Electrical & Computer ENGINEERING

Electrical & Computer Engineering

# 2017-2018 M.S. Catalog/Handbook

ECE Office of Graduate Affairs

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# WELCOME TO ELECTRICAL AND COMPUTER ENGINEERING

Welcome to the Department of Electrical and Computer Engineering at Carnegie Mellon University, a large and dynamic organization engaged in education, research, and entrepreneurship on a truly global scale, with locations and programs in Pittsburgh, Silicon Valley, Portugal, and Africa. The 2017 US News and World Report ranks our graduate research programs in electrical and computer engineering 9th and 2nd in the nation, respectively.

Since offering our first course in electrical engineering in 1908, the Department of Electrical and Computer Engineering has become one of the leading world programs preparing students for a number of diverse careers. Our distinguished faculty includes members of the National Academy of Engineering and works closely with students who come from throughout the United States and the world. Our research and teaching cover a broad spectrum of areas including device sciences and nanotechnology, computer systems, data science, energy, control, communications, and circuits, among others. Our electrical and computer engineers continue to push the boundaries of technology and shape the future of energy systems, hospitals, computers, and many others.

I hope you will browse through this catalog/handbook and our website and learn more about our department. Please contact us if you have any questions or comments.

Sincerely,

Jelena Kovačević
Department Head, Hamerschlag University Professor
Electrical and Computer Engineering

## Core Values

The ECE Department has been a leader in both research and education for years; it is known for its innovative qualities, boldness of ideas, and unbridled enthusiasm. Our strategic plan is guided by our core values.

> We value scientific truth, creativity, quality, innovation, and engineering solutions, all within a diverse and inclusive community guided by respect and joy of doing.

Our core values form the foundation for what we do; we hold them to be intrinsically true. We believe in solving problems that have large societal impact; we also believe that to be successful, we must work within an environment of enthusiasm and openness, respect and integrity, and freedom to express and explore a variety of ideas.

## Vision

Our vision is our guiding light; it informs and propels us in the right direction. The strategies of following that path change over time; the vision does not.

> To be a creative driving force within the university and worldwide of highest scholarly and entrepreneurial quality.

## Mission

Our mission is our "what, who, how"; it explains what we do, who we do it for, and how we do it so we engage the "hearts, heads, and hands" of our faculty, students, and staff in achieving our objectives.

> To inspire, educate, and produce electrical and computer engineers capable of tackling fundamental scientific problems and important societal challenges, and to do so with the highest commitment to quality, integrity, and respect for others.

We aim to be the best at what we do, to apply all our skills and knowledge to execute our vision. We educate young people to become engineers sought after by industry and academia alike; we do so in an environment imbued by enthusiasm and love for what we do, with respect and willingness to listen to each other, with freedom to express our ideas and look at challenges from different points of view. We strive to be the ECE department of choice for those who are willing to step off the beaten path, for the visionaries and dreamers.

# INTRODUCTION

## Graduate Degrees and Programs Offered

Master of Science in Electrical and Computer Engineering

- Pittsburgh
- Silicon Valley
- Africa

Master of Science in Software Engineering

- Silicon Valley

Doctor of Philosophy in Electrical and Computer Engineering

- Pittsburgh
- Silicon Valley
- Portugal

## Graduate Student Catalog/Handbook

This catalog/handbook is intended to set guidelines and expectations for new and current Master's students in Electrical and Computer Engineering at Carnegie Mellon University. This catalog/handbook is not exhaustive and is subject to revision at any time by the ECE department. It covers masters' students in Pittsburgh, Silicon Valley, and Africa.

It is the responsibility of each student to read and understand the contents of this catalog/handbook.

This catalog/handbook, along with any revisions, will be posted and announced annually to the ECE website. Students with disabilities may request this catalog/handbook in other formats by contacting the Graduate Affairs Office.

# CARNEGIE MELLON POLICIES, EXPECTATIONS, STATEMENT OF ASSURANCE, AND CODE

## Carnegie Mellon Policies & Expectations

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

- The Word/Student Catalog
- Academic Integrity Website
- University Policies Website
- Graduate Education Website
- College of Engineering Website
- Please see Appendix A for additional information about The Word and University resources.

## Carnegie Mellon Statement of Assurance

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

Inquiries concerning the application of and compliance with this statement should be directed to the vice president for campus affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2056.

For general information about Carnegie Mellon University, call 412-268-2000.

The Statement of Assurance can also be found online.

## Carnegie Mellon Code

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

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

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

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

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

The Carnegie Mellon Code can also be found online.

## Carnegie Mellon Child Protection Requirements

Carnegie Mellon is committed to providing a safe and secure environment for all minors involved in any programs or activities conducted on university premises, as well as any off-campus programs or activities sponsored by the university. Details are available through Leonard Gelfand Center Child Protection Operations.

If you have questions regarding Act 153 or encounter a situation when you would need to have the clearances, please contact Meighan at meighan.harding@ece.cmu.edu.

# DEPARTMENTAL INFORMATION

## University Personnel

Throughout your time in the M.S. program, you will encounter a variety of faculty and staff who will help you on your way to completing your degree. You may view a list of faculty and a list of staff affiliated with ECE online. Below is a list of faculty and staff whom you are likely to encounter during your time in the M.S. program.

- Dean of the College of Engineering: Professor James H. Garrett

- Associate Dean of Graduate and Faculty Affairs: Professor Jonathan Cagan
- Assistant Vice Provost for Graduate Education and University Graduate Student Ombudsman: Dr. Suzie Laurich-McIntyre
- Department Head: Professor Jelena Kovačević
- Executive Assistant to the Department Head and Administrative Services Manager: Christina Cowan
- Director, CMU Africa: Bruce Krogh
- Associate Department Head for Research and Strategic Initiatives: Professor José M.F. Moura
- Associate Department Head for Academic Affairs: Professor Diana Marculescu
- Director of Operations: Meighan Harding
- Associate Director of Finance and Sponsored Research: Charlotte Ambrass
- Associate Director of Student and Academic Affairs: Leona Kass
- Associate Director of Graduate Affairs: Tara Moe
- Advisor, Student Organizations & Activities: Bari Morchower
- Advisor, Student Organizations & Activities in Silicon Valley: Brittany Reyes
- M.S. Academic Program Advisor: Nesli Ozdoganlar
- M.S. Academic program Advisor: Jillian McCarthy
- M.S./Ph.D. Academic Program Advisor in Silicon Valley: Stephanie Caruso
- Ph.D. Academic Program Advisor: Nathan Snizaski
- Student Services Officer, CMU Rwanda: Olga Gikundiro Buki

A general list of contacts can also be found on the ECE website.

# University Resources

## Academic Audit

Each student has an academic audit that shows how courses taken or registered for meet the degree requirements. You can find your individual academic audit on The Hub website at http://www.cmu.edu/hub/ under the navigation bar. Students may also meet with their academic advisor to review how their courses have been applied to the degree requirements.

## University Resource Websites

Several pertinent university policies are included in this handbook, primarily found in the University Policies section. The complete university policies are available online at the following link: http://www.cmu.edu/policies.

Additional assistance is available in understanding community expectations, with the following resources being particularly relevant to ECE students. Information about these offices can be found in Appendix A of this handbook, or at the respective website.

- The Office of the Assistant Vice Provost for Graduate Education. Website: www.cmu.edu/graduate. Email: grad-ed@cmu.edu
- The Office of the Dean of Student Affairs. Website: www.cmu.edu/student-affairs/index.html

- Student Services in Silicon Valley. Website: http://www.cmu.edu/silicon-valley/campus-life/index.html
- Assistance for Individuals with Disabilities. Contact Larry Powell, Equal Opportunity Services, 412-268-2013, lpowell@andrew.cmu.edu
- Eberly Center for Teaching Excellence. Website: www.cmu.edu/teaching
- Graduate Student Assembly. Website: http://www.cmu.edu/stugov/gsa/index.html
- Intercultural Communication Center. Website: www.cmu.edu/icc
- Office of International Education. Website: http://www.studentaffairs.cmu.edu/oie/
- Counseling & Psychological Service. Website: www.studentaffairs.cmu.edu/counseling.
- Health Services. Website: www.cmu.edu/HealthServices
- University Police. Website: www.cmu.edu/police
- The Word (student online handbook). Website: http://www.cmu.edu/student-affairs/theword
- Academic Integrity Website: www.cmu.edu/academic-integrity
- University Policies Website: www.cmu.edu/policies/

Please refer to Appendix A for additional information about each of the aforementioned resources.

## Department Resources

### Academic Advisors and Faculty Mentors

Your academic advisor is a resource for having any university paperwork signed, asking questions regarding registration or the curriculum, and guiding you to other important resources. Nesli Ozdoganlar, Jillian McCarthy, and Stephanie Caruso are your academic advisors.

Academic advising is done through the Graduate Affairs Office. In Pittsburgh, this is in Hamerschlag Hall 1113; in Silicon Valley this is in B19 Room 1060. The M.S. Academic Program Advisor administratively advises all ECE M.S. students throughout the entire duration of the M.S. program. While this advisor does not provide content-specific expertise in ECE, he/she helps students navigate through the program by tracking milestones, meeting one on one and in groups with students for questions related to registration or the curriculum, guiding students to other important resources, completing enrollment and university-related paperwork, and answering questions for students who may not know where else to turn.

Nesli can be reached by email: neslio@andrew.cmu.edu, by phone: (412) 268-6581, or in person in 1113 Hamerschlag Hall. To guarantee availability, you are encouraged to schedule an appointment with her by accessing her calendar in the signature block of her e-mail. Nesli advises Pittsburgh based MS students A-L, and Porto MS/MBA students.

Jillian can be reached by email: jrmccart@andrew.cmu.edu, by phone: (412) 268-3077, or in person in 1113 Hamerschlag Hall. To guarantee availability, you are encouraged to schedule an appointment with her by accessing her calendar in the signature block of her e-mail. Jillian advises Pittsburgh based MS students M-Z, all IMB students and MS ECE students in CMU-Africa.

Stephanie can be reached by email: stephaniec@cmu.edu, by phone: (650) 335-or in person on the Silicon Valley campus in Building 19 Room 1060. To guarantee availability, you are

encouraged to schedule an appointment with her by accessing her calendar in the signature block of her e-mail. Stephanie advises all Silicon Valley based MS ECE and MS Software Engineering students.

Olga can be reached by email: gbuki@andrew.cmu.edu, by phone 250-784644833 or in person on the CMU Africa campus 4th floor Telecom House. Olga advises CMU-Africa based MS students.

Students will also be assigned a faculty mentor during the first two weeks of classes. A faculty mentor is a resource for questions related to specific content knowledge about ECE. They can also offer advice regarding future career and courses students may want to take to prepare. Whenever possible, faculty are matched to students based the area of interest indicated on the ECE application. Faculty mentor assignments and contact information will be sent out via e-mail prior to the first day of classes.

## Graduate Studies Committee (GSC)

The Graduate Studies Committee is a committee consisting of ECE faculty and ex-officio administrators from the Graduate Affairs Office. The Graduate Studies Committee meets throughout the academic year to address student petitions, discuss program policies, and to approve and assign qualifying exams.

The GSC Chair for the 2017-2018 academic year is James Bain. The dates for the GSC meetings will be posted on the GSC Petitions Procedures website (requires Andrew ID log in) before the start of each semester.

## Bulletin Boards

Pittsburgh campus

- Bulletin boards are located throughout the department in Baker Hall, Porter Hall, Hamerschlag Hall (HH), and Roberts Hall. Bulletin boards will be cleared on a regular basis.

Silicon Valley campus

- Students in Silicon Valley can find bulletin boards located in Buildings 23 and 19. Bulletin boards will be cleared on a regular basis.

## Tech & Receiving

Pittsburgh campus

- The Tech Electronics Shop and ECE Shipping and Receiving Department is located on the Pittsburgh campus in HH 1301 and its regular business hours are 9am-5pm, Monday through Friday. The Tech Electronics Shop offers a wide variety of parts, components, tools, and supplies used throughout the ECE Labs, which are available for use to all ECE students, faculty, and staff. The ECE Shipping and Receiving Department handles all incoming and outgoing packages for the department as well as the daily US Mail delivery. The ECE Shipping and Receiving Department has a large stock of shipping materials to assist with any outgoing package needs, as well as prompt notification of package arrival and delivery if necessary

Silicon Valley campus

- Students on the Silicon Valley campus should work with their instructor if supplies are needed.

## Computer Clusters

In Pittsburgh, computer clusters are located in HH 1303. There are several remote access compute clusters located in the ITS Cyert Hall machine room. Various research groups or principle investigators have their own compute clusters. Access to those clusters is only available with the consent of the party who owns the cluster. There are not computer clusters available in Silicon Valley.

## Printers

Printers are provided for student academic use.

Pittsburgh campus

- Andrew Public Printing stations are available in HH A101, A104, 1303, and 1310.

Silicon Valley campus

- Printers are for use in Building 23 (B23) Room 123, the hallway in B23 outside of 109/110, the Building 19 (B19) kitchen/lounge, and at the end of the 1030 wing in B19. Instructions for adding printers and policies are posted next to each printer.

## Keys

Silicon Valley campus

- The Silicon Valley Facilities will provide you with a key to the Master's study suites in Building 19 at orientation. To avoid any financial implications to you, your key must be returned prior to your final departure from CMU. To report a lost key or to request a replacement, please email facilities@sv.cmu.edu.

## Graduate Student Lounges

Pittsburgh campus

- The graduate student lounge in Pittsburgh is located in the top floor of Hamerschlag Hall. The Masters' student lounge is located Porter Hall B48/B54. Access to both spaces is given manually, but if you do not have access by the 3rd week of classes, please see Jessica Tomko in the Graduate Affairs Office (1113 HH).

Silicon Valley campus

- There are several spaces for students in Silicon Valley to use. The main student lounges can be found in B23, downstairs Room 129 and upstairs Room 227. In B19, students can utilize the Bay Room (B19 Room 1040).

## Department Office/Building Security, Repairs and Services

Pittsburgh campus

- Any damages, repairs, or security concerns should be reported to Alan Grupe, Facilities Manager, by emailing help@ece.cmu.edu. In an emergency, please contact University Police at 412-268-2323.

Silicon Valley

- Any damages, repairs, or security concerns should be reported to Stacy Marshall, Facilities and Events Manager, by emailing facilities@sv.cmu.edu. In an emergency, please contact NASA Police at 650-604-5555.

## ECE Graduate Student Organizations

- EGO (ECE Graduate Student Organization) organizes academic and social events throughout the academic year.
- WinECE (Women in Electrical and Computer Engineering) provides academic and social events to women in ECE throughout the year.
- HKN (Eta Kappa Nu) is the honor society for Electrical and Computer Engineering students. HKN members engage in community service, professional engagement, and social activities. Ph.D. students are invited by the board of HKN to join based on academic performance.
- ECE Outreach is a student organization that aims to provide middle school and high school students opportunities to learn about engineering and figure out whether it's a good career choice for them. The organization is run by ECE undergraduate and graduate student volunteers.

For more information on graduate student organizations and opportunities for future involvement in the ECE department, please contact Bari Morchower, Student Organizations and Activities Advisor in Pittsburgh, or Brittany Reyes, Academic Services Coordinator and Student Organizations Advisor in Silicon Valley.

## Press & Media Relations

ECE's Communication Manager is the point-of-contact between news media and the ECE, including faculty, students, and staff.

If any student, staff or faculty member of ECE is contacted by a media representative, they are required to immediately inform either the Communication Manager and/or the Director of Operations. Members of the ECE community are not required to answer any questions from the media without first seeking information from ECE's Communication Manager and/or the Director of Operations.

Persons interested in publicizing a program, project, event, or other activity affiliated within ECE should contact the Communications Manager Krista Burns who can provide guidance on internal and external communications.

## Electrical & Computer Engineering Brand & Logos

The Information Technology Services (ITS) website contains information regarding the department's branding and identity standards.

# PRE-MATRICULATION

## Deferral

ECE generally does not allow admission deferrals because admission decisions are based on the current applicant pool. Therefore, students are offered admission into the program for a particular semester only. If a student wishes to attend in a future semester, the student must reapply to the ECE program.

## Final Undergraduate Transcripts

Applicants admitted to any ECE program must submit final official transcripts, properly sealed, upon completion of their undergraduate program from the institution conferring their degree as a condition of enrollment at Carnegie Mellon. Certificates of graduation and/or degree certificates should also be submitted if provided by the institution. Failure to provide such documents that confirm the completion of undergraduate requirements by the end of the first semester of study at Carnegie Mellon may prevent the M.S. degree from being certified.

## Responsible Conduct of Research (RCR) Education

The Office of Research Integrity and Compliance website describes the university's position on ethical research: "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."

In support of the university's position, ECE requires **all incoming students** to take the appropriate online training offered by the Collaborative Institutional Training Initiative (CITI). The CITI physical science module package is recommended rather than the module package for engineers, although both are acceptable. The courses are available at citiprogram.org. Select Carnegie Mellon University as your participating institution when you create your account.

The course(s) may take a few hours to complete but can be done over a period of time. Upon completion of the course(s), students will need to provide their certificate to the Graduate Affairs Office. Instructions on how to submit this certificate are communicated prior to the beginning of the semester.

# ENROLLMENT AND REGISTRATION

## Overview

After matriculating into ECE, students should create an academic plan and register for courses. Students should actively engage in their process by reviewing degree requirements on the website, connecting with their academic advisor, and conferring with a faculty mentor. Once plans are firm, students can proceed by accessing Student Information Online (SIO).

SIO is an important online tool to use during the registration process, as well as throughout graduate school. Students can access SIO with their Andrew ID at The Hub.

Within SIO, there is a Course Planning module that allows students to view and modify their proposed schedule before registering for courses. Once a schedule is developed, it is the student's responsibility to register for courses using their SIO. Students must be registered for every course that they plan to take for the semester, even if it is not taken for credit (e.g., audited courses).

After the first semester, a student's assigned registration time is determined by the number of completed units and cannot be changed. If a student's tuition balance and/or fees are greater than $0.00, the student will not be able to register until the balance is cleared.

## Degree Progress and Planning

### Student Responsibility

It is the sole responsibility of the student to manage the academic progression of their program. Students are expected to ensure that they are taking the necessary prerequisites and courses to complete degree requirements on time. Students have the ability to add courses, drop courses, and select units for variable unit courses through SIO. It is the students' responsibility to be aware of all academic deadlines, including the add deadline, the drop deadline, the pass/fail deadline, and the audit deadline. Academic deadline information can be found within The HUB's Academic Calendar.

If a student is not progressing as expected, they are expected to seek advice and counsel from their academic advisor. If the student is concerned that they may be unable to complete degree requirements, they should contact their academic program advisor for assistance.

### Degree Requirements Timeframe

The duration of the ECE program is three full-time semesters (fall-spring-fall, or spring-fall-spring). In order to have full-time status, students must enroll in at least 36 units each semester. In order to complete program requirements, students may need to enroll in more than 36 units per semester. The maximum number of units allowed in a semester is 48 units. Students are responsible for completing their enrollment each semester via their Student Information Online (SIO) portal. Students who are not enrolled by the tenth day of class will be withdrawn from the university.

Students must be physically present and attend class at the start of the semester. If extenuating circumstances exist that prevent a student from attending class, a student must notify the academic advisor and instructors immediately. Not attending class from the start of the semester will have a detrimental effect on a student's progress in the program. ECE will make an effort to verify all students have arrived to begin their program and will consider a student as "withdrawn from the university" if he or she is not here by the tenth day of class as defined by the academic calendar.

International students will be given a 16 month I-20 or DS-2019.

International students must consult with CMU's Office of International Education (OIE) for questions on extension of their visa documents or if they complete their degree requirements in

less than three semesters. Please see details and relevant forms on OIE's website under Maintaining Legal Status.

## Summer Registration

Students are not required to continue their studies over the summer, as the summer semester is considered a vacation semester. However, students may choose to take courses for academic credit or pursue an internship that is relevant to their M.S. degree, if appropriate.

Eligible international students who are completing an internship in the United States must complete the paperwork for Curricular Practical Training (CPT). For more information about internships and CPT, see the Internship section outlined in this handbook and OIE's website on Employment Options for international students. Academic and OIE advisors will provide students with information about CPT during the spring semester.

## Full and Part-time Requirements

The MS degree program is a full-time program in which students complete three full-time (36 units) semesters (including summer if summer is a student's final semester). Students who are interested and qualified may take an accelerated course load and complete the degree in two semesters and should consult with their advisor.

In extenuating circumstances, students may find that they may need to take a reduced course load. Extenuating circumstances that will be considered include medical reasons, initial academic difficulty due to problems with English language or the student being unfamiliar with U.S. teaching methods, or being placed in an improper course level. These students must submit an Authorization for a Reduced Course Load form to their academic advisor.

Part-time MS enrollment is an option available for students in special circumstances, such as students who would like to pursue an MS degree while maintaining external employment. Note that immigration regulations do not allow Carnegie Mellon University to issue visa documents for the part-time MS program.

## Statute of Limitations

ECE adheres to CIT's policy on M.S. completion timelines. The CIT policy is as follows: "All units required for a masters degree in the College of Engineering, whether earned in residence or transferred from another institution, must be recorded on the transcript within six years of the date on which the student enrolled in the program." Former ECE students who did not fulfill graduation requirements and would like to return to complete a degree should refer to the statute of limitations in CIT's graduate student policies for more information.

## Campus Location Change

Students enrolled in the ECE master's program at the Pittsburgh, Silicon Valley, or CMU-Africa locations may be eligible to request to change residence to another campus after completing one semester of full-time study. Eligibility is determined by the details included in the student's admission offer and is explicitly stated in the admission offer letter. Due to limited space, location changes are not guaranteed and are subject to the discretion of the department. The students

are responsible for all academic and financial impacts related to this change. Information about the location change process will be provided to eligible students.

International student internship eligibility will not be affected if students change location between Silicon Valley and Pittsburgh campuses. Locations changes between U.S. based campuses and CMU Africa will have implications for internship eligibility for international students. Please refer to OIE's website for employment options and consult with your OIE advisor for additional questions.

## Courses Outside of Degree Requirements

Courses that do not satisfy degree requirements include StuCo courses (98), Physical Education course (69), audited courses, and pass/fail courses. Similar to courses taken for degree requirements, students must register for these other courses, and the units will count towards their course load for the semester.

## Double Counting Courses

ECE follows the CIT Policy on double counting courses. Students are required to notify the Graduate Affairs Office prior to declaring a degree outside of ECE as this may have repercussions for your units and coursework to date.

The same course taken two separate times will not count towards the ECE M.S. If a student takes the same course twice, the course with the higher grade will be counted towards the ECE M.S. course requirements.

## Maximum Units Allowed

No more than 120 units maximum should be taken while pursuing your degree. These units include courses taken for audit, pass/no pass, and withdrawal. Please refer to CIT policy on M.S. degree units for additional information.

If it becomes clear that a student will exceed the maximum units and not be able to maintain the required B average, the student may be dropped from the ECE or SE MS program.

## Retaking Courses

If students do not pass a course, they should take a different course that will fulfill the requirement. Retaking a course is not recommended. Students may retake a prerequisite course in which they did not receive the minimum grade required.

All grades are recorded on the transcript and factored into the cumulative QPA; however, only the best 96 units that fulfill degree requirements are factored into the required 3.0 graduation QPA.

## Auditing Courses

Auditing a course is being present in a classroom without receiving academic credit or a letter grade. An audited course will appear on a student's transcript.

A student who wants to audit a course is required to:

1. Register for the course in SIO.

2. Obtain permission from the instructor and ask the instructor to sign the course audit approval form.
3. Submit the form to their academic advisor for approval.
4. If approved, the academic advisor will send the form to the HUB for processing.

Once a course audit approval form is submitted to the HUB, a letter grade ('A'-'R') will not be assigned for the course and the declaration cannot be reversed. You can find the deadline for submitting this form on the Academic Calendar. After the deadline, students will not be able to request the option to audit a course.

The extent of the student's participation must be arranged and approved by the course instructor. Typically, auditors are expected to attend class as though they are regular class members. Those who do not attend the class regularly or prepare themselves for class will receive a blank grade. Otherwise, the student receives the grade 'O', indicating an audit.

The units of audited courses count toward the maximum course load units, but do not count toward the degree requirements. Any student may audit a course. For billing, an audited course is considered the same as the traditional courses under the tuition charges. If a part-time student audits a course, he/she will be charged part-time tuition based on the per-unit tuition rate for the course.

## Pass/No Pass Courses

Students who want to take a course pass/fail are required to register for the course and submit the pass/no pass approval form to their academic advisor for approval. If approved, the academic advisor will send the form to the HUB for processing.

Once a Pass/Fail Audit Approval form is submitted to the HUB, a letter grade ('A'-'R') will not be assigned for the course and the declaration cannot be reversed. Passing work (letter grade 'A'-'C-') is recorded as 'P' (passing grade) on the student's academic record; work with a grade lower than 'D+' will not receive credit and will be recorded as 'N' (not passing grade) on the student's academic record. No quality points will be assigned to 'P' or 'N' grades; the units of 'P' or 'N' grades will not be factored into the student's QPA.

The units of pass/no pass courses count toward the maximum course load units, but do not count toward the degree requirements. You can find the deadline for submitting this form on the Academic Calendar. After the deadline, students will not be able to request the option to pass/fail a course.

Any student may take a course pass/fail. For billing, the pass/fail course is considered the same as the traditional courses under the tuition charges. If a part-time student takes a course pass/fail, he/she will be charged part-time tuition based on the per-unit tuition rate for the course.

## Petition Process

Petitions to the GSC may include program or transfers, increase in units, course substitutions, and any other changes that are outside of the policies stated in the student handbook. Petitions

are approved by the GSC. Students are advised to discuss their petitions with their academic advisors.

The petitions process is as follows:

1. Student completes the appropriate petition form and submits it to their academic advisor in the Graduate Affairs Office no later than 5pm ET on the Friday before the GSC meeting.
2. The academic advisor presents the petition to the GSC.
3. Students are notified of the outcome of their petition via an email from the M.S. Academic Advisor after the GSC has met. Generally, all GSC decisions are final.
    a. Due to time constraints, some petitions may be tabled until the following GSC meeting. When this occurs, students will be notified via email.
4. The academic advisor saves a finalized version of the petition in the student's academic file.

