effort to disseminate fellowship and scholarship information as it becomes available, however students are encouraged to actively seek out potential funding

sources as well. When applying for or receiving an outside funding, it is important to notify the CEE Business Office to ensure the application of the funds are properly used and optimized. Neglecting to share this information may cause an unpaid balance on your student account which may prevent you from registering or graduating.

Several of the fellowships that our students commonly apply for include:

- National Science Foundation
- National Defense Science and Engineering
- American Society of Civil Engineers (ASCE)
- Hispanic Scholarship Fund
- Fulbright U.S. Student Program
- National Academies
- <u>National Oceanic and Atmospheric Administration</u>
- Society of Women Engineers (SWE)
- GEM Fellowship

For a complete list of available fellowships for which you might apply, please visit the <u>Carnegie Mellon Fellowships and Scholarships</u> <u>Office</u>.

Additionally, CEE endeavors to keep our students up to date with an ongoing list of fellowships that are available for consideration. To assist with this effort, the department frequently updates our <u>CEE Fellowship Tracker</u>. Check this list often throughout the academic year for the most recent updates.

University Financial Aid, Loans and Fellowships for MS Students

Consult the Graduate Financial Aid Guide for information about funding options and how to apply for financial aid and other helpful links on The HUB website for financial aid opportunities: https://www.cmu.edu/sfs/financial-aid/index.html.

Students who are interested in applying for external fellowships should see their advisor or check the on-line information provided by the <u>Fellowships and Scholarships Office website</u>. The Web site is an excellent resource for locating an abundance of information regarding available funding for students.

CEE Department-Funded Scholarships

Any CEE department-funded scholarship mentioned in the admission letter will be credited toward the student's account as partial fulfillment of tuition in advance of the student's first semester. Students may view their account information via SIO and all students are responsible to monitor their account to ensure the correct scholarship amount is credited there.

The award of CEE department-funded scholarships/financial support is confidential. Award recipients should not report their award on social media or other public platforms.

Emergency Loans

If you are in need of immediate funds for emergency situations, contact the Office of the Dean of Student Affairs <u>www.cmu.edu/student-affairs/index.html</u>, to inquire about an Emergency Student Loan.

External Funding Opportunities Outside Carnegie Mellon - U.S. Department of Education Resources

U.S. citizens and permanent residents may complete the Free Application for Federal Student Aid (FAFSA) online.

Students may obtain information regarding their loans through the William D. Ford Direct Loan Program, including deferment forms and payment information at https://studentaid.gov/help-center/answers/article/federal-direct-loan-program.

Information about the federal student aid programs may be found at https://studentaid.gov/

Additional Sources of Financial Aid for International Students

The following information is designed to help international students in the search for additional sources of financial aid for attendance at SAIS. This list includes a Fellowship Program from the Institute of International Education, a number of Loan Programs, and relevant websites and online sources of information.

I. Grants and scholarships:

1. Institute of International Education (IIE)

The IIE is a nonprofit organization that promotes international education. They provide information about the Fulbright Program on their website: <u>www.iie.org</u>. Number and amount of grants differs from country to country. They also publish several useful guides, including *Funding for US Study: A guide for Foreign Nationals, English Language Orientation Programs* (a guide to ESL programs in the US), and *Academic Year Abroad*. Books can be ordered through e-mail to iie-books@iie.org.

You may also write to: Institute of International Education (IIE) 809 United Nations Plaza New York, NY 10017-3580

2. Ford Foundation International Fellowship Program (IFP) The Foundation sponsors three minority graduate fellowship programs – pre-doctoral, doctoral, and postdoctoral - through the National Research Council. For information write or call the

National Research Council

2101 Constitution Avenue Washington, DC 20418 tel: (202) 334-2872

The IFP provides support for up to three years of formal graduate-level study. Fellows will be selected from countries in Africa and the Middle East, Asia, Latin America, and Russia where the foundation maintains active overseas programs. U.S. nationals are not eligible, although fellows may study in the United States. IFP Fellows must be nationals of eligible countries. Please refer to the following website for more detailed information concerning the application process, eligible candidates, and IFP requirements: www.fordfound.org

International students may find the information on the websites below helpful in researching funding sources:

- <u>www.internationalscholarships.com</u>
- <u>www.edupass.org</u>
- <u>www.educationusa.state.gov</u>
- Women's Leadership Scholarship

Other Funding

Fenves Travel Grant

The Fenves Travel Grant was created to provide partial conference funding support to graduate students who will be traveling to a professional conference in order to present a paper. Applicants wishing to apply for this grant should have no other means of travel funding, or have exhausted all available travel support from their faculty advisor (including research and discretionary funding).

To apply for a Fenves Travel Grant, you will submit the <u>Fenves Travel Grant Application</u> form outlining the specifics of the conference to <u>David Vey</u>.

There are three application periods in which students can apply for the grant:

Fall Travel	Application submitted between August 1 – July 1	Decisions made no later than July 15
Spring Travel	Application submitted between August 1 – November 1	Decisions made no later than November 15
Summer Travel	Application submitted between December 1 – March 1	Decisions made no later than March 15

The maximum amount available for funding period is \$600, and no student will be awarded more than two grants while in the program. The grant will be divided equally between awardees should more than one recipient be selected.