## Course Transfer Request Process

Up to 12-units of course taken at another university, whether taken before or after entering the ECE graduate program, may be transferred, providing that the course:

- Fulfills an ECE degree course requirement and is equivalent to a CMU course
- Is considered a graduate level course at the university where it was taken (unless requesting transfer credit for the one allowed undergraduate course)
- Has not been used to fulfill requirements for any previously earned degree

Please note that this policy is more restrictive than the CIT transfer credit policy (under 'Transfer Credit and Special Students'). A grade of 'B' or better must be earned for the course to transferred. The transfer credits will appear on the student's transcript and will not be factored into the QPA.

Transfer credit is not granted prior to admission and must be approved by the Graduate Studies Committee and CIT Dean's Office. Courses can only be requested for transfer after the student has successfully completed 36 units of coursework at Carnegie Mellon. After matriculating to Carnegie Mellon, ECE students should consult with their academic advisor before taking a course at another university.

Transfer courses will be reviewed for academic rigor and alignment with courses offered in ECE. The course description and syllabus, learning outcomes, delivery mode, and institutional accreditation will be considered when evaluating the course for transfer.

The process for requesting to transfer a course is as follows:

1. Meet with academic advisor to discuss the course transfer
2. Complete and collect the following mandatory documents:
    a. Petition for Graduate Studies Committee approval
    b. Official transcript from previous institution

c. Detailed course description/syllabus (should include grading scale, assignments required, mandatory books, and time required in class) of the course you wish to transfer
d. Letter from the previous institution's registrar or academic advisor stating the course intended for transfer was not used towards a degree
e. E-mail endorsement from the instructor of the CMU course you believe your transfer course is most equivalent to
f. Graduate Transfer Credit Request form

3. Submit the completed packet to the academic advisor
4. The academic advisor will present the transfer request to the CIT Dean's office and notify the student of the result. Once the petition is approved, the Graduate Affairs Office will work with the student to complete the transfer request.

## Pittsburgh Council on Higher Education (PCHE) Cross-Registration Program

Full-time Carnegie Mellon students may take subjects for credit through the Pittsburgh Council on Higher Education (PCHE). The purpose is to provide opportunities for enriched educational programs by permitting *full-time* paying undergraduate and graduate students to cross-register for **one** course at any of the ten PCHE institutions. Please refer to The HUB website for additional details.

## Research for Credit

Students can apply up to 15 units of research credit towards their MS degree requirements by registering for the 18-980, MS Research Project course. The number of units registered for should equal the number of hours you complete each week. For example, 12 units of research means the student should complete 12 hours of research each week. Alternative accommodations should be worked out with the supervising faculty member. Students are encouraged to wait until their second semester to pursue research or teaching opportunities.

The procedure to register for the MS Research Project course is as follows:

1. Identify a faculty member who is conducting research you would like to be involved with. You can search for faculty by research area in the ECE Faculty Directory.
2. Visit the ECE Graduate Program Forms website and print out the MS Research form.
3. Schedule an appointment or email the faculty with whom you wish to work with. Come prepared to the appointment with knowledge about that faculty member's area and potential research projects, if able. Discuss the project and agreed upon terms at the meeting. Secure the supervising faculty's signature.
    a. To receive credit, research must be completed with ECE faculty who are listed in the directory.
4. Return the form to your academic advisor. Your academic advisor will register you for the appropriate section of the MS research course, 18-980.

# Registering for Courses

## Academic Calendar

ECE adheres to the official CMU Academic Calendar. The Heinz College and the Tepper School follow their own calendars with dates that may differ from the University's calendar for the add, drop and pass/fail/audit deadlines. ECE students must adhere to the deadlines of the courses they are taking if the courses are in Heinz or Tepper.

## Course Load

Due to the rigor of these programs, students are advised to take 36 units of courses each semester. However, we recognize that our student body is diverse, and that includes how each student handles their course load. While students may register for a maximum of 48 units each semester, we strongly recommend students take no more than 36 units each semester. Students unsure of whether they should take 48 units may should schedule an appointment with their academic advisor to discuss their reason for overloading and prepare a plan for how to handle the additional load.

## Adding Courses

Students have the option of adding courses to their schedule starting at their assigned registration time until the add/drop deadline through SIO. If a student wishes to be added to a course after the add/drop deadline, the Course Add Request Form must be completed and signed by the course instructor. Then, the student must submit the form to their academic advisor for approval. If approved, the academic advisor will send the form to the HUB for processing.

In the event that an ECE course (18-XXX) is cross-listed with a course from another department, ECE students must register for the ECE course number.

Courses in the Tepper School of Business may be taken and can be registered for through a site outside the SIO. Tepper will publish a list of available MBA courses, and in order to register for Tepper courses, students should visit the Tepper registration site.

## Course Locations

Courses will take place at various buildings and room locations across CMU campuses as assigned by the University Registrar's office each academic semester. Each course location is tied to a section and has a final assignment that is linked to the final grade. It could be in the form of a final exam, final project, or research as stated in the syllabus on the first day of classes. Students should register for sections of their courses according to their physical campus location. Please refer to the schedule of classes available on your campus

## Dropping Courses

Students have the option of dropping courses from their schedule starting at their assigned registration time until the add/drop deadline through SIO. When a course is dropped before the drop deadline, it does not appear on the transcript. As a courtesy to others, students should drop a course as soon as they decide not to take it. This will allow a waitlisted student to be enrolled and will limit the disruption to any team-based projects.

## Withdrawing from Courses

Students should remove themselves from a course before the drop deadline each semester. If a student chooses to withdraw from a course after the drop deadline, the student must officially withdraw from the course and should consult with their advisor to discuss the withdrawal. Withdrawals take place after the drop deadline but before the last day of the semester. Students must complete and submit the Course Withdrawal Request form with their academic advisor in order to withdraw from a course. More information on withdrawal grades can be found on the CMU policy website under the grading policy. Withdrawals receive a "W" grade for the course on a transcript; this "W" grade is not factored into the QPA but the course does count towards the maximum units.

## Waitlists

It is typical to be waitlisted from the time of registration up until the tenth day of class. This is common practice across the university to ensure that students within the department have the opportunity to take the courses they need in order to graduate. To determine the likelihood that you will be registered from a waitlist for an ECE course, students in Pittsburgh should send an e-mail to coursehub@ece.cmu.edu; students in Silicon Valley should email Brittany Reyes at bjreyes@andrew.cmu.edu. You should only attend courses for which you are waitlisted if you have permission from the instructor. Students may only be waitlisted for a maximum of 5 courses.

As a courtesy, students should remove themselves from the waitlist and/or drop a course in a timely fashion so as to allow other students the opportunity to be removed from the waitlist and enrolled in a course.

Students should check their schedules frequently on SIO as they may be enrolled from a waitlist without being notified. In addition, during the registration process, the Registrar's Office will require students to "tag up" on their waitlists in order to confirm the desire to remain on the waitlist for a course. Failure to confirm their waitlists will result in being dropped from the waitlist.

It is strongly recommended that students have a back-up plan in case they are not removed from a waitlist by the tenth day of class.

## Technology Enhanced Courses

The ECE department offers courses that are taught exclusively online, and some have a live recitation component. ECE refers to them as "Technology Enhanced" courses and can be identified by the section code that includes "T". Departments with online courses may list their technology enhanced courses in a different format, so be sure to check with the instructor if it is unclear whether a course is online. International students on a US residential campus (Pittsburgh, Silicon Valley) may take a maximum of one online course per semester that does not have a required in-person component, per F1 regulations.

## Courses with Time Conflicts

Students are not permitted to register for two courses that conflict in time. Registration may be possible with consent from an instructor, allowing the conflict or attendance at an alternate time. Students should forward permissions from instructors to their academic advisor in order to register for conflicting courses.

## Prerequisites

While SIO may allow you to register for courses without the published prerequisite, it is the student's responsibility to have adequate background knowledge to be successful in the subsequent course. This background knowledge may come in the form of an introductory course taken at Carnegie Mellon, your undergraduate institution, or other work/research experience. You should consult with the instructor because it is up to their discretion whether or not a prerequisite course can be waived.

For ECE courses that require 18-600/15-213/15-513/18-213 as a prerequisite, students will not be permitted to enroll in the subsequent course without credit for 18-600/15-513. 18-600 and 15-513 are the only courses available to graduate students that satisfy the prerequisite requirement. Students attending Pittsburgh campus can plan to take 15-513 in the summer prior to their matriculation in the fall semester. Tuition will apply at a per unit rate.

Graduate courses that require 18-600/15-213/15-513/18-213 anywhere in their prerequisite tree include:

- 18-640 – Foundations of Computer Architecture
- 18-648 – Embedded Real-Time Systems
- 18-649 – Distributed Embedded Systems
- 18-656 – Data Intensive Workflow Development for Software Engineers
- 18-725 – Advanced Digital Integrated Circuit Design
- 18-740 – Computer Architecture
- 18-742 – Parallel Computer Architecture
- 18-745 – Rapid Prototyping of Computer Systems
- 18-746 – Advanced Storage Systems
- 18-748 – Wireless Sensor Networks
- 18-756 – Packet Switching and Computer Networks
- 18-759 – Wireless Networks
- 18-842 – Distributed Systems
- 18-845 – Internet Services
- 18-848 – Special Topics in Embedded Systems

## Final Exams

All ECE students must attend final exams as scheduled by the university and individual course instructors. If a student believes that a final exam presents a scheduling conflict, he or she must discuss the issue with the course instructor. The ECE administration does not have control over the university exam schedule. Please keep this in mind when arranging travel at the end of a

semester; having purchased airline tickets is not a proper excuse for missing a final exam. Please refer to Carnegie Mellon University Policies on Examinations for additional information.

## Research Assistant & Teaching Assistant Positions

Students are encouraged to wait until their second semester to pursue research or teaching opportunities.

### Research for Credit

See the section titled "Research for Credit" for more information about receiving academic credit for research.

### Research for Pay

Students are permitted to pursue research opportunities for pay in any department. Students should contact faculty members individually to inquire about opportunities available and provide information on their background. The supervising faculty can provide further information about payroll procedures.

### Teaching Assistant Positions

There are several levels of teaching assistant opportunities available for ECE students. For complete information please visit the Teaching Opportunities website.

### *Evaluation and Certification of English Fluency for Instructors*

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. For more information about requirements, see Evaluation & Certification of English Fluency for Instructors in the University Policies of this handbook.

## Enrollment Verifications

The Hub is the primary contact for students or alumni who would like to request a transcript, enrollment verification, or other information related to their time in ECE.

ECE may verify some limited information in the form of a letter, which may be suitable for some purposes, such as the verification of skills students acquired through the ECE programs. Please contact your academic advisor for more information. ECE may verify some limited information in the form of a letter, which may be suitable for some purposes, such as the verification of skills students acquired through the ECE programs. Please note that the ECE department is only able to verify information on ECE and Computer Science courses. Information on courses offered in other departments can only be verified by the other department. To obtain a verification, the student or alumni should contact the Graduate Affairs Office.

## Leave of Absence

Occasionally, students must pause their degree program due to personal, professional, or academic reasons. A student who is considering a leave of absence should speak to his or her academic advisor prior to taking a leave of absence in order to ensure his or her understanding of the leave of absence policy and its ramifications.

Leaves of absences are capped at two calendar years' total throughout the M.S. program. In extreme cases, a student may request additional leave time via a petition to the GSC. If they do not return within two academic years, they will be administratively withdrawn from the graduate program. IMB students who have declared their graduate degree but left CMU after completing their BS degree before having graduate status must also abide by this policy. Anyone who is intending to return to the program outside of the two-year leave (including CMU graduates with ECE BS degrees who have not declared their IMB prior to graduation) must re-apply to the graduate program. Questions can be addressed to the M.S. Academic Program Advisor.

Once a student decides to take a leave of absence, he or she should complete the Leave of Absence form and bring it to their academic advisor for additional processing. Please note that the student's advisor must sign the leave of absence form.

### Returning from a Leave of Absence

A student intending to return from leave must submit the Petition to Return from Leave of Absence form to their academic advisor at least 30 days prior to the start of the semester in which he/she plans to return. A student's return must coincide with the start of a new semester (fall, spring, or summer). Students cannot return from a leave of absence in mid-semester, with the exception of summers.

Per university policy on student leaves, "Students on leave are not permitted to live in university housing, attend classes or maintain employment as students at Carnegie Mellon while their leave is in effect."

More information about the University's Leave of Absence and Withdrawal policies can be found in the University Policies section of this handbook.

## Degree Certification Process & Commencement

A student must satisfy all degree requirements and achieve a minimum of 3.0 QPA in the courses being applied towards the required 96 units to be eligible for degree certification. In addition, students must have provided a final copy of their undergraduate transcript(s) and must have a tuition balance of $0.00 to receive a diploma.

Carnegie Mellon Commencement only occurs at the end of Spring semester. ECE holds a diploma ceremony at the end of spring semester as well. Students who are certified in the summer or fall semesters will be invited to attend the next commencement ceremony. Spring graduates will be invited to the spring commencement ceremony.

Before graduation, students should update their contact information, such as mailing address and e-mail address, within SIO. Also, students should review a proxy of their diploma in SIO to verify the information displayed there, such as the spelling of their name.

The title of the degree students receive is Master of Science in Electrical and Computer Engineering or Master of Science in Software Engineering.

# ACADEMIC STANDARDS

## Grades

Below are the policies surrounding grades for students in the Department of Electrical and Computer Engineering.

### University Policy on Grades

The university policy on grading offers details concerning university grading principles for students taking courses and covers the specifics of assigning and changing grades, grading options, drop/withdrawals and course repeats. It also defines the undergraduate and graduate grading standards.

### CIT Grading Policy

ECE follows the CIT letter grade scale. The letter grade scale is 'A' (highest for CIT students), 'A-', 'B+', 'B', 'B-', 'C+', 'C', 'C-', 'D+', 'D', and 'R' (lowest). CIT students cannot receive an 'A+' grade on their transcript, even if a course is taken from another college where 'A+' is given. Grades lower than 'C', meaning C- or below, are considered failure in CIT and will not count toward degree requirements.

### Incomplete Grade

Incomplete grades will be assigned at the discretion of the course instructor, per the university grading policy.

### Withdrawal Grade/Withdrawing from Courses

Students can withdraw from a course after the add/drop deadline until the last day of classes. This will result in a 'W' on the transcript, which is not factored into the QPA. To withdraw, the course withdrawal request form must be completed and submitted to the academic advisor for approval. If approved, the academic advisor will send the form to the HUB for processing.

## Academic Performance

### Quality Point Average

In order to graduate, each student must have a Quality Point Average (QPA) of at least 3.0 in the courses being used towards the required 96 units. Coursework or graduate project units with a grade lower than 'C' will not be considered toward graduate degree requirements; however, they will be calculated into the student's cumulative QPA.

## Academic Integrity

Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience a university establishes clear standards for student work.

In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

ECE adheres to Carnegie Mellon's policy on academic integrity and all students are expected to review the policies prior to their arrival at CMU. ECE also adheres to CIT's policy on graduate student academic integrity violations.

### Penalties for Violating Academic Integrity

Instructors are responsible for defining academic integrity for students in their courses, including student performance expectations and attendance requirements. Students are responsible for understanding and abiding by the instructor's academic integrity policies. Policies may vary from instructor to instructor and students should seek further guidance from a faculty member if they have specific questions about a course's academic integrity policy.

Should an instructor believe that an academic integrity violation has occurred, he or she may consult with the Office of the Dean of Student Affairs, who will assist the faculty member in handling a possible academic integrity violation and, if a student is found responsible for violating academic integrity policies, determining possible sanctions. In accordance with the university's policy, 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. If the student attempts to drop the course, he/she will be reenrolled.

If a student is found to have violated the academic integrity policy for a second time, the student will be dropped from the Department of Electrical and Computer Engineering effective at the end of the semester in which the infraction has occurred. Students have the right to appeal an academic integrity decision.

## M.S. DEGREE REQUIREMENTS

This section outlines the degree requirements for the Master's of Science in Electrical & Computer Engineering in Pittsburgh, Silicon Valley, CMU-Africa, and Technology Enhanced programs, and the Master's of Science in Software Engineering in Silicon Valley. ECE course list and course descriptions are available on the ECE course website: http://www.ece.cmu.edu/courses/index.html.

## M.S. in Electrical & Computer Engineering

Each MS in ECE candidate must complete 96 units (1 unit = 1 hour of work) of coursework. These units are made up of the following degree requirements (A and B below):

### A. ECE Core Graduate Coursework: 60 units

The ECE program requires 60 units of core coursework that may not be waived or substituted. These courses should be in the ECE Department (18) at the 600-level or above. Additionally, courses in the Computer Science Department at the 700 level or above can be counted. For exceptions to the rule and additional pre-approved courses from other departments, please visit the MS ECE Course Requirements webpage: http://www.ece.cmu.edu/programs-admissions/masters/ms-requirements.html

## B. Approved Electives: 36 units

Students have the opportunity to pursue a wide range of electives in which they have a special interest. These courses can be taken from the following departments:

### *B1. Restricted Electives: 24 units*

Students have the opportunity to pursue a wide range of electives in which they have a special interest. For exceptions to the rule and additional pre-approved courses from other departments, please visit the MS ECE Course Requirements webpage: http://www.ece.cmu.edu/programs-admissions/masters/ms-requirements.html Restricted elective courses can be taken from the following departments:

- Any ECE (18) course at the 500-level or above
- Any course at the 600-level or higher from one of the following colleges or programs:
  - Carnegie Institute of Technology (CIT) (39)
    - Biomedical Engineering (42)
    - Chemical Engineering (06)
    - Civil & Environmental Engineering (12)
    - Engineering & Public Policy (19)
    - Information Network Institute (14)
    - Integrated Innovation Institute (49)
    - Materials Science & Engineering (27)
    - Mechanical Engineering (24)
    - CMU-Africa (04)
  - Dietrich College of Humanities and Social Sciences
    - Statistics (36)
    - Center for the Neural Basis of Cognition (86)
  - Heinz School of Information Systems (95)
  - Heinz College-Wide Courses (94)
  - Mellon College of Science (MCS)
    - Biological Sciences (03)
    - Chemistry (09)
    - Mathematical Sciences (21)
    - Physics (33)
  - School of Computer Science (SCS)
    - Computational Biology (02)
    - Computer Science (15)
    - Entertainment Technology Center (53)
    - Institute for Software Research (08)
    - Robotics Institute (16)
    - Human-Computer Interaction Institute (05)
    - Language Technologies Institute (11)
    - Machine Learning (10)
    - Software Engineering (17)
  - Tepper School of Business (45)

### *B2. Less-Restricted Elective: 12 units*

The remaining 12 units must be 300 level or greater from the same colleges, departments and programs listed above. Courses numbered as xx-299 or lower will not be counted toward the MS degree.

Three units of internship (18-994 Internship for Electrical and Computer Engineering Graduate Students) or professional development (39-699 CIT Professional Development Course) coursework may count towards the Less-Restricted Elective.

## Integrated Master's/Bachelors Program

As students who are in the IMB program are pursuing the same degree as those in our professional master's program, they are required to adhere to the same requirements as other Professional MS students. This includes MS degree requirements, university policies, and CIT policies.

## M.S. in Software Engineering (SE) (F2014)

***For students entering the MS-SE program prior to Fall 2017.***

Each M.S. in Software Engineering candidate must complete 96 (1 unit=1 hour of work) units of coursework. These units are made up of the following degree requirements (A and B):

### A. ECE Core Graduate Coursework: 60 units

The ECE program requires 60 units of core coursework that may not be waived or substituted. Students are strongly advised to take 18-652, Foundations of Software Engineering, in their first semester. Some students may be exempted from taking 18-652 with significant, relevant industry experience, and should send an up-to-date resume to SE faculty Cecile Peraire and Hakan Erdogmus for approval. In addition to 18-652, it is also recommended that students take at least three additional core Software Engineering courses (courses in the range 18653-18659).

To complete the 60 units of core coursework, students should choose at least one course in each of the following three areas:

#### *Software Engineering and Design:*

- 18-652 Foundations of Software Engineering
- 18-653 Software Architecture
- 18-655 Service Oriented Computing
- 18-658 Software Requirements and Interaction Design

#### *Analysis*

- 18-654 Software Verification, Validation and Testing
- 18-657 Decision Analysis and Engineering Economics for Software Engineers
- 18-660 Numerical Methods for Engineering Design and Optimization
- 18-687 Analytical Performance Modeling
- 18-697 Statistical Discovery and Learning

### *Systems*

- 18-638 Mobile Security
- 18-640 Foundations of Computer Architecture
- 18-644 Mobile Hardware for Software Engineers
- 18-645 How to Write Fast Code
- 18-646 Low-Power System-on-Chip Architecture
- 18-647 Connected Embedded Systems Architecture
- 18-656 Data-Intensive Workflow Development for Software Engineers
- 18-659 Software Engineering Methods
- 18-842 Distributed Systems
- 18-843 Mobile and Pervasive Computing

The remaining 24 units can be additional coursework in the above areas or 12 units of a graduate research project (18-980).

## B. Approved Electives: 36 units

Students have the opportunity to pursue a wide range of electives in which they have a special interest. Approved elective courses can be taken from the following departments (for exceptions to the rule and additional pre-approved courses from other departments, please visit the MS SE Course Requirements webpage: http://www.ece.cmu.edu/programs-admissions/ms-in-se/requirements.html

### *B1. Restricted Electives: 24 units*

- Any ECE (18) course at the 500-level or above
- Any course at the 600-level or higher from one of the following colleges or programs:
  - Information Network Institute (14)
  - Integrated Innovation Institute (49)
- Select courses from other departments offered on the Silicon Valley campus (listed on the schedule of classes with a section location in Silicon Valley), including:
  - 15-619
  - 10-601

### *B2. Less-Restricted Elective: 12 units*

The remaining 12 units may be at the undergraduate level from the same colleges, departments and programs listed above.

Three units of internship (18-994 Internship for Electrical and Computer Engineering Graduate Students) or professional development (39-699 CIT Professional Development Course) coursework may count towards the Less-Restricted Elective.

## M.S. in Software Engineering (SE) (F2017)

***For students entering the MS-SE program during or after Fall 2017.***

Each MS in Software Engineering candidate must complete 96 (1 unit=1 hour of work) units of coursework. These units are made up of the following degree requirements (A and B):

## A. ECE Core Graduate Coursework: 60 units

The ECE program requires 60 units of core coursework that may not be waived or substituted. Students are required to take 18-652, Foundations of Software Engineering, in their first semester. Some students may be exempted from taking 18-652 with significant, relevant industry experience, and should send an up-to-date resume to SE faculty Cecile Peraire and Hakan Erdogmus for approval. In addition to 18-652, it is also recommended that students take at least three additional core Software Engineering courses (in the range 18653-18659).

To complete the 60 units of core coursework, students should choose at least one course in each of the following three areas:

### *Software Engineering and Design*

- 18-652 Foundations of Software Engineering
- 18-653 Software Architecture
- 18-658 Software Requirements and Interaction Design

### *Analysis*

- 18-654 Software Verification, Validation and Testing
- 18-656 Data Intensive Workflow Development for Software Engineers
- 18-657 Decision Analysis and Engineering Economics for Software Engineers
- 18-697 Statistical Discovery and Learning

### *Systems*

- 18-600 Foundations of Computer Systems
- 18-638 Mobile Security
- 18-644 Mobile Hardware for Software Engineers
- 18-645 How to Write Fast Code
- 18-655 Service Oriented Computing
- 18-659 Software Engineering Methods
- 18-747 Wireless Device Architecture
- 18-842 Distributed Systems
- 18-843 Mobile and Pervasive Computing

The remaining 24 units can be additional coursework in the above areas or 12 units of a graduate research project (18-980).

## B. Approved Electives: 36 units

Students have the opportunity to pursue a wide range of electives in which they have a special interest. These courses can be taken from the following departments (for exceptions to the rule and additional pre-approved courses from other departments, please visit the MS SE Course Requirements webpage:

http://www.ece.cmu.edu/programs-admissions/ms-in-se/requirements.html

### *B1. Restricted Electives: 24 units*

- Any ECE (18) course at the 500-level or above
- Any course at the 600-level or higher from one of the following colleges or programs:
  - Information Network Institute (14)
  - Integrated Innovation Institute (49)
- Select courses from other departments offered on the Silicon Valley campus (listed on the schedule of classes with a section location in Silicon Valley), including:
  - 15-619
  - 10-601

### *B2. Less-Restricted Elective: 12 units*

The remaining 12 units may be at the undergraduate level from the same colleges, departments and programs listed above.

Three units of internship (18-994 Internship for Electrical and Computer Engineering Graduate Students) or professional development (39-699 CIT Professional Development Course) coursework may count towards the Less-Restricted Elective.

## Course Restrictions

Courses where more than 50% of the course grade is based on a group project or more than 20% is based on attendance cannot be used towards the required 96 units for any MS program in the Department of Electrical and Computer Engineering. Mini courses worth 12 units cannot be used towards the required 96 units. Students are responsible for checking the syllabi for classes to ensure their courses meet these requirements.

## Restrictions for Courses Outside the College of Engineering

Effective Fall 2018, all incoming students may take up to a total of 120 units during their master's program, 48 of which may be from departments outside of CIT.

## Internship Course Option

ECE students may wish to participate in paid internships at off-campus organizations during the summer months.

ECE will enroll all students who are pursuing an internship for a 3-unit credit bearing internship course (18-994 Internship for Electrical and Computer Engineering Graduate Students), which can be taken once throughout the student's ECE MS degree program of study, and is offered only during the summer. This internship will appear on a student's transcript and tuition will charged for 3 units. Please see details for CIT cost of attendance here. The work for the internship must be appropriate to the goals of the academic program and units can be applied to the less restricted elective requirement.

Eligible international students who are interested in pursuing off-campus internships must meet with departmental and OIE representatives. For additional information, please refer to OIE's website on Employment Options for international students. Academic and OIE advisors will provide students with information about CPT during the spring semester.

# POST-MATRICULATION GUIDELINES

## Return of University Property

ECE students must return all borrowed ECE and university materials—such as software, manuals, library books/materials, or any other Carnegie Mellon University property—prior to their departure from the program.

## Career Services Employment Outcomes

ECE students are asked to complete and return a survey for Career Services updating CMU on their employment outcomes after graduation. Information about the survey is communicated in the students' final semester.

## "Grandfather" Clause

When policies are changed, it is because the department believes the new rules offer an improvement; any such changes will be communicated to students. In case degree requirements are changed and certain courses are no longer offered, the department will try to find some compromise that allows those students to satisfy the original requirements.

# TUITION AND FEES

As indicated in your admission offer letter, ECE does not offer financial assistance for our master's students. Unless otherwise arranged and approved in advance, ECE students are full-time and will be charged full-time ECE tuition.

## Tuition Billing & Payments

The tuition rate for students entering ECE programs is set in the spring for the class entering in the following fall semester. Tuition for a student's second fall semester will likely increase in accordance with the tuition increase for the new academic year. The tuition will increase approximately 3% per year.

Students will be charged tuition per semester for each semester in which they are enrolled. Summer courses, if taken, are charged additional tuition. The tuition billing and payment process for all ECE students is handled centrally by The HUB. For university billing and payment policies, please refer to The HUB's Billing and Payments website.

## Part-Time Students

Part-time students will be charged tuition at the per-unit rate. Arranging to pay per-unit is a convenience and not intended to reduce the overall costs of the program. Be sure that if you intend to be enrolled as a part-time student, your schedule reflects this by the tenth day of classes.

If you are planning to pursue part-time coursework (<36 units), if you register full-time (>35 units) at any point in that semester, you will be assessed the full-time tuition rate and no refund will be granted. If you are pursuing part-time coursework, be sure to consult with your academic advisor before changing your course schedule.

## University Financial Aid

Graduate Students should consult the graduate student financial aid information. Students will find the Graduate Financial Aid Guide, information about funding options, how to apply for financial aid and other helpful links.

Graduate students who find themselves in need of immediate funds for emergency situation should contact the Office of the Dean of Student Affairs to inquire about an Emergency Situation Loan.

## Student Financial Obligation

ECE students are subject to and must be aware of the Carnegie Mellon policy regarding student financial obligation.

# CAREER SERVICES

The Career and Professional Development Services Center (CPDC) serves to provide students with guidance during their job and internship searches. The services available to students include resume reviews, mock interviewing, salary negotiation, career exploration consultation, internship and job consultation, workshops/events and employer relations. The CPDC is also heavily involved in organizing campus-wide job fairs and bringing employers to campus.

Handshake is Carnegie Mellon's online recruiting system. Through Handshake, employers can request accounts to post jobs, request interviews and information sessions, and review student resumes. Students and alumni can apply to positions, sign up for interviews and find contact information for thousands of recruiters. Handshake can be accessed through the CPDC website.

## Career Consultants

ECE has assigned career consultants who provide guidance through one-on-one appointments. Students in Pittsburgh can meet with career consultants Marcie Foy and Shaina Tsupros, while students in Silicon Valley can meet with Director of Career Services Lauren Schachar. Appointments with Marcie, Shaina, or Lauren can be made through Handshake. They will each also hold open office hours, which will be communicated at the beginning of each semester.

## Job Search Guidelines

ECE strives to play a supportive role in the career pursuits of students, but maintains academics as a priority. It is not acceptable for students to skip classes or assignments in order to attend job interviews. Students should conduct job searched in a manner that does not impede the academic progress through their graduate program.

It is also important for students to have an understanding of how to conduct a job search. When applying for jobs, students are expected to exhibit certain ethical behavior, such as arriving on time for interviews, being truthful about their qualifications, and to honor their agreements with recruiters. Further, students should not continue looking and interviewing for a position after they have accepted an offer.

The CPDC reserves the right to limit access for any users that do not follow job search guidelines. Students who do not follow such guidelines may forfeit their on-campus interviewing and/or resume submission privileges.

# UNIVERSITY POLICIES

## Academic Integrity

Students at Carnegie Mellon are engaged in intellectual activity consistent with the highest standards of the academy. The relationship between students and instructors and their shared commitment to overarching standards of respect, honor and transparency determine the integrity of our community of scholars. The actions of our students, faculty and staff are a representation of our university community and of the professional and personal communities that we lead. Therefore, a deep and abiding commitment to academic integrity is fundamental to a Carnegie Mellon education. For more information on these standards, please visit the link below: http://www.cmu.edu/policies/student-and-student-life/academic-integrity.html

## Assistance for Individuals with Disabilities

Students with disabilities are encouraged to self-identify with Office of Disability Resources by contacting Catherine Getchell, 412-268-6121, to access the services available at the University. For more information, please visit the link below: http://www.cmu.edu/education-office/disability-resources/

## Evaluation & Certification of English Fluency for Instructors

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. Teaching Assistant English Fluency is managed through the International Teaching Assistant testing process administered by CMU's Intercultural Communication Center. For details please visit the links below:

http://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html

http://www.cmu.edu/icc/

## Leave of Absence & Withdrawal Policies

"Leave of absence" means leaving the university temporarily, with the firm and stated intention to return. "Withdrawal" means leaving the university with no intention to return. Withdrawals or leaves taken on or before the university deadline to drop classes without receiving a 'W' (withdrawal) grade will result in all courses or grades being removed. Withdrawals or leaves taken after the university deadline to drop classes but before the last day of classes will result in 'W' grades assigned to all classes. Withdrawals or leaves taken after the last day of classes will result in permanent grades assigned by the instructors for each class. After the last day of class, courses cannot be removed from a student's transcript.

International students should consult with the Office of International Education (OIE) prior to taking a leave of absence or withdraw from their program.

Further information about Carnegie Mellon's policy on student leave is available at the following link: http://www.cmu.edu/policies/student-and-student-life/student-leave.html

Students who would like to take a leave of absence or withdraw must complete the appropriate form at the following link: http://www.cmu.edu/hub/forms.html

Please see the "Leave of Absence" section of this handbook for ECE's policy on leave of absence and withdrawals.

### Tuition Refund Policy

If an ECE student withdraws or takes a leave of absence, the HUB will determine if a student should receive a tuition refund, as this is governed by CMU's policies, not ECE's.

Additional information is available at the following link:
http://www.cmu.edu/hub/tuition/adjustment.html

### Returning to Carnegie Mellon

When a student plans to return to CMU after a leave of absence, he/she must complete the Petition for Return from Leave of Absence form at least one month prior to the start of the semester. We recommend doing so prior to the registration period for the upcoming semester (for Fall, April and for Spring, November). The student must also meet any conditions that were set by ECE or the university at the time of leave was granted. Further information about Carnegie Mellon's policy on student return is available at the following link: https://www.cmu.edu/hub/registration/leave.html

## Safeguarding Educational Equity – Sexual Harassment and Sexual Assault Policy

Sexual harassment and sexual assault are specifically prohibited by Carnegie Mellon University, as is retaliation for having brought forward a concern or allegation. This policy is intended to clearly identify violations of this standard, provide resources to deal with their effects, and describe detailed procedures to address complaints of sexual harassment, including sexual assault. The complete policy can be found at the following link: http://www.cmu.edu/policies/administrative-and-governance/sexual-harassment-and-sexual-assault.html

## Suspension/Required Withdrawal Policy

University suspension is a forced, temporary leave from the university. A student may be suspended for academic, disciplinary, or administrative reasons. Additional information is available at the following link: http://www.cmu.edu/policies/student-and-student-life/suspension-required-withdrawal-policy.html

## Withdrawal of a Degree

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

## Withdrawal from Program

Students are able to withdraw from the department at any time. Prior to withdrawing, students should discuss their decision with their faculty advisor(s) and the Graduate Affairs Office. Students will be required to fill out the Withdrawal form located on The Hub website. International students must consult with OIE prior to filing a withdrawal form as there will be visa repercussions.

## University Grievances

Students are encouraged to discuss any concerns or grievances informally within ECE. If a student is not satisfied with the results of informal discussion or formal appeal at the department level, he or she may follow the guidelines on Graduate Student Appeal and Grievance Procedures. Students are likewise encouraged to speak directly to their graduate student's representatives and to the president of the Graduate Student Assembly (GSA). The complete reference to this policy is available at: http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html

## Student Maternity Accommodation Protocol

Female students seeking Maternity Accommodations should visit the following link from the Graduate Education's website: http://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html

## Verification of Employment

Carnegie Mellon University employees or former employees are required to use Employee/Former Employee Request Form for Verification of Employment to request employment verification. Vendors, such as mortgage companies, may continue to use standard formats with a signed authorization. Please contact the CMUWorks Service Center at cmu-works@andrew.cmu.edu with questions.

# APPENDIX A: ADDITIONAL UNIVERSITY RESOURCES

Highlighted University Resources for Graduate Students and The WORD Student Catalog

## Key Offices for Graduate Student Support

### Office of the Assistant Vice Provost for Graduate Education

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

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

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

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

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

- Conference Funding Grants
- Graduate Small Project Help (GuSH) Research Funding
- Graduate Student Professional Development: seminars, workshops and resources
- Graduate Women Gatherings (GWG)
- Inter-university Graduate Students of Color Series (SOC)

### Office of the Dean of Student Affairs

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

The Office of the Dean provides central leadership of the metacurricular experience at Carnegie Mellon. The offices that fall under the division of Student Affairs led by Dean of Student Affairs Gina Casalegno, include:

Career and Professional Development Center

- Counseling & Psychological Services (CAPS)
- Housing & Dining Services
- Orientation & First Year Programs (note: for undergraduate students)
- Office of International Education (OIE)
- Student Activities
- Student Life

Graduate students will find the enrollment information for Domestic Partner Registration and Maternity Accommodations in the Office of the Dean of Student Affairs and on the website. The Office of the Dean of Student Affairs also manages the Emergency Student Loan (ESLs) process. The Emergency Student Loan service is made available through the generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable within 30 days. Loans are available to enrolled students for academic supplies, medication, food or other expenses not able to be met due to unforeseeable circumstances. The Office of the Dean of Student Affairs also provides consultation, support, resources and follow-up on questions and issues of Academic Integrity: www.cmu.edu/academic-integrity.

## Silicon Valley Student Services

Students on the Silicon Valley campus can meet with the Director of Student Affairs, Sari Smith, for on-site connection to various student services resources. These resources include questions regarding housing, transportation, health, personal concerns, student organizations, activities and general campus information. Sari Smith's office is located in B19 Room 1041, and can be reached by phone at 650-335-2846 or email at sari.smith@sv.cmu.edu. The CMU-SV Student Services Webpage has more information about student services in Silicon Valley: http://www.cmu.edu/silicon-valley/campus-life/index.html

## Eberly Center for Teaching Excellence & Educational Innovation

www.cmu.edu/teaching

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

www.cmu.edu/teaching/graduatestudentsupport/index.html

## Carnegie Mellon Ethics Hotline

The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to financial matters, academic and student life, human relations, health and campus safety or research.

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

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

## Graduate Student Assembly

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

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

## Intercultural Communication Center (ICC)

www.cmu.edu/icc/

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

## Office of International Education (OIE)

www.studentaffairs.cmu.edu/oie/

Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars. OIE provides many services including: advising on personal, immigration, academic, social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; supporting international and cultural student groups such as the International Student Union and the International Spouses and Partners Organization; maintaining a resource library that includes information on cultural adjustment, international education and statistics on international students in the United States; posting pertinent information to students through email and the OIE website, and conducting orientation programs.

## Key Offices for Academic & Research Support

### Computing and Information Resources

www.cmu.edu/computing

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

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

### Research at CMU

http://www.ece.cmu.edu/research/index.html

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

### Office of Research Integrity & Compliance

http://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, intellectual property rights and regulations, and institutional animal care & use. ORIC also consults on, advises about and handles allegations of research misconduct.

# Key Offices for Health, Wellness & Safety

## Counseling & Psychological Services

www.studentaffairs.cmu.edu/counseling

Counseling & Psychological Services (CAPS) affords the opportunity for students to talk privately about issues that are significant for them in a safe, confidential setting. Students sometimes feel confused about why they are feeling upset and perhaps confused about how to deal with it. An initial consultation with a CAPS therapist will clarify options and provide a recommendation to the appropriate mental health resource at Carnegie Mellon or the larger Pittsburgh community. CAPS services are provided at no cost. Appointments can be made in person or by telephone, 412-268-2922.

## Health Services

www.cmu.edu/HealthServices/

University Health Services (UHS) is staffed by physicians, advanced practice clinicians and registered nurses who provide general medical care, allergy injections, first aid, gynecological care and contraception as well as on-site pharmaceuticals. The CMU student insurance plan covers most visit fees to see the physicians and advanced practice clinicians & nurse visits. Fees for prescription medications, laboratory tests, diagnostic procedures and referral to the emergency room or specialists are the student's responsibility and students should review the UHS website and their insurance plan for detailed information about fees. UHS also has a registered dietician and health promotion specialists on staff to assist students in addressing nutrition, drug and alcohol and other healthy lifestyle issues. In addition to providing direct health care, UHS administers the Student Health Insurance Program. The Student Health Insurance plan offers a high level of coverage in a wide network of health care providers and hospitals. Graduate students should contact UHS to discuss options for health insurance for spouses, domestic partners and dependents. Appointments can be made by visiting UHS's website or by telephone, 412-268-2157.

## University Police

http://www.cmu.edu/police/
412-268-2323 (emergency only), 412-268-6232 (non-emergency)

The University Police Department is located at 300 South Craig Street, Room 199 (entrance is on Filmore Street). The department's services include police patrols and call response, criminal investigations, shuttle and escort services, fixed officer and foot officer patrols, event security, and crime prevention and education programming. Visit the department's website for additional information about the staff, escort and shuttle, emergency phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

## Shuttle and Escort Services

University Police coordinates the Shuttle Service and Escort Service provided for CMU students, faculty, and community. Full information about these services, stops, routes, tracking and schedules can be found online at: http://www.cmu.edu/police/shuttleandescort/.

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

## The WORD

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

The WORD is Carnegie Mellon University's student on-line catalog and is considered a supplement to the department (and sometimes college) catalog. The WORD contains campus resources and opportunities, academic policy information and resources, community standards information and resources. It is designed to provide all students with the tools, guidance, and insights to help you achieve your full potential as a member of the Carnegie Mellon community. Information about the following is included in The WORD (not an exhaustive list) and graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at: http://www.cmu.edu/policies/.

- Carnegie Mellon Vision, Mission
- Carnegie Code
- Academic Standards, Policies and Procedures
    - Educational Goals
    - Academic and Individual Freedom
    - Statement on Academic Integrity
    - Standards for Academic & Creative Life
        - Assistance for Individuals with Disabilities
        - Master's Student Statute of Limitations
        - Conduct of Classes
        - Copyright Policy
        - Cross-college & University Registration
        - Doctoral Student Status Policy
        - Evaluation & Certification of English Fluency for Instructors
        - Final Exams for Graduate Courses
        - Grading Policies
        - Intellectual Property Policy
        - Privacy Rights of Students
        - Research
            - Human Subjects in Research
            - Office of Research Integrity & Compliance
            - Office of Sponsored Programs
            - Policy for Handling Alleged Misconduct of Research
            - Policy on Restricted Research
        - Student's Rights
        - Tax Status of Graduate Student Awards

Campus Resources & Opportunities

- Alumni Relations
- Assistance for Individuals with Disabilities
- Athletics, Physical Fitness & Recreation
- Carnegie Mellon ID Cards and Services
- Cohon University Center
- Copying, Printing & Mailing
- Division of Student Affairs
- Domestic Partner Registration
- Emergency Student Loan Program
- Gender Programs & Resources
- Health Services
- Dining Services
- The HUB Student Services Center
- ID Card Services
- Leonard Gelfand Center
- LGBTQ Resources
- Multicultural and Diversity Initiatives
- Opportunities for Involvement
- Parking and Transportation Services
- SafeWalk
- Survivor Support Network
- Shuttle and Escort Services
- Spiritual Development
- University Police
- Student Activities
- University Stores

Community Standards, Policies and Procedures

- Alcohol and Drugs Policy
- AIDS Policy
- Bicycle/Wheeled Transportation Policy
- Damage to Carnegie Mellon Property
- Deadly Weapons
- Discriminatory Harassment
- Disorderly Conduct
- Equal Opportunity/Affirmative Action Policy
- Freedom of Expression Policy
- Health Insurance Policy
- Immunization Policy
- Missing Student Protocol
- Non-Discrimination Policy
- On-Campus Emergencies

Pets
Political Activities
Recycling Policy
Riotous and Disorderly Behavior
Safety Hazards
Scheduling and Use of University Facilities
Sexual Harassment and Sexual Assault Policy
Smoking Policy
Student Accounts Receivable and Collection Policy and Procedures
Student Activities Fee
Student Enterprises
Workplace Threats and Violence Policy
Statement of Assurance

# APPENDIX B: ADDITIONAL INFORMATION FOR CALIFORNIA PROGRAMS

Carnegie Mellon University is a private, non-profit institution, approved to operate in California by the California Bureau for Private Post-Secondary Education.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, toll-free telephone number (888) 370-7589 or by fax (916) 263-1897.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 toll-free or by completing a complaint form, which can be obtained on the bureau's internet website, at www.bppe.ca.gov.

Class session will be held:

Carnegie Mellon University
NASA Ames Research Park
Bldg. 23 (MS 23-11)
P.O. Box 1
Moffett Field, CA 94035-0001
(650) 603-7032
www.cmu.edu/silicon-valley

**STUDENT'S RIGHT TO CANCEL (WITHDRAWAL/LEAVES OF ABSENCE)**

1. A student has the right to cancel the student's Enrollment Agreement by either taking a leave of absence from the Program (leaving Carnegie Mellon University temporarily with the firm and stated intention of returning) or by withdrawing from the Program (leaving Carnegie Mellon University with no intention of returning). If the student withdraws or take a leave of absence from Carnegie Mellon University, the student may be eligible for a tuition adjustment or a refund of certain fees (excluding any Application Fee, Registration Fee and Enrollment Deposit, and any applicable Student Tuition Recovery Fund assessment).
2. To cancel the student's Enrollment Agreement and take a leave of absence or withdraw, the student must complete Carnegie Mellon University's Leave of Absence or Withdrawal form, as applicable, and return it to Carnegie Mellon University's Registrar's Office, at 5000 Forbes Ave., Warner Hall A12, Pittsburgh, PA 15213. The Leave of Absence and Withdrawal forms, and additional information of leaves of absence and withdrawal, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/registration/leave.html.
3. If the student notifies Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is the earliest of:

The date the student began the student's withdrawal or leave of absence process at Carnegie Mellon University; The date the student notified the student's home department at Carnegie Mellon University;

The date the student notified the associate dean of the student's College at Carnegie Mellon University; or

The date the student notified the Carnegie Mellon University Dean of Student Affairs.

If the student does not notify Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is:

The midpoint of the relevant semester in which the student withdraws or takes a leave of absence;

The last date the student attended an academically-related activity such as an exam, tutorial or study group, or the last day the student turned in a class assignment.

**REFUND POLICY**

1. **Refunds in General.** Students who withdraw from the Program or take a leave of absence after having paid the current semester's tuition and fees or receiving financial aid are subject to the following refund and repayment policies. No other charges are refundable. Student Tuition Recovery Fund assessment, if any, is non-refundable.
2. **Exit Counseling.** All borrowers of Federal student loans must complete a Federally-mandated exit counseling session when graduating or dropping to less than half-time enrollment status, including by withdrawing or taking a leave of absence. Exit counseling prepares students for repayment. Students must complete an exit counseling session in its entirety, with complete and correct information; otherwise, the student's degree, diploma and official transcripts may be withheld. Information about exit counseling sessions can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/loans/entrance-exit/exit.html.
3. **Withdrawals/Leaves On or Before 10th Class Day.** Students who withdraw or take a leave of absence on or before the 10th class day of the relevant semester may receive a refund of 100% of tuition and fees (excluding any Application Fee or Registration Fee and Enrollment Deposit). STRF assessment, in any, is non-refundable.
4. **Withdrawals/Leaves after 10th Class Day.** Students who withdraw or take a leave of absence after the 10th class day of the relevant semester but before completing 60% of the semester will be assessed tuition based on the number of days completed within the semester. This includes calendar days, class and non-class days, from the first day of classes to the last day of final exams. Breaks which last five days or longer, including the preceding and subsequent weekends, are not counted. Thanksgiving and Spring Break are not counted. There is no tuition adjustment after 60% of the semester is completed. There is no refund of fees after the 10th class day of the relevant semester.

5. **Tuition Adjustment Appeals**. Students may appeal to have tuition adjustments for their leave of absence or withdrawal if they feel that they have extenuating circumstances. These appeals will be reviewed in the context of Carnegie Mellon University's tuition adjustment policy, as stated above. These appeals must be made in writing to Carnegie Mellon University's Registrar using Carnegie Mellon University's Tuition Appeal Adjustment form. Information about Carnegie Mellon University's tuition adjustment policy, and tuition adjustment appeals, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/tuition/adjustment.html.

6. **Repayment to Lenders/Third Parties.** If any portion of refundable tuition and/or fees was paid from the proceeds of a loan or third party, the refund may be sent to the lender, third party or, if appropriate, to the Federal or state agency that guaranteed or reinsured the loan, as required by law and/or Carnegie Mellon University policy. Any amount of the refund in excess of the unpaid balance of the loan shall be first used to repay any student financial aid programs from which the student received benefits, in proportion to the amount of the benefits received, and any remaining amount shall be paid to the student.

7. **Responsibility for Loan.** If the student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If the student has received Federal student financial aid funds, the student is entitled to a refund of moneys not paid from Federal student financial aid program funds. If the student is eligible for a loan guaranteed by the Federal or state government and the student defaults on the loan, both of the following may occur: 1) The Federal or state government or a loan guarantee agency may take action against the student, including applying any income tax refund to which the person is entitled to reduce the balance owed on the loan. 2) The student may not be eligible for any other Federal student financial aid at another institution or other government assistance until the loan is repaid.

Meeting the cost of a graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html.

If you obtain a loan to pay for the M.S. in Electrical and Computer Engineering or Software Engineering degree programs on the Silicon Valley campus, you will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If you have received federal student financial aid funds, you are entitled to a refund of moneys not paid from federal student financial aid program funds.

Carnegie Mellon University does not have a pending petition in bankruptcy, is not operating as a debtor in possession, and has not filed a petition in bankruptcy within the preceding 5 years, nor has Carnegie Mellon had a petition in bankruptcy filed against it within the preceding 5 years that resulted in re-organization under Chapter 11 of the United States Bankruptcy Code.

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or are enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.
2. You were enrolled at an institution or a location of the institution within the 120 day period before the closure of the institution or location of the institution, or were enrolled in an educational program within the 120 day period before the program was discontinued.
3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.
4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.
5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law, or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.
6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.
7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of noncollection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or

event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION The transferability of credits you earn at Carnegie Mellon University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the M.S. degree you earn in Electrical and Computer Engineering or Software Engineering is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Carnegie Mellon University to determine if your credits or degree will transfer.

Meeting the cost of a graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html.

Carnegie Mellon University is accredited through a voluntary, peer-review process coordinated by the Middle States Commission on Higher Education (MSCHE or Middle States). MSCHE is one of six regional accrediting agencies in the United States, each accrediting institutions of higher education within a specific geographic region. Middle States is recognized by the U.S. Department of Education. This recognition enables MSCHE's member institutions to establish eligibility to participate in federal financial aid programs (e.g., federal loans, grants, and work-study) administered by the U.S. Department of Education. Carnegie Mellon University has been accredited by Middle States since 1921.

Please visit http://www.cmu.edu/middlestates/ to learn more about accreditation standards and processes and to view the University's reaccreditation reports.

The address and telephone number for the Middle States Commission on Higher Education is 3624 Market Street, 2nd Floor West, Philadelphia, PA 19104, (267) 284-5000.

Appendix last updated: February 28, 2018

5000 Forbes Avenue

Pittsburgh, PA 15213

www.ece.cmu.edu

@CMU_ECE

Electrical & Computer Engineering

# 2017-2018 Ph.D. Catalog/Handbook

ECE Office of Graduate Affairs

This document is for the internal use of the Department of Electrical and Computer Engineering at Carnegie Mellon University only and may not be distributed or reproduced for external distribution in any form without express written permission of the Department Head of the Department of Electrical and Computer Engineering. This handbook is posted to the ECE Ph.D. webpage prior to the start of each academic year and is updated as needed.

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# WELCOME TO ELECTRICAL AND COMPUTER ENGINEERING

Welcome to the Department of Electrical and Computer Engineering at Carnegie Mellon University, a large and dynamic organization engaged in education, research, and entrepreneurship on a truly global scale, with locations and programs in Pittsburgh, Silicon Valley, Portugal, and Africa. The 2015 US News and World Report ranks our graduate research programs in electrical and computer engineering 8th and 4th in the nation, respectively.

Since offering our first course in electrical engineering in 1908, the Department of Electrical and Computer Engineering has become one of the leading world programs preparing students for a number of diverse careers. Our distinguished faculty includes members of the National Academy of Engineering and works closely with students who come from throughout the United States and the world. Our research and teaching cover a broad spectrum of areas including device sciences and nanotechnology, computer systems, data science, energy, control, communications, and circuits, among others. Our electrical and computer engineers continue to push the boundaries of technology and shape the future of energy systems, hospitals, computers, and many others.

I hope you will browse through this catalog/handbook and our website and learn more about our department. Please contact us if you have any questions or comments.

Sincerely,

Jelena Kovačević
Department Head, Hamerschlag University Professor
Electrical and Computer Engineering

## Core Values

The ECE Department has been a leader in both research and education for years; it is known for its innovative qualities, boldness of ideas, and unbridled enthusiasm. Our strategic plan is guided by our core values.

> We value scientific truth, creativity, quality, innovation, and engineering solutions, all within a diverse and inclusive community guided by respect and joy of doing.

Our core values form the foundation for what we do; we hold them to be intrinsically true. We believe in solving problems that have large societal impact; we also believe that to be successful, we must work within an environment of enthusiasm and openness, respect and integrity, and freedom to express and explore a variety of ideas.

## Vision

Our vision is our guiding light; it informs and propels us in the right direction. The strategies of following that path change over time; the vision does not.

> To be a creative driving force within the university and worldwide of highest scholarly and entrepreneurial quality.

## Mission

Our mission is our "what, who, how"; it explains what we do, who we do it for, and how we do it so we engage the "hearts, heads, and hands" of our faculty, students, and staff in achieving our objectives.

> To inspire, educate, and produce electrical and computer engineers capable of tackling fundamental scientific problems and important societal challenges, and to do so with the highest commitment to quality, integrity, and respect for others.

We aim to be the best at what we do, to apply all our skills and knowledge to execute our vision. We educate young people to become engineers sought after by industry and academia alike; we do so in an environment imbued by enthusiasm and love for what we do, with respect and willingness to listen to each other, with freedom to express our ideas and look at challenges from different points of view. We strive to be the ECE department of choice for those who are willing to step off the beaten path, for the visionaries and dreamers.