In order to allow the department to provide more students with Fenves Travel Grants, applicants are expected to also apply for Graduate Student Assembly Conference Funding. If awarded, the following progression of use should apply:

- 1. Graduate Student Assembly Conference Funding
- 2. Faculty research and discretionary funding
- 3. Fenves Travel Grant

4. Personal funds

Each recipient will be required to provide a travel report in short article form, along with a photo, outlining their presentation, which will be submitted to Professor Fenves and may be used in official communications.

PLEASE NOTE: all University-related travel must be booked via CTP, the <u>University's preferred travel supplier</u>. CTP offers booking services for flights, hotels, and transportation.

Graduate Small Project Help (GUSH) Funding

<u>GuSH Research</u> grants provide small grants of \$750 to graduate students for research at Carnegie Mellon University. Grants are provided by the Graduate Student Assembly and the Provost's Office, and are managed by the Office of the Assistant Vice Provost for Graduate Education.

GuSH grants are to be used against costs incurred in the completion of research required for a graduate degree at Carnegie Mellon. These funds are to be utilized if your personal or departmental resources have been exhausted. You are eligible for one grant in each fiscal year (July 1 to June 30) that you are a graduate student.

Complete information, as well as application for these funds can be found online at:

https://www.cmu.edu/graduate/professionaldevelopment/research-funding/index.html. Note that it's important that the CEE Director of Finance and Administration's name (Cathy Schaefer) be entered in the field titled "Business Manager" on all applications for GuSH funding so that awarded funds are appropriately credited to your account.

Funding Conferences and Seminars

When funding allows, conference attendance expenses may be provided to participants in funded research projects and will be covered by these research funds. Conferences are expected to benefit your work or development. If you are self-funded or if your funding resources have been exhausted, you are eligible to apply for a Fenves Travel Grant to attend a relevant conference.

Students are also encouraged to apply for Graduate Student Conference Funding funded by the Graduate Student Assembly.

Note that it is important that the <u>CEE Director of Finance and Operations name (Cathy Schaefer) be entered in the field titled</u> <u>"Business Manager"</u> on all applications for GSA funding so that awarded funds are appropriately credited to the awardee's account.

Summer Internships

Graduate students wishing to do a Summer Internship are responsible to secure their position. For students who desire to complete an internship, CEE recommends that they meet with a representative from the Career and Professional Development Center (CPDC) within 30 days of the beginning of their enrollment. CPDC resources are available to assist with the internship search.

International Masters students interested in working off campus during the Summer may apply for CPT status provided that they have completed one academic year of full-time enrollment and will be enrolled in the Fall semester.

PhD students <u>that are required</u> to be off campus to collect data for their research may be permitted to apply for CPT. Because the PhD program does not have a course requirement all other PhD students wishing a Summer Internship would apply for pre-completion OPT. PhD students who will be doing an internship will be coded either INT or IDR. The INT program code

follows the Summer All calendar. The IDR program code is used for students who will continue to be supported through the entire summer.

MS Internships must be in a CEE related field, have academic oversight, and will be counted toward the MS degree. Student Interns will register for 3 units of 12994 (CEE Internship) and will be assessed tuition for these units. MS students doing an internship will be coded INT and MS students remaining on campus to do research will be coded MMR. An Internship Plan Form must be submitted once the position is secured, and a Final Internship Report will be submitted once the Internship is complete for grading.

Summer Internship Plan Form

Summer Internship Final Report Form

International students must consult with the Office of International Education for eligibility before seeking an internship or signing an offer contract. It is also recommended that international students review the CPT handout at: https://www.cmu.edu/oie/foreignstudents/docs/cpt.pdf for detailed information about this employment authorization option.

Employment Eligibility Verification

If you are receiving a stipend, are a TA, or are planning to have a position with CMU then Employment Eligibility Verification is required. Form I-9 must be completed within 3 business days of beginning work for any type of compensation (stipend or employment). Additional details are highlighted below. To ensure compliance with federal law, Carnegie Mellon University maintains the **Employment Eligibility Verification (I-9) Policy [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 if required.
- 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.
- Students who fail to complete the Form I-9 in a timely manner may have stipend payments suspended. If employed by the university, an individual who fails to timely complete the Form I-9 may be subject to disciplinary action up to and including termination of employment.

CEE Contacts for Graduate Students

CEE Director of Graduate Programs	David A. Vey <u>dvey@andrew.cmu.edu</u>	PhD Compliance and policy information PhD Degree requirements Academic Action Information Advisor and TA assignments
CEE Manager of MS Programs	Melissa Ritchie maritchi@andrew.cmu.edu	MS Compliance and policy information MS degree requirements Academic action information
CEE Department Head	Burcu Akinci bakinci@cmu.edu	Advisor concerns Conflict resolution Concerns & grievances
CEE Professor & Executive Director of Undergraduate and Graduate Programs	Kelvin Gregory kgregory@andrew.cmu.edu	Faculty advising Student-advisee relationship concerns General program compliance
CEE Director of Finance and Operations	Cathy Schaefer <u>cathysch@andrew.cmu.edu</u>	Department finance Operations and administration
Research Administrator	Heather (Cain) Thomas hcain@andrew.cmu.edu	Workday Access Stipend payments, tuition and fee deduction Current student funding Payroll processing