# INTRODUCTION

## Graduate Degrees and Programs Offered

Master of Science in Electrical and Computer Engineering

- Pittsburgh
- Silicon Valley

- Africa

Master of Science in Software Engineering
- Silicon Valley

Doctor of Philosophy in Electrical and Computer Engineering
- Pittsburgh
- Silicon Valley
- Portugal

## Graduate Student Catalog/Handbook

This catalog/handbook is intended to set guidelines and expectations for new and current doctoral students in Electrical and Computer Engineering at Carnegie Mellon University. This catalog/handbook is not exhaustive and is subject to revision at any time by the ECE department. It covers Ph.D. students in Pittsburgh, Silicon Valley, and Portugal.

It is the responsibility of each student to read and understand the contents of this catalog/handbook.

This catalog/handbook, along with any revisions, will be posted and announced annually to the ECE website. Students with disabilities may request this catalog/handbook in other formats by contacting the Graduate Affairs Office.

# CARNEGIE MELLON POLICIES, EXPECTATIONS, STATEMENT OF ASSURANCE, AND CODE

## Carnegie Mellon Policies & Expectations

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

- The Word/Student Catalog
- Academic Integrity Website
- University Policies Website
- Graduate Education Website
- College of Engineering Website
- Please see Appendix A for additional information about The Word and University resources.

## Carnegie Mellon Statement of Assurance

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

Inquiries concerning the application of and compliance with this statement should be directed to the vice president for campus affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2056.

For general information about Carnegie Mellon University, call 412-268-2000.

The Statement of Assurance can also be found online.

## Carnegie Mellon Code

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

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

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

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

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

The Carnegie Mellon Code can also be found online.

## Carnegie Mellon Child Protection Requirements

Carnegie Mellon is committed to providing a safe and secure environment for all minors involved in any programs or activities conducted on university premises, as well as any off-campus programs or activities sponsored by the university. Details are available through Leonard Gelfand Center Child Protection Operations.

If you have questions regarding Act 153 or encounter a situation when you would need to have the clearances, please contact Meighan at meighan.harding@ece.cmu.edu.

# DEPARTMENTAL INFORMATION

## University Personnel

Throughout your time in the Ph.D. program, you will encounter a variety of faculty and staff who will help you on your way to completing your degree. You may view a list of faculty and a list of

staff affiliated with ECE online. Below is a list of faculty and staff whom you are likely to encounter during your time in the Ph.D. program.

- Dean of the College of Engineering: Professor James H. Garrett
- Associate Dean of Graduate and Faculty Affairs: Professor Jonathan Cagan
- Assistant Vice Provost for Graduate Education and University Graduate Student Ombudsman: Dr. Suzie Laurich-McIntyre
- Department Head: Professor Jelena Kovačević
- Executive Assistant to the Department Head and Administrative Services Manager: Christina Cowan
- Director, CMU Africa: Bruce Krogh
- Associate Department Head for Research and Strategic Initiatives: Professor José M.F. Moura
- Associate Department Head for Academic Affairs: Professor Diana Marculescu
- Director of Operations: Meighan Harding
- Associate Director of Finance and Sponsored Research: Charlotte Ambrass
- Associate Director of Student and Academic Affairs: Leona Kass
- Associate Director of Graduate Affairs: Tara Moe
- Advisor, Student Organizations & Activities: Bari Morchower
- Advisor, Student Organizations & Activities in Silicon Valley: Brittany Reyes
- Ph.D. Academic Program Advisor: Nathan Snizaski
- Ph.D./M.S. Academic Program Advisor in Silicon Valley: Stephanie Caruso
- M.S. Academic Program Advisor: Nesli Ozdoganlar
- M.S. Academic program Advisor: Jillian McCarthy
- Student Services Officer, CMU Rwanda: Olga Gikundiro Buki

A general list of contacts can also be found on the ECE website.

# University Resources

## Academic Audit

Each student has an academic audit that shows how courses taken or registered for meet the degree requirements. You can find your individual academic audit on The Hub at https://enr-apps.as.cmu.edu/audit/audit. Students may also meet with their academic advisor to review how their courses have been applied to the degree requirements.

## University Resource Websites

Several pertinent university policies are included in this handbook, primarily found in the University Policies section. The complete university policies are available online at the following link: http://www.cmu.edu/policies.

Additional assistance is available in understanding community expectations, with the following resources being particularly relevant to ECE students:

- The Office of the Assistant Vice Provost for Graduate Education. Website: www.cmu.edu/graduate. Email: grad-ed@cmu.edu

- The Office of the Dean of Student Affairs. Website: www.cmu.edu/student-affairs/index.html
- Student Services in Silicon Valley. Website: http://www.cmu.edu/silicon-valley/campus-life/index.html
- Assistance for Individuals with Disabilities. Contact Larry Powell, Equal Opportunity Services, 412-268-2013, lpowell@andrew.cmu.edu
- Eberly Center for Teaching Excellence. Website: www.cmu.edu/teaching
- Graduate Student Assembly. Website: www.cmu.edu/stugov/gsa/index.html
- Intercultural Communication Center. Website: www.cmu.edu/icc
- Office of International Education. Website: http://www.studentaffairs.cmu.edu/oie/
- Counseling & Psychological Service. Website: www.studentaffairs.cmu.edu/counseling.
- Health Services. Website: www.cmu.edu/HealthServices
- University Police. Website: www.cmu.edu/police
- The Word (student online handbook). Website: http://www.cmu.edu/student-affairs/theword
- Academic Integrity Website: www.cmu.edu/academic-integrity
- University Policies Website: www.cmu.edu/policies/

Please refer to Appendix A for additional information about each of the aforementioned resources.

# Department Resources

## Academic Advisors

Your academic advisor is a resource for having any university paperwork signed, asking questions regarding registration or the curriculum, and guiding you to other important resources. Nathan Snizaski and Stephanie Caruso serve as the academic advisors for Ph.D. students.

Academic advising is done through the Graduate Affairs Office. In Pittsburgh this is in Hamerschlag Hall 1113; in Silicon Valley this is in B19 Room 1060. The Ph.D. Academic Program Advisor administratively advises all ECE Ph.D. students throughout the entire duration of the Ph.D. program. While this advisor does not provide content-specific expertise in ECE, he/she helps students navigate through the program by tracking milestones, meeting one on one and in groups with students for questions related to registration or the curriculum, guiding students to other important resources, completing enrollment and university-related paperwork, and answering questions for students who may not know where else to turn. Nathan Snizaski and Stephanie Caruso are the Academic Advisors for Ph.D. students.

Nathan can be reached by email: nsnizask@andrew.cmu.edu, by phone: (412) 268-3200, or in person in 1113 Hamerschlag Hall. To guarantee availability, you are encouraged to schedule an appointment with him by accessing his calendar in the signature block of his e-mail. Nathan advises Pittsburgh based Ph.D. and Portugal based students.

Stephanie can be reached by email: stephaniec@cmu.edu, by phone: (650) 335-2853, or in person on the Silicon Valley campus in Building 19 Room 1060. To guarantee availability, you are encouraged to schedule an appointment with her by accessing her calendar in the signature block of her e-mail. Stephanie advises all Silicon Valley based Ph.D. students.

## Faculty Advisors

Students also receive a faculty advisor. Faculty advisors help guide Ph.D. students through the program by ensuring that all students receive the necessary support and mentoring to succeed.

### *Matching*

Within the first few weeks of entering ECE, most students are matched with faculty advisors using a "mutual match" process. During orientation, faculty from ECE's four areas give an overview of available research projects in order to help students find an advisor who aligns with his or her research interests. ECE's four research areas are:

- Circuits/CAD/VLSI
- Computer Systems
- Device Sciences and Nanofabrication
- Signals, Communications, and Controls

After the area overview, students are required to meet with all the faculty listed on their admission letter and are also welcome to meet with any other faculty member with an ECE affiliation. In addition to attending the orientation presentations, students can learn about an individual faculty member's research interests by viewing the faculty's member Curriculum Vitae and website (if available) and from meeting individually with different faculty members during the matching period.

Matching is done through a mutual matching process: students rank their top three [3] faculty preferences and faculty discusses their student preferences. A committee then matches each student with a faculty member, taking into consideration each of their preferences and other factors. Specific information on the matching process can be referenced through the orientation presentation on Ph.D. Matching with Advisors.

Final matches will be communicated to students by the end of the first full month of enrollment.

Some programs have different matching processes. These variations are listed below.

| Program | Matching Process |
|---|---|
| **CMU \| Portugal Dual Degree Program** | CMU \| Portugal dual degree students typically enter the program pre-matched based on recommendations from the Program Directors. One advisor will be from CMU and one advisor will be from the student's home institution in Portugal. |
| **Silicon Valley** | Silicon Valley students are generally directly matched with the faculty advisor listed on the admission letter. Silicon Valley students will still be expected to formalize this relationship by filling out the matching process survey. |

### *Expectations*

Faculty advisors are expected to help guide Ph.D. students through the program by ensuring that all students receive the necessary support and mentoring to succeed. Each relationship between a student and his or her faculty advisor is unique and tends to evolve over the course of the

student's time in the Ph.D. program. It is the responsibility of both the student and his or her advisor to identify goals, plans, and criteria for success in the Ph.D. program.

Occasionally, students request to switch advisors. While this request must be approved by the Graduate Affairs Office, it is generally viewed as routine and is almost always granted. It is recommended that students pursue such switches early in the Ph.D. program so that their academic progress can continue as it is expected. To switch an advisor, a student must complete the Change of Advisor form.

Faculty advisors must have an ECE affiliation and be able to financially support the student for the duration of their studies.

### *Co-advisors*

It is possible for students to have more than one advisor at the same time. Usually, co-advising is done when a student is pursuing a topic that is interdisciplinary in nature or that would benefit from the expertise of two faculty members. Both advisors must have an ECE affiliation to co-advise an ECE student.

### *Advisor Departure*

In case of advisor departure from CMU, Ph.D. students have the following options:

- Remain with advisor as a CMU student; physically located at CMU
- Remain with advisor as an enrolled CMU student, but work with advisor at his/her new institution
- Remain with advisor and transfer to advisor's new institution
- Find a new advisor at CMU and remain a CMU student

When an advisor leaves the ECE Department, the department will hold an information session for that faculty member's students to discuss this transition and their options.

## Graduate Studies Committee (GSC)

The Graduate Studies Committee is a committee consisting of ECE faculty and ex-officio administrators from the Graduate Affairs Office. The Graduate Studies Committee meets throughout the academic year to address student petitions, discuss program policies, and to approve and assign qualifying exams.

The GSC Chair for the 2017-2018 academic year is James Bain. The dates for the GSC meetings will be posted on the GSC Petitions Procedures website (requires Andrew ID log in) before the start of each semester.

## Bulletin Boards

Pittsburgh campus

- Bulletin boards are located throughout the department in Baker Hall, Porter Hall, Hamerschlag Hall (HH), and Roberts Hall. Bulletin boards will be cleared on a regular basis.

Silicon Valley campus

- Students in Silicon Valley can find bulletin boards located in Buildings 23 and 19. Bulletin boards will be cleared on a regular basis.

## Tech & Receiving

Pittsburgh campus

- The Tech Electronics Shop and ECE Shipping and Receiving Department is located on the Pittsburgh campus in HH 1301 and its regular business hours are 9am-5pm, Monday through Friday. The Tech Electronics Shop offers a wide variety of parts, components, tools, and supplies used throughout the ECE Labs, which are available for use to all ECE students, faculty, and staff. The ECE Shipping and Receiving Department handles all incoming and outgoing packages for the department as well as the daily US Mail delivery. The ECE Shipping and Receiving Department has a large stock of shipping materials to assist with any outgoing package needs, as well as prompt notification of package arrival and delivery if necessary

Silicon Valley campus

- Students on the Silicon Valley campus should work with their instructor if supplies are needed.

## Computer Clusters

Computer clusters are located in HH 1303. There are several remote access compute clusters located in the ITS Cyert Hall machine room. Various research groups or principle investigators have their own compute clusters. Access to those clusters is only available with the consent of the party who owns the cluster. There are not computer clusters available in Silicon Valley.

## Printers

Printers are provided for student academic use.

Pittsburgh campus

- Andrew Public Printing stations are available in HH A101, A104, 1303, and 1310.

Silicon Valley campus

- Printers are for use in Building 23 (B23) Room 123, the hallway in B23 outside of 109/110, the Building 19 (B19) kitchen/lounge, and at the end of the 1030 wing in B19. Instructions for adding printers and policies are posted next to each printer.

## Keys

Pittsburgh campus

- All key requests should be sent to keys@ece.cmu.edu and should be accompanied by your supervisor's approval. Key distribution will take 3-5 business days, assuming a copy of the desired key is on file. If a new key needs to be made, the request could take 7-9 business days. You will receive an e-mail once the key is ready for pick-up and supervisor approval

has been received. To avoid any financial implications to you, your key must be returned prior to your final departure from CMU.

Silicon Valley campus

- The Silicon Valley Facilities will provide you with a key to the Ph.D. study suites in Building 19 at orientation. To avoid any financial implications to you, your key must be returned prior to your final departure from CMU. To report a lost key or to request a replacement, please email facilities@sv.cmu.edu.

## Lab & Office Space

Lab and office space will be assigned to students once they have been formally matched with a faculty advisor. Lab and office assignments may be modified at the discretion of the students' faculty advisor or the department. Students may not re-locate without prior permission from the department.

## Graduate Student Lounges

Pittsburgh campus

- The graduate student lounge in Pittsburgh is located in the top floor of Hamerschlag Hall.

Silicon Valley campus

- There are several spaces for students in Silicon Valley to use. The main student lounges can be found in B23, downstairs Room 129 and upstairs Room 227. In B19, students can utilize the Bay Room (B19 Room 1040).

## Department Office/Building Security, Repairs and Services

Pittsburgh campus

- Any damages, repairs, or security concerns should be reported to Alan Grupe, Facilities Manager, by emailing help@ece.cmu.edu. In an emergency, please contact University Police at 412-268-2323.

Silicon Valley

- Any damages, repairs, or security concerns should be reported to Stacy Marshall, Facilities and Events Manager, by emailing facilities@sv.cmu.edu. In an emergency, please contact NASA Police at 650-604-5555.

## Graduate Student Organizations

- EGO (ECE Graduate Student Organization) organizes academic and social events throughout the academic year.
- WinECE (Women in Electrical and Computer Engineering) provides academic and social events to women in ECE throughout the year.
- HKN (Eta Kappa Nu) is the honor society for Electrical and Computer Engineering students. HKN members engage in community service, professional engagement, and social

activities. Ph.D. students are invited by the board of HKN to join based on academic performance.

- ECE Outreach is a student organization that aims to provide middle school and high school students opportunities to learn about engineering and figure out whether it's a good career choice for them. The organization is run by ECE undergraduate and graduate student volunteers.

For more information on graduate student organizations and opportunities for future involvement in the ECE department, please contact Bari Morchower, Student Organizations and Activities Advisor in Pittsburgh, or Brittany Reyes, Academic Services Coordinator and Student Organizations Advisor in Silicon Valley.

### Press & Media Relations

ECE's Communication Manager is the point-of-contact between news media and the ECE, including faculty, students, and staff.

If any student, staff or faculty member of ECE is contacted by a media representative, they are required to immediately inform either the Communication Manager and/or the Director of Operations. Members of the ECE community are not required to answer any questions from the media without first seeking information from ECE's Communication Manager and/or the Director of Operations.

Persons interested in publicizing a program, project, event, or other activity affiliated within ECE should contact the Communications Manager Krista Burns who can provide guidance on internal and external communications.

### Electrical & Computer Engineering Brand & Logos

The Information Technology Services (ITS) website contains information regarding the department's branding and identity standards.

## PRE-MATRICULATION

### Deferral

ECE generally does not allow admission deferrals because admission decisions are based on the current applicant pool. Therefore, students are offered admission into the program for a particular semester only. If a student wishes to attend in a future semester, the student must reapply to the ECE program.

### Final Undergraduate Transcripts

Applicants admitted to any ECE program must submit final official transcripts, properly sealed, upon completion of their undergraduate program from the institution conferring their degree as a condition of enrollment at Carnegie Mellon. Certificates of graduation and/or degree certificates should also be submitted if provided by the institution. Failure to provide such documents that confirm the completion of undergraduate requirements by the end of the first semester of study at Carnegie Mellon may prevent the Ph.D. degree from being certified.

## Responsible Conduct of Research (RCR) Education

The Office of Research Integrity and Compliance website describes the university's position on ethical research: "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."

In support of the university's position, ECE requires **all incoming students** to take the appropriate online training offered by the Collaborative Institutional Training Initiative (CITI). The CITI physical science module package is recommended rather than the module package for engineers, although both are acceptable. The courses are available at citiprogram.org. Select Carnegie Mellon University as your participating institution when you create your account.

The course(s) may take a few hours to complete but can be done over a period of time. Upon completion of the course(s), students will need to provide their certificate to the Graduate Affairs Office. Instructions on how to submit this certificate are communicated prior to the beginning of the semester.

# ENROLLMENT AND REGISTRATION

## Overview

After matriculating into ECE, students should create an academic plan and register for courses. Students should actively engage in their process by reviewing degree requirements on the website, connecting with their academic advisor, and conferring with their faculty advisor. Once plans are firm, students can proceed by accessing Student Information Online (SIO).

SIO is an important online tool to use during the registration process, as well as throughout graduate school. Students can access SIO with their Andrew ID at The Hub.

Within SIO, there is a Course Planning module that allows students to view and modify their proposed schedule before registering for courses. Once a schedule is developed, it is the student's responsibility to register for courses using their SIO. Students must be registered for every course that they plan to take for the semester, even if it is not taken for credit (e.g., audited courses).

After the first semester, a student's assigned registration time is determined by the number of completed units and cannot be changed. If a student's tuition balance and/or fees are greater than $0.00, the student will not be able to register until the balance is cleared.

## Degree Progress and Planning

### Student Responsibility

It is the sole responsibility of the student to manage the academic progression of their program. Students are expected to ensure that they are taking the necessary prerequisites and courses to complete degree requirements on time. Students have the ability to add courses, drop courses, and select units for variable unit courses through SIO. It is the students' responsibility to be aware

of all academic deadlines, including the add deadline, the drop deadline, the pass/fail deadline, and the audit deadline. Academic deadline information can be found within The HUB's Academic Calendar.

If a student is not progressing as expected, they are expected to seek advice and counsel from their academic advisor and faculty advisor. If the student is concerned that they may be unable to complete degree requirements, they should contact their academic program advisor and faculty advisor for assistance.

## Degree Timeframe and Residency Requirement

Completion of the Ph.D. degree usually takes about four to six years of study (depending on if the student enters with a B.S. degree or an M.S. degree). At least one calendar year of full-time graduate study in residence (under 'Ph.D.') is required by CIT. This requirement may be waived for part-time students via a petition to the Department Head and the Associate Dean for Graduate and Faculty Affairs.

The total time allowed to complete the Ph.D. degree requirements is six years following the successful completion of the Ph.D. Qualifying Examination. A minimum of 144 units is required beyond the bachelor's degree. In calculating these 144 units, a student's master's degree from another institution can be factored towards the 144 units. Please see the "Full-time and Part-time Requirements" portion of this handbook for additional information.

Students are encouraged to register as soon as possible for each semester in order to avoid waitlists and ensure that tuition and stipend support continues smoothly.

Students must be physically present and attend class at the start of the semester. If extenuating circumstances exist that prevent a student from attending class, a student must notify the academic advisor and instructors immediately. Not attending class from the start of the semester will have a detrimental effect on a student's progress in the program. ECE will make an effort to verify all students have arrived to begin their program and will consider a student as "withdrawn from the university" if he or she is not here by the tenth day of class as defined by the academic calendar.

International students must consult with CMU's Office of International Education (OIE) for questions on extension of their visa documents or if they complete their degree requirements in less than three semesters. Please see details and relevant forms on OIE's website under Maintaining Legal Status.

## Summer Registration Process & Procedures

Students are expected to continue their research over the summer or pursue an internship that is relevant to their Ph.D. research. Any deviation from this expectation must be approved by the student's faculty advisor prior to the beginning of the summer semester.

Students who are performing full-time research with their faculty advisor should register themselves for 18990-R Reading and Research for 36 units during the Summer 1/All semester.

International students who are completing an internship in the United States must complete the paperwork for Curricular Practical Training (CPT). For more information about internships and

CPT, see the Internship section outlined in this handbook. Academic and OIE advisors will provide students with information about CPT during the spring semester.

## Vacations & Time-Off

Students with graduate assistantships are expected to continue with their research during academic breaks (including summer months) with the exception of official University holidays. Paid time off for personal business or vacations generally is not included as part of a graduate's financial support.

A supported graduate student who wants to take a short break (up to two weeks) must get approval for that break from his/her advisor in writing and, if required by the terms of the student's support package, must make up the work. Supported graduate students wishing to take longer periods of personal time off must do so without financial support and must receive written approval from their faculty advisor at least three weeks prior to the requested time off. International students should pay particular attention to the rules governing their visa in relation to time off. The student's faculty advisor will notify the Department's Business Office of any such arrangements so that an appropriate adjustment in the student's support package can be processed.

University holidays include:

- New Year's Day
- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Day After Thanksgiving
- Day Before Christmas
- Christmas Day
- Day Before New Year's Day

## Full-time and Part-time Requirements

### *Full-time Requirements*

Full-time students must be enrolled for a minimum of 36 units each semester – fall, spring, and summer.

Moreover, international students must be enrolled in a full course load (minimum 36 units) each semester to maintain their immigration status. Enrollment less than full time may be applicable at certain periods of the Ph.D. program (e.g., self-supporting in the final semester). See your academic advisor for more information.

### *Part-time Requirements*

Occasionally, employment constraints may result in a student being enrolled part-time (less than 36 units per semester) in the Ph.D. program while they continue to work full-time elsewhere. Students planning to enroll in the Ph.D. part-time should discuss their part-time status with their

faculty advisors and create a plan that will ensure their timely and comprehensive fulfillment of the Ph.D. program. Part-time students should note that the Ph.D. program is rigorous and that students should think carefully about embarking upon a part-time program while continuing to work full-time.

Part-time students are subject to CIT's residency requirement (under 'Part-Time Graduate Programs') and requires that student spend at least one academic year (fall and spring) on campus over the course of the Ph.D. program. Any deviation from this requirement must be petitioned for by the student and his advisor prior to his or her enrollment in the Ph.D. program. The petition must be approved by the Department Head and the Associate Dean for Graduate and Faculty Affairs.

Part-time students should be enrolled for less than 36 units each fall and spring semester. Most part-time students take 12 or 24 units per semester.

## Statute of Limitations

ECE adheres to CIT's policy on Ph.D. completion timelines. The CIT policy is as follows: "Passing the Ph.D. qualifying examination admits a student to candidacy for the Ph.D. degree for a period of no longer than six calendar years. If, at the end of this six-year period, the Ph.D. 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." Former ECE students who did not fulfill graduation requirements and would like to return to complete a degree should refer to the statute of limitations in CIT's graduate student policies for more information.

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. Requests for extensions to the statute of limitations must be submitted to the Graduate Studies Committee at least one semester prior to the statute of limitations expiration.

Students wishing to obtain an extension due to special circumstances must to submit a formal petition at least one semester prior to his or her defense timeline expiring. The time clock will stop for students who have not taken the qualifying exam prior to the leave of absence.

## Campus Location Tracking & Reporting Requirements

Students who are not based in Pittsburgh will be required to report their expected location for the future semester by responding to an online poll disseminated by the Graduate Affairs Office. This information is critical in ensuring that students are billed properly and, if they are traveling to the United States from abroad, receive their visa in a timely fashion. Additionally, some programs regulate on how long a student can be in Pittsburgh over the course of the program.

Any deviations from the location requirements outlined by the program must be approved by the student's faculty advisor. Additional information regarding funding may also be requested by

the Business Office in order to facilitate the students' deviation from traditional location requirements.

Information on location requirements can be found in the table below:

| Program | Location Details |
|---|---|
| **CMU \| Portugal Dual Degree Program** | CMU \| Portugal dual degree students receive funding for a total of two years on the Pittsburgh Campus. Students and their advisors should work together to determine where the student will be physically located each semester. Three years will be spent in Portugal. |
| **Silicon Valley** | Students and their faculty advisors should work together to determine where the student will be physically located each semester. |

Once students have reported their location to the Graduate Affairs Office, any change in plans should be communicated directly to the Graduate Affairs Office. It is the responsibility of the student and his or her advisor to communicate location information to the Graduate Affairs Office. Late or inaccurate reporting of future locations may limit a student's ability to travel to the United States and may result in inaccurate financial charges to the student's account.

## Obtaining an M.S. on the Way to the Ph.D.

Many Ph.D. students wish to obtain an M.S. on the way to the Ph.D. in order to demonstrate their academic progress in the program and to have a milestone to show on their curriculum vitae/resume. Ph.D. students have two M.S. options: a course M.S. or a project M.S.

### *Course M.S.*

The course M.S. requires 96 units of coursework, 12 units of which can be research. Of the 96 units, 60 units are restricted (including 12 units of research) and 36 are less-restricted.

### *Project M.S.*

The project M.S. is only open to ECE Ph.D. students. This option also requires 96 units of coursework, 36 units of which can be research in exchange for writing a 40 page or less research paper. This paper will need to be approved by both the student's faculty advisor and a second reader who must be an ECE faculty member. Twelve of the 36 units will be allocated to the restricted 60 units, and 24 of the 36 units will be allocated to the less-restricted units.

Both types of M.S. degrees require the completion of a Request for an M.S. Degree form. This form must be completed at least two weeks before the final grades deadline if a student is requesting an MS at the end of a given semester.

## Change of Degree Program

Sometimes students begin the Ph.D. program and realize that they do not want to continue as a Ph.D. student. When this occurs, students may have the option of switching to the M.S. program.

Switches to the M.S. program should be discussed with the student's advisor prior to filling out the switch to M.S. form to formalize the switch.

Please note that this switch must be done prior to or within the first 10 days of classes in the semester in which a student would like to switch to the M.S. program via the switch to M.S. form. After the 10th day of class, the switch will not be permitted until the following semester and the student will be expected to continue with Ph.D. research until the end of the semester.

Students who switch to the M.S. program will become financially self-supporting, meaning that they will no longer receive tuition or stipend support from the department. Prior to switching to the M.S. program, international students should consult with OIE.

## Center for the Neural Basis of Cognition (CNBC) Program

ECE Ph.D. students interested in the neural basis of cognition can apply to the Center for the Neural Basis of Cognition (CNBC) Graduate Training Program, which allows students to combine neuroscience and engineering in an interdisciplinary training program.