CEE Career Consultant for Graduate Students	Amanda Halula ahalula@andrew.cmu.edu	See Career & Professional Development section (below) for a list of services
Associate Buyer	Beryl Omune bomune@andrew.cmu.edu	Purchase of laboratory supplies Purchase of computers and related supplies Student Group Finances and Reports
CEE Facilities and Lab Engineer	Brian Belowich bjb4@andrew.cmu.edu	Physical Facilities service requests ID Card access and keys Lockout Office Assignments
Director of CEE Facilities	Ron Ripper ronr@andrew.cmu.edu	CEE Laboratories
IT Help	Computing Services Help Center <u>It-help@cmu.edu</u> <u>https://www.cmu.edu/computing/</u> 412-268-4357 (HELP)	General computing assistance
Associate Dean for Graduate and Faculty Affairs, College of Engineering	Lisa Porter Iporter@andrew.cmu.edu	Concerns & Grievances

CEE Career and Professional Development Services

Graduate Students in the College of Engineering have a team of Career Consultants to assist you with your job search from start to finish.

Amanda Halula is the dedicated consultant for Civil & Environmental Engineering. You may make an appointment with Amanda to discuss one or more of the topics below. To schedule an appointment, <u>login to Handshake</u> and click "Request Appointment" on the right-hand side of the home page.

Career consultants are available for:

- Resume and cover letter review
- Networking
- Job/internship search strategies and resources
- Job fair preparation
- Interviewing skills/mock interviews
- Job offer evaluation & negotiation

Handshake is CMU's online recruiting platform through which you will be able to:

- Schedule appointments with your career consultant
- View and RSVP for career fairs and career events
- Search and apply for both on- and off-campus jobs and internships
- Sign up for on-campus interviews
- Research employers/organizations that recruit at CMU
- Upload your resume/cover letter for employers to view

For additional information on career resources and events, please visit the Career & Professional Development website: <u>http://www.cmu.edu/career/</u>.

CEE Press and Media Relations

To assure consistency in all communications and to maximize external visibility to target audiences the <u>Department Head</u> and Mireille Mobley, <u>Director of Communications</u> work together to coordinate key messages and activities involving publicity.

The **Director of Communications is the** point-of-contact for all departmental communications. She is responsible for the strategic planning for publicity and (depending on the specific project or issue) developing news stories or multi-media for the CEE website and social media channels.

Students who are contacted by a media representative are required to immediately inform either the department head or communications coordinator. Students should not answer questions from journalists without first seeking counsel from one of these department representatives.

Persons interested in publicizing a program, project, event, or other activity affiliated with CEE should contact the Director of Communications (<u>Mireille Mobley</u>) or the Department Head (Burcu Akinci). They can provide counsel to coordinate publicity efforts internally (internal news channels, magazine,) or externally (press releases, podcasts, web video, press releases, etc.).

Upon enrollment, graduate students are asked to give permission to take (or have taken on its behalf) photos and/or videos of their image and to use their name and image for educational and promotional purposes in any medium, including the Internet. Questions should be addressed to <u>Mireille Mobley</u>.

Health and Wellness

Health Insurance and Inoculations

The University has a mandatory policy for student health insurance coverage. All degree seeking students enrolled in full time programs are required to have health insurance and are automatically enrolled in the basic mandatory health plan for the period August 1 through July 31. The charge for health insurance will be added to your student invoice.

Students may choose to add a dependent(s) or apply for a waiver from the plan because of existing coverage. Charges will be removed after the waiver is approved. Online enrollment waiver forms, as well as additional information about university health insurance can be found at: <u>www.cmu.edu/HealthServices</u>.

Additional information on the health insurance procedures and payment options can be found at: http://www.cmu.edu/healthservices/student-insurance/index.html

If you leave the university before the term that your insurance is completed, you are responsible for canceling your health insurance policy, if you wish. In some cases, a prorated refund may be issued. Those not cancelling will be covered for the duration of the plan (through July 31)

University Smoking Policy

Carnegie Mellon University has a vital interest in maintaining a healthy and safe environment for its students, faculty, staff, and visitors while respecting individual choice. Information about the campus smoking policy can be found <u>here</u>.

Safeguarding Educational Equity

Assistance for Individuals with Disabilities

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:

https://rainier.accessiblelearning.com/cmu/

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 <u>access@andrew.cmu.edu</u>, or call (412) 268-6121.

Sexual Misconduct Policy

The University prohibits sex-based discrimination, sexual harassment, sexual assault, dating/ domestic violence, sexual exploitation, stalking and violation of protective measures. 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 for Institutional Equity and Title IX <u>http://www.cmu.edu/title-ix/</u> 412-268-7125 <u>institutionalequity@cmu.edu</u>
- University Police
 <u>https://www.cmu.edu/police/</u>
 412-268-2323

Additional resources and information can be found at:

https://www.cmu.edu/title-ix/resources-and-information/index.html

Gestational and Parental Accommodations

https://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html

Providing holistic student support is a top priority at Carnegie Mellon. The protocols on this page are designed to support the parental needs of students and their families.

Students seeking any of the Parental Accommodations described below must register with the Office of the Dean of Students by contacting the office for an appointment by calling 412-268-2075.

Students are encouraged to register with the Office of the Dean of Students ninety (90) days in advance of the anticipated arrival of the child as applicable in the individual circumstance. At the time of registering, students will have the opportunity to consult about resources,

procedures, funding options and preparation for discussing academic accommodations with the student's academic department. Students should also consult with their academic advisors either before or in conjunction with registering with the Office of the Dean of Students.