The CNBC program offers a certificate graduate training program in collaboration with ECE and several other affiliated doctoral programs at Carnegie Mellon University and the University of Pittsburgh. The program trains interdisciplinary scientists interested in understanding how cognitive processes arise from neural mechanisms in the brain. Students combine intensive training in their chosen specialty with broad exposure to other disciplines that touch on neural computation and problems of higher brain function.

Students who have been accepted to the ECE Ph.D. program can apply to participate in the CNBC graduate training program. The program requires four core courses in the areas of cellular and molecular neuroscience, systems neuroscience, cognitive neuroscience, and computational neuroscience. The CNBC program also includes several colloquium/seminar series, student-run journal clubs, research ethics training, and a variety of optional elective courses. Students in the CNBC program receive travel support and possible computer equipment support.

The following describes how the CNBC course requirements can be integrated with the ECE Ph.D. course requirements:

### *For incoming Ph.D. students with a B.S.*

Students entering the ECE Ph.D. program with a B.S. degree will be able to complete the CNBC course requirements entirely within the framework of the ECE course requirements. In other words, these students will be able to complete the CNBC course requirements without taking units above and beyond the 96 units required for an ECE Ph.D.

### *For incoming Ph.D. students with a M.S.*

Students entering the ECE Ph.D. program with a M.S. degree may petition the GSC for one CNBC course to be counted towards fulfillment of an ECE breadth area and course requirements. One other CNBC course will be allowed to count as an ECE-related course with no GSC petition required. The student will then need to take four more courses: two more to satisfy the CNBC requirements, and two more to satisfy the ECE breadth requirement and the 48 units required for an ECE Ph.D.

All students who are planning to complete the CNBC graduate training program along with an ECE Ph.D. are required to meet with their faculty advisor to discuss their course plans. The course plan must then be discussed with the Graduate Affairs Office.

## Joint Degree Programs

Joint degrees are when two departments come together to create one program and award one degree. The College of Engineering has a joint degree program with the Department of Engineering and Public Policy (under 'Joint Degrees with EPP').

## Courses Outside of Degree Requirements

Courses that do not satisfy degree requirements include StuCo courses (98), Physical Education course (69), audited courses, and pass/fail courses. Similar to courses taken for degree requirements, students must register for these other courses, and the units will count towards their course load for the semester. Students should confer with their faculty advisor for approval prior to registration.

## Double Counting Courses

ECE follows the CIT Policy on double counting courses. Students are required to notify the Graduate Affairs Office prior to declaring a degree outside of ECE as this may have repercussions for your units and coursework to date.

The same course taken two separate times will not count towards the ECE Ph.D. If a student takes the same course twice, the course with the higher grade will be counted towards the ECE Ph.D. course requirements.

## Retaking Courses

If students do not pass a course, they should take a different course that will fulfill the requirement. Retaking a course is not recommended. Students who wish to retake a prerequisite course in which they did not receive the minimum grade required should first confer with their faculty advisor for approval. Should a student choose to retake a course, only the course with the higher final grade will be counted towards the ECE Ph.D., provided the student receives a "B-" or better.

All grades are recorded on the transcript and factored into the cumulative QPA. Depending on previous education (entering Ph.D. program with or without M.S. degree) approved courses will be factored into the 48 or 96 units that fulfill degree requirements are factored into the required 3.0 graduation QPA.

## Auditing Courses

Auditing a course is being present in a classroom without receiving academic credit or a letter grade. An audited course will appear on a student's transcript. Students are permitted to audit courses in consultation with their faculty advisor. Please note that audited courses cannot count towards the Ph.D. Course or Breadth Area requirements.

A student who wants to audit a course is required to:

1. Register for the course in SIO.
2. Obtain permission from the instructor and ask the instructor to sign the course audit approval form.
3. Submit the form to their academic advisor for approval.
4. If approved, the academic advisor will send the form to the HUB for processing.

Once a course audit approval form is submitted to the HUB, a letter grade ('A'-'R') will not be assigned for the course and the declaration cannot be reversed. You can find the deadline for submitting this form on the Academic Calendar. After the deadline, students will not be able to request the option to audit a course.

The extent of the student's participation must be arranged and approved by the course instructor. Typically, auditors are expected to attend class as though they are regular class members. Those who do not attend the class regularly or prepare themselves for class will receive a blank grade. Otherwise, the student receives the grade 'O', indicating an audit.

The units of audited courses count toward the maximum course load units, but do not count toward the degree requirements. Any student may audit a course. For billing, an audited course is considered the same as the traditional courses under the tuition charges. If a part-time student audits a course, he/she will be charged part-time tuition based on the per-unit tuition rate for the course.

## Pass/No Pass Courses

Students are permitted to take courses pass/no pass in consultation with their faculty advisor. Students interested in taking a course pass/no pass should register for the course, then complete the Pass/No Pass Approval form. The form should be signed by the academic advisor. Courses taken pass/no pass cannot count towards the course or breadth requirements for the ECE Ph.D.

Once a Pass/Fail Audit Approval form is submitted to the HUB, a letter grade ('A'-'R') will not be assigned for the course and the declaration cannot be reversed. Passing work (letter grade 'A'-'C-') is recorded as 'P' (passing grade) on the student's academic record; work with a grade lower than 'D+' will not receive credit and will be recorded as 'N' (not passing grade) on the student's academic record. No quality points will be assigned to 'P' or 'N' grades; the units of 'P' or 'N' grades will not be factored into the student's QPA.

The units of pass/no pass courses count toward the maximum course load units, but do not count toward the degree requirements. You can find the deadline for submitting this form on the Academic Calendar. After the deadline, students will not be able to request the option to pass/fail a course.

Any student may take a course pass/fail. For billing, the pass/fail course is considered the same as the traditional courses under the tuition charges. If a part-time student takes a course pass/fail, he/she will be charged part-time tuition based on the per-unit tuition rate for the course.

## Petition Process

Petitions are approved by the GSC. Petitions to the GSC may include program transfers, breadth area substitutions, Ph.D. milestone extensions, increase in units, course substitutions and any other changes that are outside of the policies stated in the student handbook. Students are advised to discuss their petitions with their academic advisors.

The petitions process is as follows:

1. Student completes the appropriate petition form and submits it to their academic advisor in the Graduate Affairs Office no later than 5pm ET on the Friday before the GSC meeting.
2. The academic advisor presents the petition to the GSC.
3. Students are notified of the outcome of their petition via an email from the Ph.D. Academic Advisor after the GSC has met. Generally, all GSC decisions are final.
    a. Due to time constraints, some petitions may be tabled until the following GSC meeting. When this occurs, students will be notified via email.
4. The academic advisor saves a finalized version of the petition in the student's academic file.

## Transfer Course Petition Process

Up to 12-units of course taken at another university, whether taken before or after entering the ECE graduate program, may be transferred in and counted towards the ECE Ph.D., provided that the course:

- Fulfills an ECE degree course requirement and is equivalent to a CMU course
- Is considered a graduate level course at the university where it was taken (unless requesting transfer credit for the one allowed undergraduate course)
- Has not been used to fulfill requirements for any previously earned degree

Please note that this policy is more restrictive than the CIT transfer credit policy (under 'Transfer Credit and Special Students'). A grade of 'B' or better must be earned for the course to transferred. The transfer credits will appear on the student's transcript and will not be factored into the QPA.

Transfer credit is not granted prior to admission and must be approved by the Graduate Studies Committee and CIT Dean's Office. Courses can only be requested for transfer after the student has successfully completed 36 units of coursework at Carnegie Mellon. After matriculating to Carnegie Mellon, ECE students should consult with their academic advisor before taking a course at another university.

Transfer courses will be reviewed for academic rigor and alignment with courses offered in ECE. The course description and syllabus, learning outcomes, delivery mode, and institutional accreditation will be considered when evaluating the course for transfer.

If a course has previously counted towards a degree, you may still request that the course count towards the Breadth Area requirement.

The process for petitioning to transfer a course is as follows:

1. Meet with academic advisor and faculty advisor to discuss the course transfer
2. Complete and collect the following mandatory documents:
    a. Petition for Graduate Studies Committee approval
    b. Official transcript from previous institution
    c. Detailed course description/syllabus (should include grading scale, assignments required, mandatory books, and time required in class) of the course you wish to transfer in
    d. Letter from the previous institution's registrar or academic advisor stating the course intended for transfer was not used towards a degree
    e. E-mail endorsement from the instructor of the CMU course you believe your transfer course is most equivalent to
    f. Graduate Transfer Credit Request form
3. Submit the completed packet to the academic advisor
4. The academic advisor will present the transfer request to the CIT Dean's office and notify the student of the result. Once the petition is approved, the Graduate Affairs Office will work with the student to complete the transfer request.

### Pittsburgh Council on Higher Education (PCHE) Cross-Registration Program

Full-time Carnegie Mellon students may take subjects for credit through the Pittsburgh Council on Higher Education (PCHE). The purpose is to provide opportunities for enriched educational programs by permitting *full-time* paying undergraduate and graduate students to cross-register for **one** course at any of the ten PCHE institutions. Please refer to The HUB website for additional details.

## Registering for Courses

### Academic Calendar

ECE adheres to the official CMU Academic Calendar. The Heinz College and the Tepper School follow their own calendars with dates that may differ from the University's calendar for the add, drop and pass/fail/audit deadlines. ECE students must adhere to the deadlines of the courses they are taking if the courses are in Heinz or Tepper.

### Course Load

Prior to registering each semester, it is strongly recommended that students consult with their faculty advisor in order to ensure that their course load is balanced and relevant to the student's Ph.D. research.

Some programs have specific registration requirements. These requirements are outlined in the table below.

| Program | Registration Details |
|---|---|
| **CMU \| Portugal Dual Degree Program** | CMU \| Portugal dual degree students should register for at least 36 units each semester whether they are in Portugal or Pittsburgh. |
| **Silicon Valley** | Silicon Valley students should register for at least 36 units each semester whether they are in Silicon Valley or Pittsburgh. |

## Adding Courses

Students have the option of adding courses to their schedule starting at their assigned registration time until the add/drop deadline through SIO. If a student wishes to be added to a course after the add/drop deadline, the Course Add Request Form must be completed and signed by the course instructor. Then, the student must submit the form to their academic advisor for approval. If approved, the academic advisor will send the form to the HUB for processing.

In the event that an ECE course (18-XXX) is cross-listed with a course from another department, ECE students must register for the ECE course number.

Courses in the Tepper School of Business may be taken and can be registered for through a site outside the SIO. Tepper will publish a list of available MBA courses, and in order to register for Tepper courses, students should visit the Tepper registration site.

## Course Locations

Courses will take place at various buildings and room locations across CMU campuses as assigned by the University Registrar's office each academic semester. Each course location is tied to a section and has a final assignment that is linked to the final grade. It could be in the form of a final exam, final project, or research as stated in the syllabus on the first day of classes. Students should register for sections of their courses according to their physical campus location. Please refer to the schedule of classes available on your campus.

## Dropping Courses

Students have the option of dropping courses from their schedule starting at their assigned registration time until the add/drop deadline through SIO. When a course is dropped before the drop deadline, it does not appear on the transcript. As a courtesy to others, students should drop a course as soon as they decide not to take it. This will allow a waitlisted student to be enrolled and will limit the disruption to any team-based projects.

## Withdrawing from Courses

Students should remove themselves from a course before the drop deadline each semester. If a student chooses to withdraw from a course after the drop deadline, the student must officially withdraw from the course and should consult with their academic advisor and faculty advisor to discuss the withdrawal. Withdrawals take place after the drop deadline but before the last day of the semester. Students must complete and submit the Course Withdrawal Request form with

their academic advisor in order to withdraw from a course. More information on withdrawal grades can be found on the CMU policy website under the grading policy. Withdrawals receive a "W" grade for the course on a transcript; this "W" grade is not factored into the QPA but the course does count towards the maximum units.

## Waitlists

It is typical to be waitlisted from the time of registration up until the tenth day of class. This is common practice across the university to ensure that students within the department have the opportunity to take the courses they need in order to graduate. To determine the likelihood that you will be registered from a waitlist for an ECE course, students in Pittsburgh should send an e-mail to coursehub@ece.cmu.edu; students in Silicon Valley should email Brittany Reyes at bjreyes@andrew.cmu.edu. You should only attend courses for which you are waitlisted if you have permission from the instructor. Students may only be waitlisted for a maximum of 5 courses.

As a courtesy, students should remove themselves from the waitlist and/or drop a course in a timely fashion so as to allow other students the opportunity to be removed from the waitlist and enrolled in a course.

Students should check their schedules frequently on SIO as they may be enrolled from a waitlist without being notified. In addition, during the registration process, the Registrar's Office will require students to "tag up" on their waitlists in order to confirm the desire to remain on the waitlist for a course. Failure to confirm their waitlists will result in being dropped from the waitlist.

It is strongly recommended that students have a back-up plan in case they are not removed from a waitlist by the tenth day of class.

## Technology Enhanced Courses

The ECE department offers courses that are taught exclusively online, and some have a live recitation component. ECE refers to them as "Technology Enhanced" courses and can be identified by the section code that includes "T". Other departments with online courses may list their technology enhanced courses in a different format, so be sure to check with the instructor if it is unclear whether a course is online. International students on a US residential campus (Pittsburgh, Silicon Valley) may take a maximum of one online course per semester that does not have a required in-person component, per F1 regulations.

## Courses with Time Conflicts

Students are not permitted to register for two courses that conflict in time. Registration may be possible with consent from an instructor, allowing the conflict or attendance at an alternate time. Students should forward permissions from instructors to their academic advisor in order to register for conflicting courses.

## Prerequisites

While SIO may allow you to register for courses without the published prerequisite, it is the student's responsibility to have adequate background knowledge to be successful in the

subsequent course. This background knowledge may come in the form of an introductory course taken at Carnegie Mellon, your undergraduate institution, or other work/research experience. We recommend that you consult with the instructor as it is at the discretion of the instructor to decide if a prerequisite course or knowledge can be waived.

For ECE courses that require 18-600/15-213/15-513/18-213 as a prerequisite, students will not be permitted to enroll in the subsequent course without credit for 18-600/15-513. 18-600 and 15-513 are the only courses available to graduate students that satisfy the prerequisite requirement. Students attending Pittsburgh campus can plan to take 15-513 in the summer prior to their matriculation in the fall semester. Tuition will apply at a per unit rate.

Graduate courses that require 18-600/15-213/15-513/18-213 anywhere in their prerequisite tree include:

- 18-640 – Foundations of Computer Architecture
- 18-648 – Embedded Real-Time Systems
- 18-649 – Distributed Embedded Systems
- 18-656 – Data Intensive Workflow Development for Software Engineers
- 18-725 – Advanced Digital Integrated Circuit Design
- 18-740 – Computer Architecture
- 18-742 – Parallel Computer Architecture
- 18-745 – Rapid Prototyping of Computer Systems
- 18-746 – Advanced Storage Systems
- 18-748 – Wireless Sensor Networks
- 18-756 – Packet Switching and Computer Networks
- 18-759 – Wireless Networks
- 18-842 – Distributed Systems
- 18-845 – Internet Services
- 18-848 – Special Topics in Embedded Systems

## Final Exams

All ECE students must attend final exams as scheduled by the university and individual course instructors. If a student believes that a final exam presents a scheduling conflict, he or she must discuss the issue with the course instructor. The ECE administration does not have control over the university exam schedule. Please keep this in mind when arranging travel at the end of a semester; having purchased airline tickets is not a proper excuse for missing a final exam. Please refer to Carnegie Mellon University Policies on Examinations for additional information.

## Enrollment Verifications

The Hub is the primary contact for students or alumni who would like to request a transcript, enrollment verification, or other information related to their time in ECE.

ECE may verify some limited information in the form of a letter, which may be suitable for some purposes, such as the verification of skills students acquired through the ECE programs. Please contact your academic advisor for more information. ECE may verify some limited information in the form of a letter, which may be suitable for some purposes, such as the verification of skills

students acquired through the ECE programs. Please note that the ECE department is only able to verify information on ECE and Computer Science courses. Information on courses offered in other departments can only be verified by the other department. To obtain a verification, the student or alumni should contact the Graduate Affairs Office.

## Leave of Absence

Occasionally, students must pause their degree program due to personal, professional, or academic reasons. A student who is considering a leave of absence should speak to his or her academic advisor prior to taking a leave of absence in order to ensure his or her understanding of the leave of absence policy and its ramifications.

Leaves of absences are capped at two calendar years' total throughout the Ph.D. program. In extreme cases, a student may request additional leave time via a petition to the GSC. If they do not return within two academic years, they will be administratively withdrawn from the graduate program. Students are not eligible to complete departmental milestones while on a leave of absence and must return from a leave of absence in order to complete any program requirements, including the Course requirement, Breadth Area requirement, Teaching Internships (TI), Qualifying Exam, Prospectus, and thesis or dissertation defense.

Anyone who is intending to return to the program outside of the two-year leave must re-apply to the graduate program. Questions can be addressed to the Ph.D. Academic Program Advisor.

Once a student decides to take a leave of absence, he or she should complete the Leave of Absence form and bring it to their academic advisor for additional processing. Please note that the student's advisor must sign the leave of absence form. Please note that the student's advisor must sign the leave of absence form. The student and his or her faculty advisor are expected to have a conversation about the requirements for the student's return. ECE faculty are not required to hold spaces in their research group for students who are on leaves of absences. As a result, a student may need to be prepared to find a new faculty advisor and new funding in order to return from a leave.

## Returning from a Leave of Absence

To return from a leave of absence, the student must have financial support and an ECE faculty advisor's approval. A student's return must coincide with the start of a new semester (fall, spring, or summer). Students cannot return from a leave of absence in mid-semester, with the exception of summers.

A student intending to return from leave must submit the Petition to Return from Leave of Absence form to their academic advisor at least 30 days prior to the start of the semester in which he/she plans to return. A student's return must coincide with the start of a new semester (fall, spring, or summer). Students cannot return from a leave of absence in mid-semester, with the exception of summers.

Per university policy on student leaves, "Students on leave are not permitted to live in university housing, attend classes or maintain employment as students at Carnegie Mellon while their leave is in effect."

## Degree Certification Process & Commencement

Ph.D. degrees will be certified once they have completed their dissertation, defense, and all required paperwork pertaining to publication permissions and contact information. In addition, students must have provided a final copy of their undergraduate transcript(s) and must have a tuition balance of $0.00 to receive a diploma. Students will be notified of their degree certification via email once the certification has been completed by the Graduate Affairs Office.

Before graduation, students should update their contact information, such as mailing address and e-mail address, within SIO. Also, students should review a proxy of their diploma in SIO to verify the information displayed there, such as the spelling of their name.

Students who are certified in the summer or fall semesters will be invited to attend the next commencement ceremony. Spring graduates will be invited to the spring commencement ceremony. Students are not eligible to participate in the Doctoral Hooding Ceremony or the ECE Diploma Ceremony unless their degree has been certified by the Graduate Affairs Office.

The title of the degree students receive is *Doctor of Philosophy in Electrical and Computer Engineering*.

# ACADEMIC STANDARDS

## Grades

Below are the policies surrounding grades for students in the Department of Electrical and Computer Engineering.

### University Policy on Grades

The university policy on grading offers details concerning university grading principles for students taking courses and covers the specifics of assigning and changing grades, grading options, drop/withdrawals and course repeats. It also defines the undergraduate and graduate grading standards.

### CIT Grading Policy

ECE follows the CIT letter grade scale. The letter grade scale is 'A' (highest for CIT students), 'A-', 'B+', 'B', 'B-', 'C+', 'C', 'C-', 'D+', 'D', and 'R' (lowest). CIT students cannot receive an 'A+' grade on their transcript, even if a course is taken from another college where 'A+' is given. Grades lower than 'C', meaning C- or below, are considered failure in CIT and will not count toward degree requirements.

### Incomplete Grade

Incomplete grades will be assigned at the discretion of the course instructor, per the university grading policy.

### Withdrawal Grade/Withdrawing from Courses

Students can withdraw from a course after the add/drop deadline until the last day of classes. This will result in a 'W' on the transcript, which is not factored into the QPA. To withdraw, the course withdrawal request form must be completed and submitted to the academic advisor for

approval. If approved, the academic advisor will send the form to the HUB for processing. Students should confer with their faculty advisors before withdrawing from a course.

## Academic Performance

### Quality Point Average

In order to graduate, each student must have a Quality Point Average (QPA) of at least 3.0 in the courses being used towards the required units for the Ph.D program. Coursework or graduate project units with a grade lower than 'C' will not be considered toward graduate degree requirements; however, they will be calculated into the student's cumulative QPA.

### Satisfactory Progress & Program Dismissal

Students are expected to make satisfactory academic progress each semester of the Ph.D. program. "Satisfactory" progress may be defined differently for each student. Students should work together with their faculty advisor to determine what satisfactory progress entails and to improve performance when a student receives feedback that progress has been unsatisfactory.

Occasionally, students fail to meet their advisor's expectations for satisfactory progress for several semesters, despite ongoing attempts to rectify any issues. When this situation occurs, faculty may issue a dismissal letter to students. Such letters must be issued no later than the end of the first week of the semester in which a dismissal is taking place (for example, dismissal letters for the Fall 2016 semester must be sent to students by the Department by the end of the first week of classes in the Fall 2016 semester). This timing is in order to give students adequate time to make other arrangements in order to continue in the Ph.D. program.

Dismissal letters are drafted by the student's faculty advisor, and then sent to the Department Head and Graduate Affairs Office for review and approval. Once the letter has been approved, the letter will be distributed to the student via email. The letter will outline the causes for dismissal and possible options for the student. Students who receive dismissal letters should schedule an appointment to meet with the Graduate Affairs Office to discuss their options. International students should also schedule an appointment with OIE to discuss the potential visa ramifications of a program dismissal.

Faculty may rescind a dismissal letter in writing and must notify the Department Head and Graduate Affairs Office of any such action. Dismissal from a program will result in the loss of the student's affiliation with CMU and their student status.

## Academic Integrity

Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience a university establishes clear standards for student work.

In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

ECE adheres to Carnegie Mellon's policy on academic integrity and all students are expected to review the policies prior to their arrival at CMU. ECE also adheres to CIT's policy on graduate student academic integrity violations.

### Penalties for Violating Academic Integrity

Instructors are responsible for defining academic integrity for students in their courses, including student performance expectations and attendance requirements. Students are responsible for understanding and abiding by the instructor's academic integrity policies. Policies may vary from instructor to instructor and students should seek further guidance from a faculty member if they have specific questions about a course's academic integrity policy.

Should an instructor believe that an academic integrity violation has occurred, he or she may consult with the Office of the Dean of Student Affairs, who will assist the faculty member in handling a possible academic integrity violation and, if a student is found responsible for violating academic integrity policies, determining possible sanctions. In accordance with the university's policy, 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. If the student attempts to drop the course, he/she will be reenrolled.

If a student is found to have violated the academic integrity policy for a second time, the student will be dropped from the Department of Electrical and Computer Engineering effective at the end of the semester in which the infraction has occurred. Students have the right to appeal an academic integrity decision.

## PH.D. DEGREE REQUIREMENTS

### Overview

The Ph.D. degree requires that multiple milestones be completed before a degree is certified. These milestones are addressed in greater detail in the following section but include:

- Coursework
- Breadth Area Requirements
- Qualifying Exam
- Research
- Teaching Internships
- Prospectus
- Thesis
- Defense

Below is an example of a student's plan of study over the duration of the Ph.D. program. Please note that this plan is an example and may vary based on whether the student has an MS degree prior to enrolling, on conversations between the student and his or her advisor and which program the student is enrolled in.

| | Semester | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Milestones | F1 | S1 | F2 | S2 | F3 | S3 | F4 | S4 | F5 | S5 |
| Research | X | X | X | X | X | X | X | X | X | X |
| Courses & Breadth | 2 classes | 2 classes | 2 classes | 2 classes | | | | | | |
| Qualifying Exam | | | | X students incoming F15 | X students enrolled prior to F15 | | | | | |
| Teaching Internship | | | X | | | X | | | | |
| Prospectus | | | | | | | | X | | |
| Thesis and Defense | | | | | | | | | | X |

## Coursework

Prior to registering each semester, it is strongly recommended that students consult with their faculty advisor in order to ensure that their course load is balanced and relevant to the student's Ph.D. research.

Students in the Ph.D. program without a M.S. degree and students in the Ph.D. program who have an ECE M.S. degree from Carnegie Mellon must take a total of eight ECE or related courses (96 units) at Carnegie Mellon. At least six of these eight courses must be graduate courses.

Students in the Ph.D. program who have earned a M.S. degree elsewhere (outside of CMU's ECE Department) must take a total of four ECE or related courses (48 units) at Carnegie Mellon. At least three of these four courses must be graduate courses. Students who received an M.S. in ECE from CMU may use their M.S. courses to count towards the Ph.D. requirements. Students who have received an M.S. from CMU in ECE are strongly encouraged to schedule an appointment with the Ph.D. Academic Program Advisor to discuss their M.S. courses and which will count towards the Ph.D. degree requirement.

Courses taken at Carnegie Mellon to satisfy the M.S. degree course requirements may count toward the Ph.D. course requirements.

A comprehensive list of graduate courses that have been approved for the ECE Ph.D. can be found on the Ph.D. Breadth Area website. In addition to this list, any 12-unit ECE course at the 18-600 level or higher, with the exception of any project, seminar and independent study courses, is approved to count towards the ECE Ph.D. degree. Courses in the Computer Science Department (CSD) that are 15-700 or higher and are non-project, non-seminar or non-independent study courses are also approved.

Twelve (12) units of professional development coursework in ECE may be counted towards the ECE Ph.D. requirement through the following options (please note that that these courses do not have a Breadth Area assignment):

- One of the following 12 unit courses in ECE: 18-601, 18-603, 18-605, 18-606, 18-700, 18-703 or 15-894;
- 3 unit internship (18-994), repeatable up to 3 times, for a total of 9 units;

And/Or

- One or both of the following 6 unit “Technical Writing for Engineers” courses: 18-701 and 18-702

Undergraduate courses that are pre-approved to count towards the ECE Ph.D. include ECE undergraduate courses 300 or above (18-3XX) and CSD courses 300 or above (15-3XX).

Students must receive a "B-" grade or better in both the graduate and undergraduate courses in order for the course to count towards the Ph.D. requirements.

## Course Restrictions

Courses where more than 50% of the course grade is based on a group project or more than 20% is based on attendance cannot be used towards the required units. Mini courses worth 12 units cannot be used towards the required units. Students are responsible for checking the syllabi for classes to ensure their courses meet these requirements.

## Petitioning to Count a Course Not on the Pre-approved List

Students wishing to count a graduate course at Carnegie Mellon not listed in the approved graduate course list, or an undergraduate course offered by another department at Carnegie Mellon, must formally petition the Graduate Studies Committee. Please see the section in this handbook on petitions and schedule an appointment with your academic advisor for more information.

## Breadth Area Requirement

The ECE Department has defined eight technical areas as Breadth Areas for the Ph.D. degree. These areas are:

- Algorithms/Complexity/Programming Languages
- Applied Physics (Solid State/Magnetics/Fields)
- Artificial Intelligence, Robotics and Control
- Circuits
- Computer Hardware Engineering
- Signal Processing and Communications
- Software Systems and Computer Networking
- Other (by petition)

Each Ph.D. candidate must take at least one graduate class from three of these areas to fulfill the breadth requirement. Students must receive a "B-" grade or better in these courses.

Students may be able to count one course that they have taken during a previous degree toward the breadth course requirement, but must submit a formal petition for approval by the Graduate

Studies Committee. If the petition is accepted, only two more breadth areas must be satisfied. However, students will still be held to the same course requirements.

## Qualifying Exam Requirement

Students who are working towards a Ph.D. degree are required to take the Ph.D. Qualifying Examination. The Ph.D. Qualifying Examination tests the student's ability to think, speak and write. Students have to read and understand three technical papers that define the examination topical area. Students then write a review paper as well as orally present this review to a faculty examining committee. This committee includes three faculty from the ECE department whose research focus is in the area the student wants to be tested on. The student has to answer detailed questions from the faculty committee. These questions can be about the review paper and presentation, the reference papers, and obvious undergraduate-level technical background for the material in the review and reference papers.

### Timeline

Students matriculating in the Fall 2015 semester or afterwards must take the Ph.D. Qualifying Exam for the first time no later than the fourth semester after being admitted to the Ph.D. program, and must pass the exam no later than the fifth semester after being admitted to the Ph.D. program. Summer semesters are not included in this qualifying exam timetable.

Students matriculating prior to Fall 2015 must take the Ph.D. Qualifying Exam for the first time no later than the fifth semester after being admitted to the Ph.D. program, and must pass the exam no later than the sixth semester after being admitted to the Ph.D. program. Summer semesters are not included in this qualifying exam timetable. Students are encouraged to take the Ph.D. qualifying exam as soon as possible.

Each student should determine with her or his advisor when to take the qualifying exam the first time.

The time clock determining when a student must take the qualifying exam is stopped for one semester if the student is engaged in a full-time industrial internship during an academic year semester (fall or spring). This policy applies for only one semester of internship. Students engaged in internships for more than one academic year semester may submit a petition to request a deferment of the qualifying exam timeline beyond one semester; although there is no guarantee that this petition will be approved.

Fall exams generally occur in the middle of November. Spring exams generally occur in the middle of April.

### Mechanics

- *Declaration, Abstract, and Technical Papers (due in September or February)*

  With faculty advisor input, the student will complete a qualifying exam declaration, write a presentation abstract, and submit three technical papers. The declaration will allow students to rank order between seven [7] and ten [10] ECE faculty that the student and his or her advisor feel would be the best fit for the examination committee.

The three technical papers provide context to the faculty examining committee regarding the student's area of focus.

Students can choose no more than two papers that may have authors who are currently faculty at Carnegie Mellon. Students can choose no more than one paper that the student has co-authored. The total length of all three papers may not exceed 50 pages.

The Graduate Studies Committee reviews the declaration packets, and recommends a three-faculty examining committee. While every attempt is made to choose faculty from the students' initial list of seven faculty on the declaration, these preferences cannot always be accommodated due to faculty availability and committee balancing. This committee is subject to approval by the student's faculty advisor.

- *Review paper (due in October or March)*

  The Qualifying Examination tests your written communication skills through a short review paper. This paper defines the focus of your Qualifying Examination topic. You should explain your technical area, your work and the relationship between your work and the content of the student's three technical papers. This paper must not exceed four pages and must be in a 2-column format.

- *Exam (occurs in November or April)*

  Prior to the start of the qualifying exam, the Graduate Affairs Office will communicate the exam's date, time, committee, and location to the qualifying exam student via email.

  The Qualifying Examination tests a student's oral communication skills by having the student present a short, conference-style talk during the first 30 minutes of a Qualifying Exam. The examining faculty will typically ask the student's questions to help clarify the presentation immediately following your presentation.

  Once the clarification question and answers are completed, the examining committee will ask the student questions about the student's research area, technical papers, review paper, and electrical and computer engineering fundamentals that relate to your research area.

## Outcomes

Upon the conclusion of the qualifying exam, the faculty examiners will consult with each other and grade the qualifying exam. All qualifying exams will be discussed at the faculty Qualifying Exam review, which occurs on the Friday of the second week of qualifying exams. The final outcome will be determined by the faculty at this meeting.

All students will be notified of their qualifying exam outcome and provided with feedback after the faculty has convened.

Students failing the qualifying exam the first time can take it a second time, no later than the sixth semester after being admitted to the Ph.D. program if the student started prior to Fall 2015 or the fifth semester if the student started in the Fall 2015 semester or afterwards. One faculty member from the first exam committee will serve on the second committee. A student who fails the exam twice must leave the Ph.D. program at the end of the semester in which the second failure occurs.

Students who pass the qualifying exam will officially be recognized as candidates for the Ph.D. degree.

## Research

All full-time Ph.D. students are required to complete research every semester they are enrolled in the program. The completion of research is represented by the student's enrollment in *18990 Reading and Research* each semester. Expectations for research and productivity vary greatly throughout the department and should be discussed regularly with the student's faculty advisor(s).

Each fall and spring semester, students should register for *18990 Reading and Research* in the section that represents their physical location.

18990 Reading & Research sections:

- Section A: For students studying in Pittsburgh
- Section PP: For all CMU Portugal students who will be in Portugal. (CMU Portugal students in Pittsburgh will register for section A.)
- Section SV: For all Silicon Valley students who will be in Silicon Valley. (SV students in Pittsburgh will register for section A.)

Resources and Regulations Governing Research at Carnegie Mellon that may be of interest to Ph.D. students include the following:

- Office of Sponsored programs
- Office of Research Integrity & Compliance

Students are expected to abide by the university's position on ethical research as posted on The Office of Research Integrity and Compliance website. See the section in this handbook on "Responsible Conduct of Research Education" for more information.

## Teaching Internship Requirements

All ECE Ph.D. students are required to complete two teaching internships ("TI") over the course of the Ph.D. program. These teaching internships are unpaid and students will receive a letter grade reflecting their performance as a TI. Students must receive a "B" or better in the TI course in order to receive credit for completing the teaching internship.

The TI program is coordinated through the Academic Services Office. All students must complete a teaching assistant preference form in order for the TI to be formally recognized by the department. The Academic Services Office will work with the student to enroll him or her in the correct course representing their work as a TI prior to the start of the semester.

Students may complete a TI for a course outside of ECE or during the summer semester, but it must be approved by the Associate Department Head for Academic Affairs and recorded by the Associate Director of Student and Academic Affairs prior to the student starting the TI. Students should contact the Graduate Affairs office to facilitate this process.

Programs that are not based in Pittsburgh may have requirements pertaining to where each Teaching Internship is completed. More information on location-specific requirements can be found below:

| Program | Teaching Requirements |
|---|---|
| **CMU \| Portugal Dual Degree Program** | CMU \| Portugal dual degree students will complete one TI in Pittsburgh and one TI in Portugal. |

Expectations for students completing a teaching internship or teaching assistantship can be found at https://www.ece.cmu.edu/insider/grads/ta-overview.pdf. Students are expected to support the course instructor and establish mutual expectations while providing excellent academic support to students. Depending on a student's area of expertise and English proficiency, he or she may be assigned to a variety of tasks that can range from grading to leading recitations.

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.

### *Evaluation and Certification of English Fluency for Instructors*

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. For more information about requirements, see the "Evaluation & Certification of English Fluency for Instructors" section in the University Policies of this handbook.

## Prospectus

All Ph.D. students are required to prepare a thesis prospectus (also known as a proposal) within four semesters following the successful completion of the Ph.D. Qualifying Examination. This time clock begins with the semester following the Qualifying Examination. A calendar year has three semesters (spring, summer and fall). If a student leaves for a semester to return to industry, this four-semester clock is stopped. However, the time clock for the overall Ph.D. program is not stopped. The Ph.D. prospectus clock stops when the student leaves and begins the semester the student returns. Students who have not met their Ph.D. prospectus requirement within the four-semester time limit must discuss a revised timeline with their advisor prior to the semester Graduate Progress Review.

The prospectus is both an informal written description of the problem to be investigated and the expected accomplishments of that investigation, and an oral presentation to the Prospectus Committee for its review and recommendations. Both the prospectus requirements must be completed at least one semester prior to the final defense.

## Prospectus Format

The Ph.D. prospectus write up should be no more than 25 double-spaced pages in length, although prospectuses that are on the order of five to ten pages are encouraged. The prospectus should include the following:

- An explanation of the basic idea of the dissertation topic;
- An explanation as to why this topic is interesting;
- A statement as to what kind of results are expected, and;
- A convincing argument as to why these results are attainable in a reasonable amount of time

Furthermore, the prospectus should not be:

- A summary or abstract of the dissertation;
- The first chapter or part of the dissertation;
- A technical report;
- A survey of the field, or;
- An annotated bibliography

Students should discuss the presentation format of their prospectus with their faculty advisor. Typically, a student is expected to provide a 45-60 minute presentation on his/her prospectus, and then participate in a question-and-answer-based discussion with his/her committee.

## Prospectus Committee

The Prospectus Committee consists of at least four members, including the student's faculty advisor. At least two members of this committee must be ECE faculty and at least one member must be from outside the department. Faculty members from other departments who hold courtesy appointments in ECE are considered to be inside the department. Faculty members who hold an adjunct appointment are considered to be outside members. All committee members must hold a doctoral degree.

All four committee members must actively participate in both the prospectus meeting and defense and at least three committee members must be physically present. It is desirable to have all committee members participate in person; however, a student is allowed to have one committee member of four participate by teleconferencing. Any deviation from this teleconferencing policy is exceptional and additional information must be provided on the Prospectus form. Because of the nature of the ICTI dual-degree program, teleconferencing requests by ICTI students will be approved by default.

It is expected that any committee members participating remotely will have full audio and visual access to the presentation via teleconferencing equipment. It is the responsibility of the student to provide teleconferencing access to committee members participating remotely. Students can email help@ece.cmu.edu for assistance in setting up teleconferencing equipment.

## Prospectus Procedure

Once the date, time and place of the prospectus have been confirmed, the student should email the completed Ph.D. Prospectus Declaration form to the Graduate Affairs Office at least one week

before the presentation. An electronic copy of the proposal paper should be submitted to the Ph.D. Academic Program Advisor on or after the presentation date.

Students will be notified by the Graduate Affairs Office of the approval of their committee. Once the committee has been approved, the student will meet with his or her committee to present the prospectus to them. In order to encourage open and frank dialogue, this presentation is attended only by the student, the committee and any other interested ECE faculty members. Other attendees must be approved by the committee chair.

The outcome of this meeting will be either that the prospectus is accepted or not accepted. If the prospectus is not accepted, the student will be asked to revise it and meet again with the committee for approval. If the prospectus is accepted, then students should continue to move forward with his or her thesis.

### Milestone Review

Upon completion of the prospectus proposal, students should make an appointment to meet with the Ph.D. Academic Program Advisor to review the fulfillment of Course and Breadth Area requirements, as well as Teaching Internship (TI) requirements. Provided that the student has satisfied the aforementioned program milestones, he/she may be informed of their eligibility for All But Dissertation (ABD) status.

## All But Dissertation Status

Once a student has completed all program requirements, with the exception of the thesis and defense, the student is required to go on All But Dissertation (ABD) status. Two ABD options are available to students:

- ABD in Residence (ABD): students continue enrolling for 36 units each semester and will continue to receive stipend support.
- ABD in Absentia (ABS): students stop enrolling at CMU and no longer receive tuition or stipend support. The student will be responsible for paying the technology fee each semester he/she is ABS. When the student is ready to come back and defend, he/she will notify the Graduate Affairs Office, which will work with the student to re-enroll him or her in ECE. The student will be responsible for registering for and paying for 5 units of *18990 Reading and Research* as well as all fees. Please note that international students may face additional constraints before going ABS and should consult with the Graduate Affairs Office to obtain more information.

The full university Policy for Doctoral Status is a series of policies that set forth a definition of All But Dissertation (ABD), time limits on doctoral candidacy status, a definition of *in residence* and *in absentia* status for ABD candidates and the tuition charged for candidates in each status.

The ABD status agreement form and ABD status change form can be found on The HUB's Forms & Guides website under the 'Student Records' section.

## Ph.D. Dissertation

Once the Ph.D. thesis is written, the student must submit the Defense Declaration form to the Graduate Affairs Office at least two weeks before the student's defense date. The Thesis

Committee is usually the same as the Prospectus Committee. If there is any change in the committee, the student must submit a biographical description of any new committee member from outside Carnegie Mellon for approval. Additionally, students are expected to adhere to Carnegie Institute of Technology (CIT) guidelines on providing defense committees with a copy of the thesis prior to the defense. CIT recommends that students provide their committee with a copy of the thesis at least 1.5 months prior to the defense.

The oral defense is a public examination open to all members of the Carnegie Mellon community. All the members of the student's Prospectus Committee must actively participate in the defense meeting. It is desirable to have all committee members participate in person; however, a student is allowed to have one committee member participate remotely by teleconferencing. Any deviation from this teleconferencing policy must be requested via the Defense Declaration Form. Due to the nature of the ICTI dual-degree program, teleconferencing requests by ICTI students will be approved by default.

It is expected that any committee members participating remotely will have full audio and visual access to the presentation via teleconferencing equipment. It is the responsibility of the student to provide teleconferencing access to committee members participating remotely. Students can email help@ece.cmu.edu for assistance in setting up teleconferencing equipment.

In addition to these ECE requirements, CIT has its own requirements pertaining to the thesis and defense process. This site includes instructions for the document standards and format. Students should pay particular attention to the format of the thesis title page and the required content of the acknowledgements section.

Per CIT requirements, all defenses should be completed at least two weeks prior to the final grade deadline of a given semester. Doing so should grant students sufficient time to make necessary revisions and complete all post-defense paperwork prior to the end of the semester. Any deviation from this timeline is discouraged and may hinder a student's ability to graduate on time. Such deviation from the cited timeline may be subject to additional departmental approval and should be discussed with the Graduate Affairs Office well in advance of the planned defense.

Please note: Students who **do not** successfully complete the dissertation, defense, and all defense-related paperwork prior to the final grades deadline of a given semester may be required to register for the following semester and receive tuition and stipend support.

After the defense, the Graduate Affairs Office will review additional paperwork that will need to be completed prior to a student's degree certification with the student.

## Departmental Progress Reviews

All students working towards a Ph.D. degree must regularly demonstrate progress towards meeting the ECE Ph.D. requirements by completing a Graduate Progress Review Statement each fall and spring semester.

In this statement, the student must describe his or her:

- Activities as a graduate student researcher;
- Research goals and achievements;

- Activities as a member of the ECE community;
- Courses taken since enrollment as a graduate student in ECE, and;
- Plans for the following semester

These statements are typically due during the first week of November (fall semester) and April (spring semester). Students are encouraged to discuss the completed statement with their advisor.

Students who have passed the qualifying exam will also be asked to create a single-slide summary of his or her progress towards the ECE Ph.D. degree.

The Graduate Progress Review Statement and slide summary inform faculty discussions during each semester's Graduate Progress Review meeting. The outcome of this review is a grade that characterizes the student's progress towards the Ph.D.: satisfactory ("S") and unsatisfactory or not passing ("N"). Students who receive an "N" grade for the first time must meet with their advisor and define a course of action to achieve a satisfactory grade in the next semester. Students who continue to make inadequate progress towards the ECE Ph.D. may be subject to dismissal.

Ph.D. students do not receive a letter grade for their research each semester with one exception: students will receive a letter grade in their final semester as a graduate student in the ECE Department or prior to receiving an MS degree on the way to the Ph.D.

All students who have passed the qualifying exam will receive a letter from their faculty advisor each semester summarizing their progress and offering suggestions for improvement or continued success. This letter is typically distributed by the final grade deadline of the fall or spring semester.

## Internships Course Option

ECE students may wish to participate in paid internships at off-campus organizations during the summer months.

ECE will enroll all students who are pursuing an internship for a 3-unit credit bearing internship course (18-996, 18-997, & 19-998) Internship for Electrical and Computer Engineering Graduate Students), which can each be taken once each throughout the student's ECE Ph.D. degree program of study. This internship will appear on a student's transcript. Ph.D. students typically are not charged summer tuition, including the Internship course. However, in the event that a student takes another summer class, summer tuition may be assessed for the summer internship course as well. Please contact your academic advisor and see details for CIT cost of attendance here. The work for the internship must be appropriate to the goals of the academic program and units can be applied toward the Ph.D. Course Requirement.

Eligible international students who are interested in pursuing off-campus internships must meet with departmental and OIE representatives. For additional information, please refer to OIE's website on Employment Options for international students. Academic and OIE advisors will provide students with information about CPT during the spring semester.

# POST-MATRICULATION GUIDELINES

## Return of University Property

ECE students must return all borrowed ECE and university materials—such as software, manuals, library books/materials, or any other Carnegie Mellon University property—prior to their departure from the program.

## Career Services Employment Outcomes

ECE students are asked to complete and return a survey for Career Services updating CMU on their employment outcomes after graduation. Information about the survey is communicated in the students' final semester.

## "Grandfather" Clause

When policies are changed, it is because the department believes the new rules offer an improvement; any such changes will be communicated to students. In case degree requirements are changed and certain courses are no longer offered, the department will try to find some compromise that allows those students to satisfy the original requirements.

# TUITION, FEES, FINANCES, AND FINANCIAL SUPPORT

## Purchasing & Reimbursements

At ECE, most purchasing actions, including airline tickets, are conducted by administrative departmental employees rather than a central purchasing authority. Buyers are encouraged to purchase goods and services from the administrative coordinators and not use their own funds. If you use your own funds and they charge tax, you will not be reimbursed for the tax applied to the purchase. All purchases including travel which are done on CMU's behalf need to have the direct approval of the faculty member or PI of the project.

The preferred method of making travel arrangements is through one of the university's preferred travel agencies with which the administrative coordinator can provide assistance. By purchasing the tickets through these agencies, the cost of the tickets is charged directly to the university instead of the student or employee paying the cost personally and needing to be reimbursed. The administrative coordinators also will complete a reimbursement for any items or travel accrued.

Please keep in mind that you must provide transaction-supporting documentation in accordance with Carnegie Mellon requirements and government policies on reimbursements. Expense reports must be submitted within 90 days after completing the travel or incurring the expense, otherwise, the reimbursement will be treated as taxable income to the individual. Please see the administrative coordinator to arrange for travel and purchasing, as well as reimbursements.

All purchases of goods, services, and equipment using University funds by charging directly to an account string, including restricted accounts and research grants and contracts, should be made at the direction of a CMU faculty or staff member. Only certain department staff members are able to confirm an order with an outside vendor. Please plan ahead. Rush orders for pick-up or delivery and orders of over $1,000 are difficult to accommodate.

Basic office supplies are purchased by the Administrative Coordinators for general use by ECE students, faculty, and staff. Teaching Assistants should speak to an Academic Services Assistant for research- and teaching-related supplies.

Questions should be directed to the ECE Finance Office, located in HH 1116. Please visit CMU's Procurement Services website for more information.

## Graduate Student Reimbursement Policy

### Business Expenses

As an educational institution, CMU is exempt from Pennsylvania state sales tax. Whenever possible, business purchases should be made by your faculty advisor's Administrative Coordinator or by another faculty or staff member with a tax-exempt purchasing card.

If it is necessary to make a purchase using personal funds, legitimate business expenses can be reimbursed by the department. Your faculty advisor's Administrative Coordinator 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
- Faculty or staff approval

Please consult with the appropriate Administrative Coordinator prior to incurring the expense for additional instruction. Software purchases in particular should only be made after consulting with a departmental staff member, as the purchase will often require approval from the University Contracts office due to the popularity of Click-Through Agreements ("CTA"). If personal funds are used to make a business purchase requiring a CTA without prior approval from Contracts, it is possible that the expense in question will not be reimbursable.

### Travel Expenses

If agreed on in advance with your advisor or with another departmental staff member, legitimate travel expenses can be reimbursed by the department. Your advisor's Administrative Coordinator will 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. Current per diem rates can be verified on the GSA website.
- Personal car mileage for business purposes; standard mileage reimbursement rates for gas/fuel but not tolls
- Business purpose for travel
- A program or agenda, when available
- Account to be charged for reimbursement
- Approval by an ECE faculty or staff member

## Conditions

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 thus not incurring tax expense.

## Academic Year Tuition & Stipend

Research assistantships are provided by research projects which are funded by government agencies, private industries, and consortia. Students who are research assistants will be expected to conduct appropriate research under the direction and guidance of their faculty advisor(s). Tuition and stipend support is renewable based on a student's acceptable performance in course work and research and the faculty advisor's funding availability.

In most situations, as long as the student is in good academic standing (with regard to grade average, progress in the program, and length of time in the program), full tuition remission will be given.

For the academic year 2017-2018, this tuition is valued at approximately $43,000. Students are responsible for the costs of purchasing their own books and miscellaneous supplies. A listing of estimated cost of attendance is provided for student use, with tuition increasing approximately 3% per academic year to account for inflation.

Unless noted otherwise, stipend payments will be disbursed twice a month (semi-monthly) following the academic year cycle (August 16$^{th}$ through August 15$^{th}$ each year). Payment occurs once in the middle of the month and once on the last working weekday of the month. Exact pay dates are available on the CMUWorks Payroll Resources website (see Graduate Student - Semi-Monthly - Pay Date).

The stipend amount for all Ph.D. students, with the exception of Silicon Valley students, is equal to $2,781per month for the 2017-2018 academic year. The stipend for Silicon Valley Ph.D. students is equal to $2,982 per month for the 2017-2018 academic year to allow for the increased cost of living in the Silicon Valley area. Silicon Valley Ph.D. students can apply for up to $1,000 of travel reimbursement from the ECE Department for the Qualifying Exam. More details about the reimbursement procedure will be communicated upon the submission of the Qualifying Exam Declaration.

Stipend amounts are reviewed each year and augmented according to increases in cost of living. Such increases will be communicated to students in the spring semester prior to the following academic year.

## Summer Semester Tuition & Stipend

Students supported by the ECE department are expected to continue working over the summer in some capacity, either via research on campus or through an off-campus internship. Students will continue to be compensated at the same stipend rate paid during the academic year if they

are working on campus. Stipend payments will be suspended if the student is doing an off-campus internship or has failed to register for the summer semester.

Tuition is not assessed during the summer semester if the student is registered for *18990 Reading and Research*. Registration for other courses may trigger a tuition charge for which the student will be responsible to pay unless prior arrangements have been made with the student's faculty advisor. It is the student's responsibility to understand the financial repercussions of his or her summer registration.

## Losing, Reducing, or Changing Funding

If a student is supported by the department through an external grant or contract, and this funding is lost, reduced, or changed, the advisor will notify the student accordingly. All efforts will be made to facilitate the student's continuation in his/her degree program, if he or she is progressing satisfactorily in the program. Students who are not progressing satisfactorily may receive a dismissal letter. The dismissal process is outlined in the "Satisfactory Progress and Program Dismissal" of this handbook. More information about becoming self-supporting is contained in the following section.

## Self-Supporting Students

With few exceptions, almost all Ph.D. students in the ECE department are funded through the department or a third party entity. Students are typically not allowed to self-support. One exception to this requirement is that, occasionally, students who are in All But Dissertation (ABD) status must become self-supporting due to a change in an advisor's funding situation and/or because of other factors.

Per CIT's In Residence Status for ABD Candidates policy (under 'All But Dissertation Status):

> "Under exceptional circumstances, ABD students who are self-supported, and who can demonstrate financial hardship, may petition the College through the departments for permission to register for 5 units of thesis research per semester." The exceptional circumstances for such approval include:
>
> - Self-supporting with demonstrated financial hardship
> - At least three years of full time student status
> - Good standing and progress towards a degree
> - No more than two semesters of required work; ABD with In Residence status and 5 units of tuition per term will not be allowed for more than two semesters of work, where a summer is considered to be one semester."

Students should fill the self-supporting template in with his or her information and then sign the petition and obtain his or her advisor(s) signatures as well. The student should then send the petition to the Graduate Affairs Office for further processing prior to the 10th day of class in the semester in which they are becoming self-supporting.

If the student has not completed the degree program after two self-supporting semesters, and no additional funding from the faculty advisor is available, the student will have the option of going ABD in absentia, taking a leave of absence, or withdrawing from the ECE Ph.D. program.

## Fees

ECE will pay for each student's technology fee as long as the student is enrolled as a full-time student or is under All But Dissertation in Residence (ABD) status. If a student goes on ABD in absentia (ABS), the student will be responsible for paying for the technology fee each semester he or she is in absentia as well as the semester in which the student returns to defend. **When a student returns from ABD in absentia to defend, he or she will be responsible for paying for all fees and tuition assessed.**

Students are responsible for paying the Student Activities Fee, the PAT Transit Fee, and for health insurance. Students are encouraged to check their SIO regularly to ensure that all outstanding balances are addressed. Many students pay for their Carnegie Mellon health insurance and other charges directly from their stipend through the Tuition Management System.

The technology fee and tuition are paid over eighteen monthly installments (August 16th -May 15th). The process decreases the student account balance incrementally over the academic year such that the tuition balance reaches zero in the middle of May.

## Taxes

The deadline for local, state, and federal taxes is April 15. You can obtain tax forms in the mail, at the post office, or at the Carnegie Library. 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.

## Conference & Travel Funding

As a department, ECE does not provide centralized travel or conference funding. However, students are encouraged to talk to their faculty advisor(s) about travel or conference funding. The Office of the Assistant Vice Provost for Graduate Education does provide some conference funding via an application process. Conference funding is provided by GSA and the Provost's Office for students, student work groups, or groups to attend a conference, whether as a participant or as a presenter. Students can find more information about the application process and deadlines at www.cmu.edu/graduate.