Accommodations for Gestational Parents

The birth of a child is a significant life event that may require time away from academic pursuits for delivery and recovery from delivery of a newly born child. Students whose anticipated delivery date is during the course of a semester may need to take time away from their academic responsibilities. Carnegie Mellon students seeking time away are afforded two options as possible accommodation:

- Short-Term Accommodation for Gestational Parents A short term absence from academic responsibilities up to a maximum of six (6) weeks. Short-Term Accommodation may be extended by two (2) weeks, for a total of eight (8) weeks, where a longer absence is medically necessary. Prior to the absence students must work with relevant university faculty and staff to adjust their course work, research, teaching and other academic responsibilities during the period of absence. This may include extensions of time to complete assignments, incomplete grades, and/or dropping courses, shifting research responsibilities and adjusting TA assignments. Students who take a Short-Term Accommodation will remain enrolled.
- **Formal Leave of Absence** A formal leave of absence under the Student Leave Policy. Generally, the Student Leave Policy permits students to take a leave of absence for a full-semester, mini-semester, or for the time remaining in the semester during which the leave is taken. Students who take a Formal Leave of Absence (<u>https://www.cmu.edu/policies/student-and-student-life/student-leave.html</u>) drop all remaining courses for the semester and are unenrolled for the semester. International students must consult with the Office of International Education (<u>https://www.cmu.edu/oie/</u>) before considering this option due to visa implications.

Financial Assistance for Student Parents

Carnegie Mellon also offers the following options for financial assistance to students who become parents while enrolled:

Interest Free Loan – Any student who becomes a parent is eligible to apply for an interest-free parental loan (<u>https://www.cmu.edu/student-affairs/dean/loans/</u>) from the Office of the Dean of 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.

Purchasing and Reimbursements

Purchasing

All purchases of goods, services, and equipment using University funds, including restricted accounts and research grants and contracts, must receive approval from <u>Cathy Schaefer</u>, the Director of Finance and Operations, and, in the case of research grants and contracts, the faculty principal investigator.

Questions should be directed to Cathy or the CEE front office.

Please complete all requested information to insure prompt and accurate purchases. If you are not sure, ask before buying.

Only authorized department staff can confirm an order with an outside vendor. Receipts and packing slips for all purchases are to be promptly given to the CEE front office for reconciliation and purchase documentation.

Please plan ahead. Rush orders for pick-up or delivery and orders of over \$1,000 are difficult to accommodate.

Reimbursement Policy

If you make a business or travel related purchase using your own funds you will need to have prior approval from your PI and/or by the CEE Director of Finance & Operations, <u>Cathy Schaefer</u>. All expenses will need to follow university reimbursement procedures. All receipts over \$74.99 must be submitted along with your expense reimbursement form. This form will need to be signed by your advisor or PI or approved in email. Tax will only be reimbursed for travel and meal expenses. College of Engineering Policy requires reimbursement request to be submitted within 30 days of occurrence. Reimbursement requests processed after 90 days of occurrence will be subject to federal tax as additional income.

Business Expenses

Legitimate business expenses can be reimbursed by the department. The CEE front office will help you claim reimbursement provided you have the following:

- · Receipt indicating item purchased and proof of payment
- Business purpose for purchasing item
- Account to be charged for reimbursement
- Approval (by faculty) and subsequent signature for reimbursement
- Signed business expense form and/or an approval email

Please consult with the CEE front office prior to incurring the expense for additional instruction.

Tax Exemption

You are not permitted to use CMU's sales tax-exemption when using personal funds to make a purchase. All receipts must have proof of purchase indicated. For business expenses, sales tax will not be reimbursed under any circumstance, except for nontravel business meals. To avoid paying tax on qualified purchases, ask the CEE front office to purchase the item for you with a University provided Procurement Card.

Travel Expenses

Legitimate travel expenses can be reimbursed by the department. The CEE front office can help you claim reimbursement once you provide the following:

- Hotel receipts must show a zero balance with proof of payment and your name
- Receipts for meals must be collected, unless you claim per diem meals; both daily meals and per diem meals cannot be claimed for the same travel expense report. Students may only claim per diem meals with advisors' explicit approval.
- Personal car mileage is calculated at the current rate per mile; mileage covers gas, but not tolls. You will need to include a print-out showing the distance to the location from a service like google maps.
- Business purpose for travel
- Account to be charged for reimbursement
- Approval (by faculty member) and subsequent signature for reimbursement (email accepted)
- Any conference or meeting agenda legitimizing your travel

Signed <u>travel expense form</u>

Tax will be reimbursed for expenses incurred due to normal business-related travel (hotel, airfare, meals), but NOT for miscellaneous expenses such as the purchase of a replacement mouse for a department laptop, poster board for a presentation, etc., purchased while traveling or preparing for travel. These items should have been purchased through a department approved buyer in the CEE front office.

Graduate Student Committees

Graduate Student Assembly (GSA)

Your student activity fees fund the <u>Graduate Student Assembly (GSA</u>). The GSA's purpose is to address graduate students' concerns and providing social activities on and off campus.

The CEE Department receives funding from GSA in accordance with graduate student enrollment each year. Graduate students in the department elect their GSA representatives and those representatives use the funds for various activities in the department.