## Additional Sources for Financial Support

### University Financial Aid

Graduate students should consult the graduate student financial aid information found on the HUB's Student Financial Aid website. Students will find the Graduate Financial Aid Guide, information about funding options and how to apply for financial aid and other helpful links.

### Emergency Loans

The Office of the Dean of Student Affairs offers short-term emergency loans for supplies, medication, food or other unexpected circumstances. The loans are interest-free and for short periods of time (not longer than a month). Graduate students who find themselves in need of immediate funds for emergency situations should contact the Office of the Dean of Student Affairs to inquire about an Emergency Student Loan (see Appendix A).

## Fellowships

Students who are interested in applying for external fellowships should see their advisor or check the online information provided by the Office of Scholarships and Fellowships website. The website is an excellent resource for locating an abundance of information regarding available funding for students.

Additionally, fellowship opportunities will be announced periodically over the course of the academic year by the department. While students can apply directly to some of these fellowships, most require an internal competition to identify top students for nomination. Students are encouraged to monitor the ECE Fellowship Opportunities website for active fellowships.

## GuSH Funding

GuSH Research Funding is a source of small research grant funds provided by GSA and the Provost's Office and managed by the Office of the Assistant Vice Provost for Graduate Education.

## Teaching Assistantships

Once an ECE Ph.D. student has completed the two required Teaching Internships (TIs), he or she can continue to teaching assistant for courses for hourly pay instead of receiving academic credit. Students must fill out the teaching assistant preference form in order to formally be matched to a course.

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. For more information about requirements, see Evaluation & Certification of English Fluency for Instructors in the University Policies of this handbook.

## Payroll

Other questions concerning payment options should be addressed to the ECE Finance Office in HH 1116.

# Outside Employment

ECE follows CIT guidelines on outside employment (under 'Graduate Student Consulting'). Full-time students in ECE are expected to devote their full-time to research, teaching, and coursework per the compensation students are receiving via the stipend during the academic year.

Occasionally, there are employment opportunities offered to students that will enrich their research, coursework, and teaching. In these situations, students should consult with their faculty advisor regarding the opportunity and how it may impact their academic progress. Prior to accepting a position, students must receive written permission from both the faculty advisor and Department Head. Full-time students will be expected to keep up with their full-time research commitments even while employed outside of CMU. Students may consider taking a leave of absence to pursue full-time employment; however, this should be discussed with the student's advisor(s) and the Graduate Affairs Office prior to the student deciding to take a leave.

Please note that international students have additional constraints on their eligibility to pursue employment outside of CMU. OIE provides additional information on maintaining legal employment status on their website. International students are responsible for ensuring that their work authorization is valid and up to date.

# CAREER SERVICES

The Career and Professional Development Services Center (CPDC) serves to provide students with guidance during their job and internship searches. The services available to students include resume reviews, mock interviewing, salary negotiation, career exploration consultation, internship and job consultation, workshops/events and employer relations. The CPDC is also heavily involved in organizing campus-wide job fairs and bringing employers to campus.

Handshake is Carnegie Mellon's online recruiting system. Through Handshake, employers can request accounts to post jobs, request interviews and information sessions, and review student resumes. Students and alumni can apply to positions, sign up for interviews and find contact information for thousands of recruiters. Handshake can be accessed through the CPDC website.

## Career Consultants

ECE has assigned career consultants who provide guidance through one-on-one appointments. Students in Pittsburgh can meet with career consultants Marcie Foy and Shaina Tsupros, while students in Silicon Valley can meet with Director of Career Services Lauren Schachar. Appointments with Marcie, Shaina, or Lauren can be made through Handshake. They will each also hold open office hours, which will be communicated at the beginning of each semester.

## Job Search Guidelines

ECE strives to play a supportive role in the career pursuits of students, but maintains academics as a priority. It is not acceptable for students to skip classes or assignments in order to attend job interviews. Students should conduct job searched in a manner that does not impede the academic progress through their graduate program.

It is also important for students to have an understanding of how to conduct a job search. When applying for jobs, students are expected to exhibit certain ethical behavior, such as arriving on time for interviews, being truthful about their qualifications, and to honor their agreements with recruiters. Further, students should not continue looking and interviewing for a position after they have accepted an offer.

The CPDC reserves the right to limit access for any users that do not follow job search guidelines. Students who do not follow such guidelines may forfeit their on-campus interviewing and/or resume submission privileges.

# UNIVERSITY POLICIES

## Academic Integrity

Students at Carnegie Mellon are engaged in intellectual activity consistent with the highest standards of the academy. The relationship between students and instructors and their shared commitment to overarching standards of respect, honor and transparency determine the

integrity of our community of scholars. The actions of our students, faculty and staff are a representation of our university community and of the professional and personal communities that we lead. Therefore, a deep and abiding commitment to academic integrity is fundamental to a Carnegie Mellon education. For more information on these standards, please visit the link below: http://www.cmu.edu/policies/student-and-student-life/academic-integrity.html

## Assistance for Individuals with Disabilities

Students with disabilities are encouraged to self-identify with Office of Disability Resources by contacting Catherine Getchell, 412-268-6121, to access the services available at the University. For more information, please visit the link below: http://www.cmu.edu/education-office/disability-resources/

## Evaluation & Certification of English Fluency for Instructors

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. Teaching Assistant English Fluency is managed through the International Teaching Assistant testing process administered by CMU's Intercultural Communication Center. For details please visit the links below:

http://www.cmu.edu/policies/faculty/evaluation-certification-english-fluency-instructors.html

http://www.cmu.edu/icc/

## Leave of Absence & Withdrawal Policies

"Leave of absence" means leaving the university temporarily, with the firm and stated intention to return. "Withdrawal" means leaving the university with no intention to return. Withdrawals or leaves taken on or before the university deadline to drop classes without receiving a 'W' (withdrawal) grade will result in all courses or grades being removed. Withdrawals or leaves taken after the university deadline to drop classes but before the last day of classes will result in 'W' grades assigned to all classes. Withdrawals or leaves taken after the last day of classes will result in permanent grades assigned by the instructors for each class. After the last day of class, courses cannot be removed from a student's transcript.

International students should consult with the Office of International Education (OIE) prior to taking a leave of absence or withdraw from their program.

Further information about Carnegie Mellon's policy on student leave is available at the following link: http://www.cmu.edu/policies/student-and-student-life/student-leave.html

Students who would like to take a leave of absence or withdraw must complete the appropriate form at the following link: http://www.cmu.edu/hub/forms.html

Please see "Preparing an Academic Plan" section (under Administrative and Program Policies) of this handbook for ECE's policy on leave of absence and withdrawals.

## Tuition Refund Policy

If an ECE student withdraws or takes a leave of absence, the HUB will determine if a student should receive a tuition refund, as this is governed by CMU's policies, not ECE's. Additional

information is available at the following link:
http://www.cmu.edu/hub/tuition/adjustment.html

### Returning to Carnegie Mellon

When a student plans to return to CMU after a leave of absence, he/she must complete the Petition for Return from Leave of Absence form at least one month prior to the start of the semester. We recommend doing so prior to the registration period for the upcoming semester (for Fall, April and for Spring, November). The student must also meet any conditions that were set by ECE or the university at the time of leave was granted. Further information about Carnegie Mellon's policy on student return is available at the following link: https://www.cmu.edu/hub/registration/leave.html

## Suspension/Required Withdrawal Policy

University suspension is a forced, temporary leave from the university. A student may be suspended for academic, disciplinary, or administrative reasons. Additional information is available at the following link: http://www.cmu.edu/policies/student-and-student-life/suspension-required-withdrawal-policy.html

## Withdrawal of a Degree

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

## University Grievances

Students are encouraged to discuss any concerns or grievances informally within ECE. If a student is not satisfied with the results of informal discussion or formal appeal at the department level, he or she may follow the guidelines on Graduate Student Appeal and Grievance Procedures. Students are likewise encouraged to speak directly to their graduate student's representatives and to the president of the Graduate Student Assembly (GSA). The complete reference to this policy is available at: http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html

## Student Maternity Accommodation Protocol

Female students seeking Maternity Accommodations should visit the following link from the Graduate Education's website: http://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html

## Verification of Employment

Carnegie Mellon University employees or former employees are required to use Employee/Former Employee Request Form for Verification of Employment to request employment verification. Vendors, such as mortgage companies, may continue to use standard formats with a signed authorization. Please contact the CMUWorks Service Center at cmu-works@andrew.cmu.edu with questions.

# APPENDIX A: ADDITIONAL UNIVERSITY RESOURCES

Highlighted University Resources for Graduate Students and The WORD Student Catalog

## Key Offices for Graduate Student Support

### Office of the Assistant Vice Provost for Graduate Education

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

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

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

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

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

- Conference Funding Grants
- Graduate Small Project Help (GuSH) Research Funding
- Graduate Student Professional Development: seminars, workshops and resources
- Graduate Women Gatherings (GWG)
- Inter-university Graduate Students of Color Series (SOC)

### Office of the Dean of Student Affairs

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

The Office of the Dean provides central leadership of the metacurricular experience at Carnegie Mellon. The offices that fall under the division of Student Affairs led by Dean of Student Affairs Gina Casalegno, include:

Career and Professional Development Center

- Counseling & Psychological Services (CAPS)
- Housing & Dining Services
- Orientation & First Year Programs (note: for undergraduate students)
- Office of International Education (OIE)
- Student Activities
- Student Life

Graduate students will find the enrollment information for Domestic Partner Registration and Maternity Accommodations in the Office of the Dean of Student Affairs and on the website. The Office of the Dean of Student Affairs also manages the Emergency Student Loan (ESLs) process. The Emergency Student Loan service is made available through the generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable within 30 days. Loans are available to enrolled students for academic supplies, medication, food or other expenses not able to be met due to unforeseeable circumstances. The Office of the Dean of Student Affairs also provides consultation, support, resources and follow-up on questions and issues of Academic Integrity: www.cmu.edu/academic-integrity.

## Silicon Valley Student Services

Students on the Silicon Valley campus can meet with the Director of Student Affairs, Sari Smith, for on-site connection to various student services resources. These resources include questions regarding housing, transportation, health, personal concerns, student organizations, activities and general campus information. Sari Smith's office is located in B19 Room 1041, and can be reached by phone at 650-335-2846 or email at sari.smith@sv.cmu.edu. The CMU-SV Student Services Webpage has more information about student services in Silicon Valley: http://www.cmu.edu/silicon-valley/campus-life/index.html

## Eberly Center for Teaching Excellence & Educational Innovation

www.cmu.edu/teaching

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

http://www.cmu.edu/teaching/graduatestudentsupport/index.html

## Carnegie Mellon Ethics Hotline

The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to financial matters, academic and student life, human relations, health and campus safety or research.

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

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

## Graduate Student Assembly

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

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

## Intercultural Communication Center (ICC)

www.cmu.edu/icc/

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

## Office of International Education (OIE)

www.studentaffairs.cmu.edu/oie/

Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars. OIE provides many services including: advising on personal, immigration, academic, social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; supporting international and cultural student groups such as the International Student Union and the International Spouses and Partners Organization; maintaining a resource library that includes information on cultural adjustment, international education and statistics on international students in the United States; posting pertinent information to students through email and the OIE website, and conducting orientation programs.

## Key Offices for Academic & Research Support

### Computing and Information Resources

www.cmu.edu/computing

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

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

### Research at CMU

http://www.ece.cmu.edu/research/index.html

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

### Office of Research Integrity & Compliance

http://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, intellectual property rights and regulations, and institutional animal care & use. ORIC also consults on, advises about and handles allegations of research misconduct.

## Key Offices for Health, Wellness & Safety

### Counseling & Psychological Services

www.studentaffairs.cmu.edu/counseling

Counseling & Psychological Services (CAPS) affords the opportunity for students to talk privately about issues that are significant for them in a safe, confidential setting. Students sometimes feel confused about why they are feeling upset and perhaps confused about how to deal with it. An initial consultation with a CAPS therapist will clarify options and provide a recommendation to the appropriate mental health resource at Carnegie Mellon or the larger Pittsburgh community. CAPS services are provided at no cost. Appointments can be made in person or by telephone, 412-268-2922.

### Health Services

www.cmu.edu/HealthServices/

University Health Services (UHS) is staffed by physicians, advanced practice clinicians and registered nurses who provide general medical care, allergy injections, first aid, gynecological care and contraception as well as on-site pharmaceuticals. The CMU student insurance plan covers most visit fees to see the physicians and advanced practice clinicians & nurse visits. Fees for prescription medications, laboratory tests, diagnostic procedures and referral to the emergency room or specialists are the student's responsibility and students should review the UHS website and their insurance plan for detailed information about fees. UHS also has a registered dietician and health promotion specialists on staff to assist students in addressing nutrition, drug and alcohol and other healthy lifestyle issues. In addition to providing direct health care, UHS administers the Student Health Insurance Program. The Student Health Insurance plan offers a high level of coverage in a wide network of health care providers and hospitals. Graduate students should contact UHS to discuss options for health insurance for spouses, domestic partners and dependents. Appointments can be made by visiting UHS's website or by telephone, 412-268-2157.

### University Police

http://www.cmu.edu/police/
412-268-2323 (emergency only), 412-268-6232 (non-emergency)

The University Police Department is located at 300 South Craig Street, Room 199 (entrance is on Filmore Street). The department's services include police patrols and call response, criminal investigations, shuttle and escort services, fixed officer and foot officer patrols, event security, and crime prevention and education programming. Visit the department's website for additional information about the staff, escort and shuttle, emergency phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

### Shuttle and Escort Services

University Police coordinates the Shuttle Service and Escort Service provided for CMU students, faculty, and community. Full information about these services, stops, routes, tracking and schedules can be found online at: http://www.cmu.edu/police/shuttleandescort/.

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

## The WORD

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

The WORD is Carnegie Mellon University's student on-line catalog and is considered a supplement to the department (and sometimes college) catalog. The WORD contains campus resources and opportunities, academic policy information and resources, community standards information and resources. It is designed to provide all students with the tools, guidance, and insights to help you achieve your full potential as a member of the Carnegie Mellon community. Information about the following is included in The WORD (not an exhaustive list) and graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at: http://www.cmu.edu/policies/.

- Carnegie Mellon Vision, Mission
- Carnegie Code
- Academic Standards, Policies and Procedures
    - Educational Goals
    - Academic and Individual Freedom
    - Statement on Academic Integrity
    - Standards for Academic & Creative Life
        - Assistance for Individuals with Disabilities
        - Master's Student Statute of Limitations
        - Conduct of Classes
        - Copyright Policy
        - Cross-college & University Registration
        - Doctoral Student Status Policy
        - Evaluation & Certification of English Fluency for Instructors
        - Final Exams for Graduate Courses
        - Grading Policies
        - Intellectual Property Policy
        - Privacy Rights of Students
        - Research
            - Human Subjects in Research
            - Office of Research Integrity & Compliance
            - Office of Sponsored Programs
            - Policy for Handling Alleged Misconduct of Research
            - Policy on Restricted Research
        - Student's Rights
        - Tax Status of Graduate Student Awards

Campus Resources & Opportunities

- Alumni Relations
- Assistance for Individuals with Disabilities
- Athletics, Physical Fitness & Recreation
- Carnegie Mellon ID Cards and Services
- Cohon University Center
- Copying, Printing & Mailing
- Division of Student Affairs
- Domestic Partner Registration
- Emergency Student Loan Program
- Gender Programs & Resources
- Health Services
- Dining Services
- The HUB Student Services Center
- ID Card Services
- Leonard Gelfand Center
- LGBTQ Resources
- Multicultural and Diversity Initiatives
- Opportunities for Involvement
- Parking and Transportation Services
- SafeWalk
- Survivor Support Network
- Shuttle and Escort Services
- Spiritual Development
- University Police
- Student Activities
- University Stores

Community Standards, Policies and Procedures

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- AIDS Policy
- Bicycle/Wheeled Transportation Policy
- Damage to Carnegie Mellon Property
- Deadly Weapons
- Discriminatory Harassment
- Disorderly Conduct
- Equal Opportunity/Affirmative Action Policy
- Freedom of Expression Policy
- Health Insurance Policy
- Immunization Policy
- Missing Student Protocol
- Non-Discrimination Policy
- On-Campus Emergencies

Pets
Political Activities
Recycling Policy
Riotous and Disorderly Behavior
Safety Hazards
Scheduling and Use of University Facilities
Sexual Harassment and Sexual Assault Policy
Smoking Policy
Student Accounts Receivable and Collection Policy and Procedures
Student Activities Fee
Student Enterprises
Workplace Threats and Violence Policy
Statement of Assurance

# APPENDIX B: ADDITIONAL INFORMATION FOR CALIFORNIA PROGRAMS

Carnegie Mellon University is a private, non-profit institution, approved to operate in California by the California Bureau for Private Post-Secondary Education.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, toll-free telephone number (888) 370-7589 or by fax (916) 263-1897.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 toll-free or by completing a complaint form, which can be obtained on the bureau's internet website, at www.bppe.ca.gov.

Class session will be held:

Carnegie Mellon University
NASA Ames Research Park
Bldg. 23 (MS 23-11)
P.O. Box 1
Moffett Field, CA 94035-0001
(650) 603-7032
www.cmu.edu/silicon-valley

**STUDENT'S RIGHT TO CANCEL (WITHDRAWAL/LEAVES OF ABSENCE)**

1. A student has the right to cancel the student's Enrollment Agreement by either taking a leave of absence from the Program (leaving Carnegie Mellon University temporarily with the firm and stated intention of returning) or by withdrawing from the Program (leaving Carnegie Mellon University with no intention of returning). If the student withdraws or take a leave of absence from Carnegie Mellon University, the student may be eligible for a tuition adjustment or a refund of certain fees (excluding any Application Fee, Registration Fee and Enrollment Deposit, and any applicable Student Tuition Recovery Fund assessment).
2. To cancel the student's Enrollment Agreement and take a leave of absence or withdraw, the student must complete Carnegie Mellon University's Leave of Absence or Withdrawal form, as applicable, and return it to Carnegie Mellon University's Registrar's Office, at 5000 Forbes Ave., Warner Hall A12, Pittsburgh, PA 15213. The Leave of Absence and Withdrawal forms, and additional information of leaves of absence and withdrawal, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/registration/leave.html.
3. If the student notifies Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is the earliest of:

The date the student began the student's withdrawal or leave of absence process at Carnegie Mellon University; The date the student notified the student's home department at Carnegie Mellon University;

The date the student notified the associate dean of the student's College at Carnegie Mellon University; or

The date the student notified the Carnegie Mellon University Dean of Student Affairs.

If the student does not notify Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is:

The midpoint of the relevant semester in which the student withdraws or takes a leave of absence;

The last date the student attended an academically-related activity such as an exam, tutorial or study group, or the last day the student turned in a class assignment.

**REFUND POLICY**

1. **Refunds in General.** Students who withdraw from the Program or take a leave of absence after having paid the current semester's tuition and fees or receiving financial aid are subject to the following refund and repayment policies. No other charges are refundable. Student Tuition Recovery Fund assessment, if any, is non-refundable.
2. **Exit Counseling.** All borrowers of Federal student loans must complete a Federally-mandated exit counseling session when graduating or dropping to less than half-time enrollment status, including by withdrawing or taking a leave of absence. Exit counseling prepares students for repayment. Students must complete an exit counseling session in its entirety, with complete and correct information; otherwise, the student's degree, diploma and official transcripts may be withheld. Information about exit counseling sessions can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/loans/entrance-exit/exit.html.
3. **Withdrawals/Leaves On or Before 10th Class Day.** Students who withdraw or take a leave of absence on or before the 10th class day of the relevant semester may receive a refund of 100% of tuition and fees (excluding any Application Fee or Registration Fee and Enrollment Deposit). STRF assessment, in any, is non-refundable.
4. **Withdrawals/Leaves after 10th Class Day.** Students who withdraw or take a leave of absence after the 10th class day of the relevant semester but before completing 60% of the semester will be assessed tuition based on the number of days completed within the semester. This includes calendar days, class and non-class days, from the first day of classes to the last day of final exams. Breaks which last five days or longer, including the preceding and subsequent weekends, are not counted. Thanksgiving and Spring Break are not counted. There is no tuition adjustment after 60% of the semester is completed. There is no refund of fees after the 10th class day of the relevant semester.

5. **Tuition Adjustment Appeals**. Students may appeal to have tuition adjustments for their leave of absence or withdrawal if they feel that they have extenuating circumstances. These appeals will be reviewed in the context of Carnegie Mellon University's tuition adjustment policy, as stated above. These appeals must be made in writing to Carnegie Mellon University's Registrar using Carnegie Mellon University's Tuition Appeal Adjustment form. Information about Carnegie Mellon University's tuition adjustment policy, and tuition adjustment appeals, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/tuition/adjustment.html.
6. **Repayment to Lenders/Third Parties.** If any portion of refundable tuition and/or fees was paid from the proceeds of a loan or third party, the refund may be sent to the lender, third party or, if appropriate, to the Federal or state agency that guaranteed or reinsured the loan, as required by law and/or Carnegie Mellon University policy. Any amount of the refund in excess of the unpaid balance of the loan shall be first used to repay any student financial aid programs from which the student received benefits, in proportion to the amount of the benefits received, and any remaining amount shall be paid to the student.
7. **Responsibility for Loan.** If the student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If the student has received Federal student financial aid funds, the student is entitled to a refund of moneys not paid from Federal student financial aid program funds. If the student is eligible for a loan guaranteed by the Federal or state government and the student defaults on the loan, both of the following may occur: 1) The Federal or state government or a loan guarantee agency may take action against the student, including applying any income tax refund to which the person is entitled to reduce the balance owed on the loan. 2) The student may not be eligible for any other Federal student financial aid at another institution or other government assistance until the loan is repaid.

Meeting the cost of a graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html.

If you obtain a loan to pay for the M.S. in Electrical and Computer Engineering or Software Engineering degree programs on the Silicon Valley campus, you will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If you have received federal student financial aid funds, you are entitled to a refund of moneys not paid from federal student financial aid program funds.

Carnegie Mellon University does not have a pending petition in bankruptcy, is not operating as a debtor in possession, and has not filed a petition in bankruptcy within the preceding 5 years, nor

has Carnegie Mellon had a petition in bankruptcy filed against it within the preceding 5 years that resulted in re-organization under Chapter 11 of the United States Bankruptcy Code.

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or are enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.
2. You were enrolled at an institution or a location of the institution within the 120 day period before the closure of the institution or location of the institution, or were enrolled in an educational program within the 120 day period before the program was discontinued.
3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.
4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.
5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law, or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.
6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.
7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of noncollection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION The transferability of credits you earn at Carnegie Mellon University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the M.S. degree you earn in Electrical and Computer Engineering or Software Engineering is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Carnegie Mellon University to determine if your credits or degree will transfer.

Meeting the cost of a graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html.

Carnegie Mellon University is accredited through a voluntary, peer-review process coordinated by the Middle States Commission on Higher Education (MSCHE or Middle States). MSCHE is one of six regional accrediting agencies in the United States, each accrediting institutions of higher education within a specific geographic region. Middle States is recognized by the U.S. Department of Education. This recognition enables MSCHE's member institutions to establish eligibility to participate in federal financial aid programs (e.g., federal loans, grants, and work-study) administered by the U.S. Department of Education. Carnegie Mellon University has been accredited by Middle States since 1921.

Please visit http://www.cmu.edu/middlestates/ to learn more about accreditation standards and processes and to view the University's reaccreditation reports.

The address and telephone number for the Middle States Commission on Higher Education is 3624 Market Street, 2nd Floor West, Philadelphia, PA 19104, (267) 284-5000.

Appendix last updated: February 28, 2018

5000 Forbes Avenue

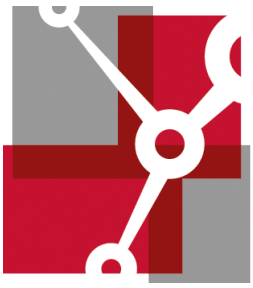
Pittsburgh, PA 15213

www.ece.cmu.edu

@CMU_ECE

# Graduate Student Handbook

**Entertainment Technology Center**
**Carnegie Mellon University**
**700 Technology Drive**
**Pittsburgh Technology Center**
**Pittsburgh, Pennsylvania 15219**
**(412) 268-5791**
**Fax: (412) 268-4988**
**http://etc.cmu.edu**



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Entertainment Technology Center

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# Introduction

Carnegie Mellon University's Entertainment Technology Center (ETC) is the premiere professional graduate program for interactive entertainment as it is applied across a variety of fields. The ETC offers a unique two-year Master of Entertainment Technology (MET) degree that is jointly conferred by the School of Computer Science and the College of Fine Arts. At the ETC, interdisciplinary project work focuses around a range of areas, spanning learning, health, training, social impact, civics, entertainment, and more; and project teams develop games, animation, location-based installations, augmented reality, mobile devices, robotics, interactive performances, transmedia storytelling, etc. This breadth of interests is one of the strongest components of the ETC experience.

The core of the ETC is the MET degree. As a professional graduate program, the focus is on our students and providing them with an educational experience that helps their career development through applied research on interdisciplinary projects. Founded in 1998, the ETC's curriculum balances educational goals, professional development, and engaging experiences; or learn, work and play. The heart of the program focuses on communication and collaboration, challenging students to learn about leadership, teamwork, innovation and positive social impact. Carnegie Mellon is rare among US universities in being able to offer this kind of degree, as there are both top-quality fine arts and design programs as well as premiere science and engineering programs here. Also, Carnegie Mellon's business and management programs offer entrepreneurial expertise. This allows the entire university to serve as a resource for ETC students.

The "high concept" behind both the Center and the Master's program is the principle of having interdisciplinary groups work together on projects to produce artifacts that are intended to entertain, inform, inspire, or otherwise impact an audience/guest/player/participant. The master's degree is focused on project courses because the larger challenge students face in authoring interactive media is bringing together different disciplines. The Master of Entertainment Technology degree program is driven by trying to do this as effectively as possible through a research and development agenda that illustrates the range of the expertise and experience of the ETC. Projects and courses explore transformational games, interactive storytelling, innovation by design, and learning and media. The emphasis is on leadership, innovation, and communication by creating challenging experiences through which students learn how to collaborate, experiment, and iterate solutions.

The ETC does not intend to take artists and turn them into engineers, nor vice-versa. While some students will be able to achieve mastery in multiple areas, it is not our intention to have students master "the other side" or "all sides." Instead, it is the intent for a typical student in this program to enter with mastery/training in a specific area and spend their two years at Carnegie Mellon learning the vocabulary, values, and working patterns of the other culture. This learning will be evidenced by their ability to work effectively with those from different and various backgrounds and expertise.