The campus-wide GSA organization sponsors a number of campus social and educational programs. Within the department, the CEE GSA reps organize and/or contribute, via GSA funds, to the cost of several different social and recreational events, which include student outings, social gatherings, grab-and-go Thursday breakfast, etc.

The CEE GSA owns a variety of sports equipment including those for softball, volleyball, camping, soccer, etc. Please speak to any of the CEE GSA Representatives for information pertaining to this equipment.

CEE Graduate Student Advisory Council (GSAC)

The CEE Graduate Student Advisory Council (GSAC) meets once each semester. The purpose of the Committee is to serve as a link between the graduate students and the department, making sure that the concerns of the graduate students' are expressed and considered in departmental decision-making.

CEE Facilities and Daily Operations

The CEE facilities are available for the academic purposes of the Civil and Environmental Engineering Department. This privilege is not extended to personal and business uses.

All furniture and equipment that is the property of CMU, CEE, or a research sponsor must be accounted for on the department inventory. No equipment or furniture may be moved from its location or taken off campus without written permission in advance from the CEE Business Office. Personal furniture may not be brought to CEE space without the permission of the CEE Business Office. Theft is prosecuted to the fullest extent of internal and external means.

Personal property, including personal equipment, is not included in the department insurance policy. Carnegie Mellon and the Department of Civil and Environmental Engineering cannot be held liable should personal property brought to campus be lost, damaged or stolen.

All CEE community members are responsible for the care of CEE facilities and equipment. If you identify a problem with facilities and equipment, please send an email to <u>help@ce.cmu.edu</u> or contact the CEE Director of Facilities Ron Ripper.

CEE Main Office

The CEE Department offices are located in Baker Porter Hall (BP) 119 and are open from 9:00 a.m. to 5:00 p.m., Monday through Friday.

The Department has a copier, stapler, paper punch, etc. available for your use in BP 119. Photocopying is available in the department for students subject to availability. Please be mindful of CEE resources and photocopy only as necessary. <u>Note that photocopying published textbooks is illegal</u>. Consult the Carnegie Mellon Intellectual Property Policy at

https://www.cmu.edu/policies/administrative-and-governance/intellectual-property.html for additional information. Administrative services and office supplies are not provided to graduate students. <u>The University Bookstore</u>, located in the University Center, carries a wide range of office materials for purchase.

Mail Services

Outgoing business mail is picked up and delivered in the main office once each day, usually around 9:00 am. A U.S. Post Office branch is located in the University Center. The department staff is authorized to provide postage only for official department business.

Graduate Student Office Assignments

We provide study and meeting space for all of our graduate students. PhD students and MS Research Assistants are provided with assigned office space. Where possible, and not in conflict with other directives, these offices assignments are made on a seniority basis, with preferences given to students with the earliest enrollment date, thesis proposal and candidacy exam dates, as well as expected completion. In some cases, offices may be assigned because of specific "sponsored" equipment, faculty preference or shared research.

CEE Masters Students will be provided access to multifunctional spaces in Porter Hall 107C, Porter Hall 118B, and Wean Hall 3503. These spaces are equipped with quiet study areas, collaboration areas, conference tables, computing work stations, and lockers. CEE MS students are encouraged to use these spaces as needed, but must understand that no space is to be permanently occupied. Students using these spaces are expected to clean up after their use of the space, and respect the equipment and furnishings in the rooms, so that others may also be able to enjoy the space as needed.

Please note that PhD/MS research offices and MS collaboration areas are only intended for use by CEE students. If any CEE space is abused by any given student, that student may be denied access to the space in the future. Housekeeping services are minimal; therefore it is *everyone's* responsibility to take care of *all* CEE workspaces. Questions or concerns regarding office space should be directed to <u>Brian Belowich</u>, CEE Facilities and Lab Engineer.

Key Access

University ID cards will provide access to the main department doors. PhD and Research MS students will be assigned office space which is accessible by key. A single deposit of \$25.00 (cash only) is required for all department keys, which are required to enter graduate student offices. The deposit will be returned when you return the keys. If you should lose your key, a new one will be issued, however the deposit will be used to cover the cost of the key(s). MS students will use their university ID to access all department space.

Computing

Carnegie Mellon has a large and complex computing environment with many unique aspects. Computing ranges from personal computers through workstations to high-performance computers at the Pittsburgh Supercomputing Center. As a Carnegie Mellon student, you will encounter a variety of these computing facilities: those operated by the CEE department and those operated by <u>Computing Services</u>, as well as other departments' computing facilities. In total, the university has thousands of machines, all connected together in a vast network.

The Computing Services department maintains much of the university computing infrastructure. This includes, but is not limited to: email accounts, network access, web publishing services, software licensing, Box cloud storage and public computer labs. CEE

students who require assistance with technology for either personal or CMU-issued equipment may contact the Andrew Helpdesk at <u>it-help@cmu.edu</u>.

Please note, as with all personal property left on campus, CMU will not be able to reimburse you for the loss of your personal computer, no matter the cause. Please check with your tenant's or homeowner's insurance company for coverage details.

Software required for courses is available through virtual Andrew and/or in CMU Computing Labs unless otherwise specified by your instructor.

https://www.cmu.edu/computing/software/index.html

https://www.cmu.edu/computing/services/teach-learn/tes/computer-labs/index.html (Baker Hall 140 is closest)

CEE Green Practices

Carnegie Mellon has had a university-level commitment to environmentally progressive and sustainable practices on campus since the mid-1990s. The <u>Green Practices Committee</u> is a university committee of students, staff, faculty, and administrators that work in close partnership with campus facilities management and the campus design development groups on environmental projects that span all areas of campus life.

CEE students, staff, and faculty members have been very active in the Green Practices Committee and its work. The CEE Department is a campus leader in implementation of environmentally progressive practices. The CEE Green Team works to advance environmentally progressive practices continuously in the department. Student participation with the CEE Green Team is welcome. Contact <u>Ron Ripper</u> to join the Green Team or with any questions or suggestions about CEE green practices.

Recycling and Composting

Recycling and composting containers are available throughout the department in centrally located pickup locations. The department has a supply of compostable plates, utensils, and cups, which are used at department social events. Nearly all department events generate almost all compostable materials, and thus are "near zero waste" events.

Print cartridges and batteries can be recycled in the Porter Hall A-level hallway, and a small-battery recycling container is also available near the graduate mailbox area near the Porter Hall 118 lounge.

CEE Engineering Laboratories

Organization

CEE Labs for research or in conjunction with their teaching duties are advised of the following:

- 1. The faculty strongly encourages experimental research and laboratory teaching and will provide as much assistance as possible to enhance these activities.
- 2. Above all else, the physical safety of those working in the labs must concern all of us. Laboratory safety guidance is provided by the university Environmental Health and Safety (EH&S) Office, but is the responsibility of each laboratory worker and supervising faculty member. All students are required to take the laboratory safety and hazardous waste management training course before working in the CEE

Environmental Engineering Laboratories. This is an online training course offered by EH&S. Prior to working in the laboratories students need to contact <u>Ron Ripper</u>, Director of Laboratories / Facilities who will inform them of the requirements to work in the labs. Suggestions related to better safety precautions are always welcome. If anyone is injured at any time, Campus Security (412---268---2323) should be called immediately so that medical help can be obtained without delay.

3. All laboratory activity must be authorized (before it is initiated) by the responsible faculty or staff member. In addition to monitoring in a general way all work that is conducted in the labs, the following faculty and staff have specific areas of responsibility and supervision:

Environmental Engineering Laboratories (second floor):

- Kelvin Gregory
- Greg Lowry
- Ron Ripper, Facilities & Lab Director

Physical Testing Equipment and general administration of the entire CEE laboratory area, including A-Level Advanced Infrastructure Systems Labs, the Tung Au Laboratory in PH 107E, the Project-Lab Studio in PH A7C, and the Concrete Lab in the sub-basement:

- Sarah Christian
- Kelvin Gregory
- Brian Belowich, Facilities and Lab Engineer
- 4. All purchases of equipment or supplies must be approved by the supervising faculty and the <u>Director of Finance</u> <u>and Operations</u>. Before initiating a purchase, talk to Ron Ripper, the Facilities & <u>Lab Director</u>, your advisor, or the CEE front office for instruction on purchasing procedures.

Laboratory Safety Program

CEE maintains a high level of safety awareness in the laboratory. The department follows these procedures and rules:

- 1. SAFETY EQUIPMENT: The CEE laboratories are routinely inspected for adequacy of safety equipment, i.e., exit signs, fire extinguishers, first aid kits, etc. The laboratory safety and shop training classes instruct in the use of safety equipment.
- 2. SAFETY OF THE PHYSICAL PLANT: The laboratory facilities are inspected periodically by department staff, Environmental Health and Safety (EHS), and Facilities Management Services (FMS) to ensure building safety.
- 3. OBSERVANCE OF PROMULGATED SAFETY INSTRUCTIONS: The Carnegie Mellon Environmental Health and Safety (EHS) Office, working in conjunction with the Laboratory Safety Committee has established safety guidelines and recommended practices which the Department follows. Please access the Carnegie Mellon Environmental Health and Safety web page at <u>http://www.cmu.edu/ehs/</u> for these guidelines, as well as additional information.
- 4. RADIATION SAFETY: Faculty, staff and students working with any equipment containing sealed radioactive sources must complete the radiation safety instruction course conducted by the University Radiation Safety Office within E&HS.
- 5. CHEMICAL SAFETY AND CHEMICAL HYGIENE: All environmental engineering graduate students working in either the Environmental Engineering laboratories or the Air Quality Laboratory in Doherty Hall are required to read

and understand the Carnegie Mellon Chemical Hygiene Plan and to complete a training course in laboratory safety that is offered monthly by Carnegie Mellon's Environmental Health and Safety (EHS) Office. Students working in the laboratory must take a lab safety refresher course every two years. Finally, all students are required to use the <u>ChemTracker</u> chemical inventory when receiving or disposing of chemicals.

- 6. BIOLOGICAL SAFETY: All environmental engineering students working in the microbiology laboratory in PH200 are encouraged to complete biosafety training offered by Carnegie Mellon's Environmental Health and Safety (EHS) Office, in addition to the general lab safety training offered by EHS.
- It is the responsibility of the faculty member in charge of the project to ensure that all participants have received the proper level of safety instruction. Additional information can be found at the Environmental Health & Safety website - <u>http://www.cmu.edu/ehs/</u>.

Laboratory Access

Students should not work in any laboratory alone; however, there are times when this is not always possible. You may work alone in the laboratory if the activity is approved by the PI and a "Permission to Work Alone" form is completed and submitted to the laboratory manager.

The doors to the CEE research laboratories are to remain locked during all hours. If you are working in these areas, you can have swipe card access added to your ID card. Entry to the environmental engineering laboratory spaces is not permitted without lab safety training or unless accompanied by someone who has completed the EHS lab safety course.

To work in the Environmental Engineering Laboratories, you must complete the EHS laboratory safety course prior to beginning work.

If a project requires after-hours or weekend work and involves a particularly hazardous substance as defined by CMU EH&S, or a hazardous procedure, a <u>Particularly Hazardous Substance Form</u> must be completed and signed by the student and their PI and submitted to Ron Ripper.

Undergraduate laboratory experiments affiliated with course work must be conducted during the hours of 8:30 am to 5:00 p.m., Monday through Friday. If an experiment exceeds these time constraints, the faculty member or TA in charge must be present to supervise the laboratory activity. No undergraduate students may work in the laboratory alone.

Card access for the laboratories is arranged after approval from the PI or the CEE Facilities and Lab Director, Ron Ripper.

Laboratory Security and Use Policy

The entire laboratory facility is available for the academic purposes of the Civil and Environmental Engineering Department. This privilege is not extended to personal and business uses, except by formal arrangement with the Department to include compensation for the expenses of such use.

Tools are not to leave any CEE laboratory facility. Any exceptions to this policy must be approved and recorded in writing by the <u>CEE Facilities and Lab Director, Ron Ripper</u>. Theft is prosecuted to the fullest extent of internal and external means.

Each student working in the laboratory is responsible for cleaning up his or her work area routinely and thoroughly upon completion of work. All tools, chemicals, and equipment should be returned to proper storage locations. Waste materials should be properly marked and disposed.

Graduating students who have conducted work in the Environmental Engineering laboratories are required to complete a graduate student closeout procedures form and have it signed by their advisor or the CEE Lab Director prior to departure from the laboratory. This form is available from Ron Ripper.

Hazardous Waste Management

Hazardous waste generated in the CEE laboratories must be managed in accordance with federal and university regulations. These regulations are described in the EHS laboratory safety training that is required of all laboratory workers and faculty before initiating work in the labs. Hazardous wastes must be properly labeled, stored only in designated hazardous waste storage areas in the Environmental Engineering Laboratories, and disposed only by the university hazardous waste management contractors.

Biological waste generated in the BSL II laboratory must be managed in accordance with U.S. Centers for Disease Control (CDC) guidelines and university regulations. Identified bio-waste containers must be used for all such waste. Sharps must be disposed of uncapped in designated sharps containers.

Emergency Procedures

Medical Emergencies

Emergency transportation can be provided by calling University Police (24 hours/day) at (412) 268-2323, or campus ext. 82323.

In the event of an emergency, students are directed to go to the UPMC Presbyterian Hospital Emergency Room, entrance on DeSoto Street, call: (412) 647-3333. Faculty and staff are directed to UPMC Shadyside Hospital for work–related injuries. Both the Director of Graduate Programs and the Director of Finance and Operations should be notified of all medical emergencies as soon as appropriate.

Fire Emergencies

Students are encouraged to be familiar with the closest fire extinguisher and the two closest exit routes from their office.

Suspicion of fire should be reported to Carnegie Mellon Security (24 hours/day) at (412) 268-2323 or campus ext. 82323. In the event of a fire emergency, pull fire alarm in your building, lock doors and immediately leave the building. In the case of a fire alarm, lock the doors and **evacuate the building immediately**.

Fire officials and police respond to all fire alarms and check department spaces. Individuals who do not leave the building immediately upon hearing these alarms may be fined by university and public safety officials.

Please familiarize yourself with the locations and operating instructions of the fire extinguishers throughout the department.

Evacuation

Please follow these procedures should you hear the sound of the building fire alarm:

- Remain Calm
- Evacuate the building immediately. Never ignore an emergency alarm
- · Take your coat, keys, medications, etc., in the event that you are not able to get back into the building quickly
- Do not stop once outside the building. Move away from the door and proceed to your designated assembly area. Remain there for further instructions
- Do not re-enter the building when the alarm shuts off. You will be told when it is safe to return.

Other Emergencies

Suspicion of water leak, gas leak, or any other possible emergency should be immediately reported to Carnegie Mellon Police (24 hours/day) at (412) 268-2323 or campus ext. 82323.

Resources for Exceptional or Challenging Situations

Graduate Student Appeals and Grievances

Personal or academic concerns can interfere significantly with the ability to make timely progress in research or program requirements. These might be due to:

- Health, family or financial challenges
- Situations such as difficulty in communications with advisor, particularly when those difficulties may lead to considering changing advisors or leaving the program
- Conflict with other group members that is difficult to resolve within the group
- Issues related to diversity or the departmental climate for those in groups who are historically underrepresented in science, or If you have concerns about your academic progress, advisor, or overall experience, you are encouraged to seek advice from the

following:

- o Academic Advisor
- o Doctoral Committee Members
- o David Vey, Director of Graduate Programs
- o Kelvin Gregory, CEE Professor & Executive Director of Undergraduate and Graduate Programs
- o Cathy Schaefer, Director of Finance and Operations
- o Burcu Akinci, Department Head
- o CEE Graduate Student Advisory Council
- o CEE Graduate Student Assembly Representative
- o Lisa Porter, Associate Dean of College of Engineering for Faculty and Graduate Affairs
- o Amy Burkert, Vice Provost for Education

Generally, graduate students are expected to seek informal resolution of all concerns within the department as outlined above before invoking formal processes. When an informal resolution cannot be reached, however, a graduate student who seeks further review of the matter is to follow the formal procedures outlined on the <u>Graduate Education Resource</u> page. These appeal and grievance procedures shall apply to students in all graduate programs of the University.

Additional resources for graduate students with personal or professional concerns:

<u>Carnegie Mellon Engineering Resolution of Grievances</u>

- <u>The University Counseling and Student Development Center</u>
- <u>The Carnegie Mellon Women's Center</u>

Appendix A

2023-2024

Highlighted University Resources for Graduate Students

Note: The following pages are meant to broadly include only some of the resources available to graduate students. It is not an exhaustive appendix of resources, and students are strongly encouraged to visit the various websites linked below for the most up-to-date information.

Key Resources for Graduate Student Support

Office of Graduate and Postdoctoral Affairs

https://www.cmu.edu/graduate

graded@cmu.edu

The Office of Graduate and Postdoctoral Affairs provides university-wide support for all graduate students and academic programs, with a focus on supporting graduate student success at Carnegie Mellon. Examples of resources offered through the Office of Graduate and Postdoctoral Affairs include, but are not limited to:

- Website with university resources, contact information for CMU programs and services, possible financial assistance and potential funding opportunities, and various procedural and policy information
- Newsletter to all graduate students with information on activities, resources, and opportunities
- Professional development seminars and workshops, and various programming and events for the graduate student community

The Office of Graduate and Postdoctoral Affairs also works directly with the colleges and departments on issues related to graduate students and serve as a resource for developing policy and procedures. The Office of Graduate and Postdoctoral Affairs partners 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. Graduate students will find the enrollment information for Domestic Partner Registration and Parental Accommodations in the Office of the Dean of Students or on their website. This Office also manages the Student Emergency Support Funding process. There are currently three forms of support funding for enrolled students: emergency student loans, student parental loans, and the Tartan Emergency Support Fund. Inquiring students will be provided with additional information about the various types of funding during a consultation meeting with a member of the Dean of Students team. Tuition costs are not eligible for Student Emergency Support funding.

College Liaisons and the Student Support Resources team serve as additional resources for graduate students. 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 Important Contacts list in Student Information Online (SIO). The Student Support Resources team offers an additional level of support for students who are navigating 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

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)

Assistance for Individuals with Disabilities

https://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. The Office works 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 https://www.cmu.edu/teaching/

The Eberly Center offers 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, Eberly's 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:

https://www.cmu.edu/teaching/graduatestudentsupport/

Graduate Student Assembly

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

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. GSA's recent accomplishments are a testament to their 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. GSA also maintains a website of graduate student resources on and off-campus. GSA continues to rely on student feedback to improve the graduate student experience at CMU. Feel free to contact them at gsa@cmu.edu to get involved, stop by their office in the Cohon University Center Room 304 or become a representative for your department.

Office of International Education (OIE)

https://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. 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

https://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 <u>urovaedbenefits@andrew.cmu.edu</u> 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, violations of university policy, or violations of law. Students, faculty and staff can anonymously file a report by calling 1-844-587-0793 or visiting https://cmu.ethicspoint.com/. All submissions are reported to appropriate university personnel and handled discreetly.

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

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

Student Academic Success Center https://www.cmu.edu/student-success/ The Student Academic Success Center's (SASC) work to support success focuses on creating spaces for students to engage in their coursework and approach to learning through many group and individual program options. SASC supports student success by providing academic coaching, subject-specific tutoring, effective communication strategies, accommodations for students with disabilities, and language support for multilingual learners. SASC engages with faculty and staff to improve the coordination and professional development for academic advisors. Visit the SASC website for more information about services offered in areas such as communication and language support; language and cross-cultural support; and learning support.

University Libraries

https://www.library.cmu.edu/

The University Libraries offers a wide range of information, resources, and services supporting graduate students in coursework, 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

https://www.cmu.edu/research/

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 are found by visiting the Research at Carnegie Mellon website.

Office of Research Integrity & Compliance

https://www.cmu.edu/research-compliance/

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

https://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.

Religious and Spiritual Life Initiatives (RSLI)

https://www.cmu.edu/wellbeing/resources/religious-spiritual/index.html

Carnegie Mellon is committed to the holistic growth of our students, including creating opportunities for spiritual and religious practice and exploration. RSLI has relationships with local houses of worship from various traditions and many of these groups are members of CMU's Council of Religious Advisors. They 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. RSLI staff are available 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

https://www.cmu.edu/police/

x2323

The University Police Department is located at 4551 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, fingerprint 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. The report also contains 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 $\times 2323$. The annual security and fire safety report is also available online at:

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

Shuttle and Escort Services

https://www.cmu.edu/parking/transport/

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

https://www.cmu.edu/student-affairs/theword/

The WORD is Carnegie Mellon University's online student handbook and serves as the foundation for the department (and sometimes college) handbook. The WORD contains university-wide academic policy information and resources, community policies and resources, and describes the university level procedures used to review possible violations of these standards. 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. Graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at: https://www.cmu.edu/policies/.