# ETC Mission Statement

Providing leadership in education and applied research that combines technology and art, to explore learning, storytelling, innovation and entertainment, and to create experiences that educate, engage and inspire.

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

## The Carnegie Mellon Code

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

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

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

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

The commitment of its faculty, staff and students to these standards contributes to the high respect in which the Carnegie Mellon degree is held. Students must not destroy that respect by their failure to meet these standards. Students who cannot meet them should voluntarily withdraw from the university.
The Carnegie Mellon Code can also be found online at:
http://www.cmu.edu/student-affairs/theword/code.html

## ETC and CMU Contacts

Drew Davidson, Director, ETC drew@andrew.cmu.edu

MaryCatherine Dieterle, Director of Student Services, ETC, mb8f@andrew.cmu.edu

Rebecca Lombardi, Director of Admissions and Marketing, ETC, rl3j@andrew.cmu.edu

Susan Timko, Director of Career Services, ETC, stimko@andrew.cmu.edu

Keith Webster, Dean, Libraries, CMU, kwebster@andrew.cmu.edu

Suzanne Laurich-McIntyre, Asst. Vice-Provost, Graduate Education, CMU, slaurichmcintyre@cmu.edu

Helen Wang, Student Affairs, CMU, hyw@andrew.cmu.edu

A full listing of ETC faculty and staff can be found on the website:
http://www.etc.cmu.edu/learn/faculty-staff/

## Enrollment

### *Registration Procedures*

Registration is handled through Student Information Online (SIO). Students are responsible for enrolling themselves in required courses and electives. http://www.cmu.edu/hub/sio

The first step in the registration process is to review the appropriate ETC curriculum in this handbook. If there is room for an elective in the semester for which the student wishes to register, she or he must confer with the Director of Student Services to determine an appropriate course. The Director of Student Services will grant exceptions to the curriculum only after consultation with the Director.

Once students have decided on a course schedule, they can then access SIO, using any computer, by visiting the website at: http://www.cmu.edu/hub/registration/graduates/

### *Full Time Status*

At Carnegie Mellon University a minimum of 36 units is required for full time status. All international students are required to be full time students. A student's schedule is considered over-loaded when it exceeds 50 units per semester. During the first semester, ETC students take 54 units, after this students must receive approval for a course overload from the Director.

### *Qualifying Examinations and Thesis*

There are no qualifying examinations or master's thesis required for the MET degree.

### *Financial Support*

The ETC has traditionally not offered any form of financial support to students. Students interested in learning about outside sources of aid can investigate the AIAS Randy Pausch Scholarship, the Penny Arcade Scholarship, or the scholarships offered by Google. The Student Financial Aid Office has information on financial aid resources available to students pursuing graduate studies at Carnegie Mellon: http://www.cmu.edu/finaid/basics/graduate/

### *Orientation*

Each fall, the ETC hosts an orientation session for new students in the week prior to the start of classes and then an update orientation for 2nd year students during the 1st week of the semester.

## Curriculum and Graduation Requirements

Because the ETC's curriculum is both specific and chronologically tight, students may only begin work towards their MET in an "Immersion" 1st semester. 1st semester starts in the fall in Pittsburgh. All students have to start with the 1st semester curriculum.

### *Academic Advising*

The ETC is a two-year professional graduate program with defined curriculum choices and no thesis. To that end, the role of academic advisor is a limited one. While the Director of Student Services and the Director must approve all matters dealing with the academic program, students should feel free to seek academic guidance from any member of the ETC faculty.

Students are also assigned ETC Faculty Mentors. Mentors work with students to provide general advice on their educational goals and professional development. Working with the Director of Student Services, they help advise students on types of projects, roles to consider and elective options. Mentors meet with students to discuss current semester experience and next semester plans. Mentors work to get to know students goals and expectations to help inform decisions when the faculty form project teams.

Students should feel free to meet with any of the faculty and staff to ask questions and discuss academic and non-academic issues as well. The faculty and staff can help refer a student to department, university or community resources whenever necessary.

Additionally, students may confer with the university graduate student ombudsman, Assistant Vice-Provost Suzie Laurich-McIntyre, on issues of process or other concerns as they navigate conflicts.

## *Curriculum Requirements*

**Standard ETC Curriculum**

| | | |
|---|---|---|
| Semester 1 | Fundamentals of the ETC | 9 units |
| | Improvisational Acting | 9 units |
| | Visual Storytelling | 12 units |
| | Building Virtual Worlds | 24 units |
| | | 54 units |
| Semester 2 | Interdisciplinary Project I | 36 units |
| | One Elective* | 9-12 units |
| | | 45-48 units |
| Semester 3 | Interdisciplinary Project II | 36 units |
| | One Elective* | 9-12 units |
| | | 45-48 units |
| Semester 4 | Interdisciplinary Project III | 36 units |
| | One Elective* | 9-12 units |
| | | 45-48 units |

*All Elective choices must be reviewed with the Director of Student Services.

There are three variations to the standard curriculum requirements:
- **Integrated Co-Op**: during the second year of study (semesters 3 or 4) students can apply for a semester academic co-op with a company (further requirements below).
- **Student-Defined Semester**: after the first semester of study, students can apply for a student-defined semester (further requirements below).
- **Accelerated Master's Program**: students accepted into the ETC through an accelerated master's program from an ETC-approved undergraduate program complete the semester 1 curriculum, followed by two project course semesters.

Note: Students can do either a co-op or a student-defined semester, but they cannot do both. Students in an accelerated master's program are not eligible for co-ops, student-defined semesters or concentrations.

## *Graduation Requirements*

It is ultimately the responsibility of the students to ensure that all courses necessary for graduation have been successfully completed. Faculty and staff are available to assist students, and the Director of Student Services will attempt to advise students individually each semester, but only students can be held responsible for their failure to complete graduation requirements.

In order to graduate from the ETC, students must meet all the academic requirements outlined below and complete with passing grades all their semesters of study and at least 2 Interdisciplinary Projects, and have no outstanding charges on their student accounts. Note: the summer break does not count as a full semester. Failure to meet the requirements of each semester will result in the appropriate academic action (see the Academic Continuation section below for possible academic actions). Failure to meet the final semester requirements prevents a student from receiving their diploma during commencement ceremonies, and may prevent a student from graduating on time or possibly at all.

While the ETC curriculum is subject to change, the curriculum in effect at the time of a student's matriculation will be the one that dictates their graduation requirements. Exception to this policy will be at the discretion of the Director.

### *Statute of Limitations*

Our curriculum focus on teamwork is such that MET students need to complete all requirements for the MET degree within a maximum of three years from original matriculation as a master's student. Once this time-to-degree limit has lapsed, the student may resume work towards a MET degree only if newly admitted to the program.

## Academic Requirements

Depending on which of the four ways you take through the program (standard or one of the three variations listed above) you will need to pass two to three project courses, two to six elective courses, or also the co-op course, following the academic requirements below in order to graduate.

### *Overall Grade Requirements:*

**a)** Maintain an overall QPA of 3.0 or above each semester in order to stay in good academic standing
**b)** Final QPA of at least 3.0 is required to graduate

### *Grades*

The ETC follows CMU policy in giving letter grades for all courses. Course grades are available online. Graduate students at Carnegie Mellon are graded on a letter grade system, augmented by a plus or minus as appropriate. The letter grades at the ETC are representative of the following:

A – Excellent work that exceeds expectations
B – Acceptable work for an ETC student
C – Unacceptable work for an ETC student
F – Egregiously unacceptable work

ETC Core Course units with a grade of C+ or lower are not acceptable toward MET degree requirements and prevent a student from matriculating. Elective courses with a grade of C- or lower are not acceptable toward MET degree requirements and the student must either retake the course and earn a B or better, or take another course (12 units) in its place. Outside of the Summer Internship Practicum, Pass/Fail courses do not count toward MET degree requirements. Also, the student must seek approval to take a probationary 6 unit independent study course the following semester in order to maintain academic units to matriculate.

### *University Policy on Grades*

http://www.cmu.edu/policies/documents/Grades.html
This policy offers details concerning University grading policies for students taking courses and covers the specifics of assigning and changing grades, grading options, drop/withdrawals and course repeats. It also defines the undergraduate and graduate grading standards.

### *Total Number of Units Required for Degree Attainment*

Depending on their path of study, students must attain the minimum required number of total academic units in order to graduate.
- Standard Curriculum: 189 - 198
- Integrated Co-Op: 180 - 198
- Student-Defined Semester: 180 - 198
- Accelerated Master's Program: 144 - 150

## *First Semester (i.e., Immersion Semester) Courses*

All ETC students have to successfully pass all the first semester courses with a grade of B, 3.0, or higher.

- An ETC student who makes a B- in any of the first semester courses will be placed on academic probation for the following semester.
- An ETC student who makes below a B- in one of first semester courses the first semester courses will not be eligible for study in the program the following spring semester and will be suspended until the following fall semester.
- An ETC student who makes a B- in two or more of the first semester courses will not be eligible for study in the program the following spring semester and will be suspended until the following fall semester.
    - The student will have to wait until the following fall semester to petition to remain in the program (following the appeal process below) and then retake first semester courses that were failed or if there were more than one course in which a B- was earned, in order to matriculate into their next semester of study in the program along with some electives (not exceeding 48 units total).

All four first semester courses are prerequisites of the Project Course. Students cannot matriculate beyond the first semester courses to a second semester of study without making a B or higher in at least three of the four courses, while also not making below a B- in the fourth course.

## *Core Courses*

All core courses listed below must be passed with a grade of B, 3.0, or higher to remain in good academic standing.

- An ETC student who makes a B- in one core course will be placed on academic probation for the following semester.
- If a student makes below a B- in a core course (or drops a core course without also taking a Leave of Absence), they will be suspended for a semester, and they will have to petition to remain in the program (following the appeal process below) and then take the course again upon return to the program.
- A student who earns a B- on more than one core course (even if the multiple courses all occur within their first semester) will be suspended for a semester and must petition to remain in the program (following the appeal process below).

Core Courses include:
Fundamentals of the ETC (53-700)
Improvisational Acting (53-711)
Visual Storytelling (53-608)
Building Virtual Worlds (53-831)
Project Courses (53-605, 53-607, 53-610)
Co-op Course (53-600, for Integrated Co-op Curriculum)
Student-Defined Semester Courses (3 of the 4 courses)

## *Project Courses*

Projects courses must be passed with a minimum grade of B to remain in good academic standing.

- It is only possible to take a first project course after making a B or higher in at least three of the four first semester courses, while also not making below a B- in the fourth course.
- In order to matriculate to a new project course semester, it is required to make a B- or higher on the previous project course.
- If a student makes a B- in a project course, they will be placed on academic probation for the following semester.
- If a student makes below a B- in a project course during their final semester of study, they will be suspended and not graduate, and they will have to petition to remain in the program (following the appeal process below).

- If a student who has previously received a B- in a project course, earns a B- in the project course during their final semester of study, they have to petition in order to graduate (following the appeal process below).

It is also not possible to take more than one project course in a semester, nor take the project course with any of the other core courses, so having to retake a failed project course will require staying more than four semesters in the program.

- NOTE: International students will not be able to extend their stay due to failing courses. All students must pass at least 2 project courses, and have one project semester in Pittsburgh.

## *Elective Courses*

If a grade of C- or lower is earned in an elective course (or an elective is dropped so there are no elective units earned during a project semester), that course cannot be counted towards the degree and the student must either retake the course and earn a B or better, or take another course (12 units) in its place.

- Also, the student must seek approval to take a probationary 6 unit independent study course the following semester along with their normal 12 unit elective.

If a student makes a C- or lower on two electives (or two electives are dropped so there are no elective units earned during two project semesters), they will be suspended for a semester, and they will have to petition to remain in the program (following the appeal process below).

- They then have to seek approval for a probationary student-defined semester in which they have to make a B or higher on all four courses, or they will be suspended from the program.

## *Student-Defined Semester Courses*

Three out of the four student-defined semester courses are considered core courses rather than electives, as they are courses core to ETC students' educational experience.

- During a student-defined semester, students are required to take and pass four courses (with at least 36 units total, and 48 maximum).
- Students have to make at B or higher in at least three of the four courses during a student-defined semester in order to remain in good academic standing. Specifically, three of the courses will be considered Core Courses and need to achieve grade levels as noted in the Core Courses section, the fourth will be considered as an elective (as discussed above).
- Students need to pass all four courses in order to graduate
- If a student makes a B- or lower on a course, while also making C- or lower on another course, or has to drop a course, or if their QPA drops below a 3.0, the student will be placed on academic probation for the following semester, and they will be required to stay more than four semesters in the program in order to pass all the courses needed to graduate.
- If a student makes a B- or lower in more than two courses, or has to drop more than one course, they will be suspended for a semester, and they will have to petition to remain in the program (following the appeal process below) and then take the courses again, or take other core courses in their place, upon return to the program.
- NOTE: International students will not be able to extend their stay due to failing courses.

## *Semester Academic Review*

The ETC evaluates students above and beyond the normal grading procedures. Around midterm and finals of the first Immersion semester, the faculty meets as a whole to review each student's overall performance for their first semester. This assessment is led by faculty members who teach the core Immersion courses, but all faculty participate.

- If the faculty determine that a student's performance merits extra feedback, they will receive a remedial academic review and will get input from the faculty.
- If the faculty determine that a student's performance is not satisfactory, the student will receive a

negative academic review and will meet with the Director to discuss the perceived issues with their performance and recommendations for corrective action will be made.

This process is then repeated both around midterm and finals of the second semester. Across these four reviews:

- Students who receive two remedial academic reviews in one semester will be placed on academic probation.
- Students who receive one negative academic review in one semester will be placed on academic probation.
- Students who receive a remedial academic review for all four reviews in both the first and second semesters will be suspended for a semester, and then will have to petition to remain in the program (following the appeal process below).
- Students who receive a negative academic review twice during their first year of study will be suspended for a semester (even if the multiple negative academic reviews occur within their first semester), and then will have to petition to remain in the program (following the appeal process below).

This is not a grading evaluation, but is an academic review used to assess the overall performance of the student during their first year at the ETC. The goal of this assessment is to identify any individuals who are performing poorly and provide additional advising in terms of how to best improve their performance as creative professionals and succeed in their studies. If students receive either a remedial or negative academic review, they are expected to improve their performance by the next review.

This individual assessment is not directly related solely to a student's grades, though it could be. It is possible however that a student could pass his or her courses or projects, but still be assessed as needing further advising and academic action in regards to their performance.

This academic performance assessment is a subjective process based on the faculty's shared perceptions of a student's performance. It is meant to provide students with essential feedback and to provide an opportunity for improvement. This review process is intended to help students correct their academic performance so that they can remain and succeed at the ETC.

## *Academic Continuation*

**Good Standing:**

A student is in good standing if:

- They have made a B, 3.0, or higher on their core courses.
- They have made a C, 2.0, or higher on their elective courses.
- They maintain an overall GPA of 3.0 or higher.
- They have not received a negative academic review (nor two remedial academic reviews) during either of the semesters of their first year of study.
- And they are making good progress towards their degree as evidenced by meeting the academic and community expectations of the program.

**Not in Good Standing (Academic Probation):**

A student is not in good standing if any of the below conditions hold true:

- They have made a B- on any of their core courses.
- They have made a C- or lower on an elective course (or dropped an elective so there are no elective units earned during a project semester).
- They receive a negative academic review in one semester.
- They receive two remedial academic reviews in one semester.
- They violate CMU's academic integrity policies.
- Their overall QPA is below a 3.0.

Students not in good standing are placed on Academic Probation for the following semester.

During the probationary semester, a student on Academic Probation must:

- Maintain a B or above in all their courses.
- Have an overall QPA of 3.0 or above.
- Not receive a negative academic review.
- Not receive two remedial academic reviews.

- A student who has made a C- or lower on an elective, will have to seek approval to take a probationary 6 unit independent study course the following semester along with their normal 12 unit elective.
- A student who has made a C- or lower on two electives, will have to seek approval for a probationary student-defined semester in which they have to make a B or higher on all four courses.

- Students who maintain these minimum grade and performance requirements are released from probation.
- Students who don't maintain these minimum grade and performance requirements will be suspended from the program.
- Students on Academic Probation the final semester of study in the program can only graduate if they meet the academic requirements listed above and below, and the graduation requirements of having a QPA of at least 3.0.

**Not in Good Standing (Academic Suspension):**
A suspended student will not be eligible to take any courses for a semester, not participate in any ETC activities, and then must petition, following the appeal process below, to remain in the program. A student will be suspended if any of the below conditions hold true:

- They make below a B- on a core course (or drop a core course without also taking a Leave of Absence)
- They make a B- on more than one core course (even if the multiple courses all occur within their first semester)
- They make a C- or lower on two electives (or two electives are dropped so there are no elective units earned during two project semesters)
- During a student-defined semester, they make a B- or lower in more than two courses, or have to drop more than one course
- Their QPA is below a 3.0 for two semesters
- They receive a negative academic review twice during their first year of study (even if the multiple academic reviews occur within one semester).
- They receive a remedial academic review four times during their first year of study.
- They are on academic probation and don’t maintain a B or above in all their courses, or don’t have an overall QPA of 3.0 or above, or receive a negative academic review (or two remedial academic reviews) during that semester.
- Two of the following three conditions occur during a semester:
    - they make a B- on a core course;
    - they receive a negative academic review (or two remedial academic reviews);
    - their overall QPA is below a 3.0.

If reinstated, students will return on Academic Probation.

**Not in Good Standing (Dropped from the Program):**
A student being dropped from the program is an academic action that is final and not appealable. A student will be dropped from the program if:

- They get placed on academic probation for a third time.
- Their overall QPA is so low that it is mathematically impossible for them to obtain the 3.0 QPA required to graduate.

- They were suspended and then reinstated upon approval of their petition to remain in the program, and while on Academic Probation, they do not;
  - Maintain a B or above in all their courses.
  - Have an overall QPA of 3.0 or above.
  - Avoid receiving a negative academic review.
  - Avoid receiving two remedial academic reviews.

Good academic standing eligibility for;
- coops,
- student-defined semesters,
- graduate assistant positions,
- and matriculation to the ETC Silicon Valley for the fall semester,

is determined by the core course grades and QPA at the end of the previous spring semester.

Good academic standing eligibility for;
- student-defined semesters,
- graduate assistant positions,
- and matriculation to ETC Silicon Valley for the spring semester,

is determined by the core course grades and QPA at the end of the previous fall semester.

Good academic standing eligibility for coops for the spring semester is determined by the core course grades and QPA at midterm of the previous fall semester. Information on coops, student-defined semesters, graduate assistant positions, and matriculation to the ETC Silicon Valley location appears below.

### *Matriculation to the ETC Silicon Valley location*

ETC students may wish to remain at the Pittsburgh campus for all of their studies, or they may opt to travel to our site in Silicon Valley. While the opportunity exists for students to study at either location during their studies, all students are required to study in Pittsburgh for at least one project semester. No students will be forced, nor guaranteed, to relocate to Silicon Valley. ETC Silicon Valley hosts a limited number of students per semester, so not every student interested in Silicon Valley may get to matriculate there. Students must be in good academic standing in order to be eligible to matriculate to the ETC Silicon Valley location. This is to provide students with the best academic support and educational opportunities, and Pittsburgh is the main campus with the majority of resources.

## ETC Academic Policies

### *Academic Integrity*

In the midst of self-exploration, the high demands of a challenging academic environment can create situations where some students have difficulty exercising good judgment. Academic challenges can provide many opportunities for high standards to evolve if students actively reflect on these challenges and if the community supports discussions to aid in this process. It is the responsibility of the entire community to establish and maintain the integrity of our university. In addition to course level action taken by the course faculty member, students who violate CMU's academic integrity policies will be placed on academic probation.
Please review the University expectations at: http://www.cmu.edu/academic-integrity/

### *Critique*

Throughout the course of a student's study, the ETC provides both project and personal critiques of academic work. This is a process of critical thinking and constructive criticism aimed to offer both positive and negative feedback in an insightful and supportive context.

During critiques, faculty will focus on the positive aspects of the work as well as comment on what improvements could be made and why. Critique of a project focuses on the work and not on the students involved. Critique of students focuses on their performance and not on them as individuals.

As recipients of critique, students are encouraged to focus on the constructive elements of the feedback with an open attitude. Critiques are opportunities to learn and understand how to best improve their performance and their work.

## *Incompletes*

The ETC does not grant incompletes. The only exceptions are for instances when serious, extenuating circumstances prevent a student from completing assigned work for a class. These circumstances include, but are not limited to: personal illness (physical or mental), family distress, or some other major obstacle to successful completion of coursework. An incomplete grade is granted exclusively at the discretion of the course instructor. Once the decision has been made to grant a grade of incomplete, it is the student's responsibility to arrange a deadline for work completion with the instructor. University policy dictates that any incomplete grade will automatically be changed to a failing grade by the end of the following semester if the coursework is not completed.

## *Time Off*

ETC students are expected to attend all classes and participate in all program actives throughout the four semesters in which they participate. This excludes any defined academic break periods, and the official University holidays as listed below. For the most up-to-date University calendar, please refer to the HUB at http://www.cmu.edu/hub/calendar.html. ETC students can find and subscribe to ETC calendars at: http://www.etc.cmu.edu/etc-calendar/

*University Holidays:*

- *New Year's Day*
- *Martin Luther King Jr Day*
- *Memorial Day*
- *Independence Day*
- *Labor Day*
- *Thanksgiving Day*
- *Day After Thanksgiving*
- *Day Before Christmas*
- *Christmas Day*
- *Day Before New Year's Day*

## *Leave of Absence and Withdrawal*

A student who withdraws or takes a leave of absence from the University at any time, up to and including the last day of classes and excluding the final examination period, does so with the understanding that no grades will be recorded for that semester. In some cases the student's department may choose to state the time at which, or the conditions under which, the student may be permitted to return. Withdrawal or voluntary leave of absence requires that a student file a Withdrawal/Leave of Absence form with the HUB, after securing the appropriate signature approvals. Return from a voluntary leave of absence requires department or College approval through a Request for Return from Leave of Absence form. Please refer to the HUB at https://www.cmu.edu/hub/registration/leave.html.

ETC students should keep in mind the following if they are considering a withdrawal/leave of absence:

- Students are encouraged to take a leave of absence if they feel they need to take a break from the intense educational experiences during their graduate studies.
- Our curriculum focus on teamwork is such that students who take more than two semesters away from the department will be required to reapply to the program.
- Students in good standing in all courses, and on no academic action when taking the leave, will be reinstated into the ETC at the level they were about to take upon requesting the leave.
- Students in poor standing or on academic action who request a leave will be required to re-interview when the leave is up before being permitted to re-enter the school.
- Students who, due to illness or personal problems, take a leave of absence during the semester will be discussed on an individual basis. If the amount of time absent affects academic performance, a student may be asked to repeat the incomplete semester's study. If their academic progress remains excellent, students will be allowed to return and complete the semester.
- International students should consult with the Office of International Education regarding the visa status implications of taking a leave of absence.

## *Attendance and Tardiness*

The program will require attendance at various seminars, meetings, lectures, presentations, and demonstrations. These events will be announced in advance as mandatory meetings. Exceptions to this policy are at the sole discretion of the Director. Punctuality is expected. If students must be late or absent for any reason, please contact the Director in advance to discuss their personal situation, and a reasonable solution will be discussed. *After two unexcused absences, each additional unexcused absence will reduce the student's grade in that semester's project course by 1/3 of a letter grade.*

Note: all individual courses have their own attendance policies that will be stated in their syllabi.

## *Independent Study*

*For ETC students*

Independent study is available for students who are in good academic standing. Independent study allows the student, with the support of faculty, to develop a self-generated project or body of work outside the classroom or project course setting. In order to register for an independent study, the student must first propose their idea to a faculty member (who does not have to be from our department) who agrees to oversee their project, and finally fill out the appropriate paperwork available from the Director of Student Services.

*For non-ETC students*

Students outside the department will sometimes have an opportunity to become supporting team members of an ETC project by registering for ETC independent study units. At the beginning of each semester, the ETC may hold an "open call" for interested students, where the projects for the current semester will be explained. Students will then have an opportunity to "audition" for the project team-members and/or project course instructor(s) (auditioning includes, but is not limited to: sharing or creating code samples, writing samples, portfolio excerpts, etc.) Students selected to become a supporting project team-member will be asked to sign an agreement detailing what their contributions will be to the project, and describing grading criteria.

## *Field Research*

The ETC has found that among the most important steps in the educational process are hands-on learning, interacting with industry professionals, and behind-the-scenes tours. The ETC provides experiences that cannot be read about, but require and build from firsthand student participation.

To that end, ETC students and project teams spend time in the program traveling locally and nationally to visit entertainment venues, attend conferences and trade shows, and to participate in workshops. Our students attend plays, gallery exhibits and conferences, and visit relevant companies, venues and clients in the greater Pittsburgh area, as well as traveling outside the local area during the academic year.

Our visits usually include behind-the-scenes access for our students. ETC first year students participate in extended field trips for an insider's look at the entertainment industry. It is this access that makes our program unique.

NOTE: All field research experiences must be approved by the Project Team ETC project course instructor(s) and the Director. Field research is not an entitlement but an important educational opportunity.

## *Outside Work*

Due to the time commitment necessary to complete the program, the ETC does not allow students to work outside the department for more than 10 hours per week. If outside employment of more than 10 hours per week is desired, the student must obtain written permission from the Director and Director of Student Services. Once approved students must notify their project course instructors and faculty mentors. Outside employment of any kind does not constitute an excused absence from ETC classes, or from the completion of any project assignments. International students who plan to have an internship or work in the United States must contact OIE for eligibility and requirements prior to making arrangements for outside work and/or accepting an offer. Note: students who are receiving a financial stipend to be a graduate assistant cannot also work outside of the department during the same semester. Students on academic probation are not eligible for outside work.

## *Intellectual Property*

https://www.cmu.edu/student-affairs/theword/acad_standards/creative/intellectual.html
The Intellectual Property rights of Carnegie Mellon University, as it relates to coursework, is very straightforward: students own all work created for a registered CMU course for which tuition has been paid and no internal or external sponsored research funds are used.

As coursework, however, the fruits of this labor can be shown publicly via presentations, demonstrations, and on websites of the CMU Entertainment Technology Center without the written permission of the student. In certain instances, however, companies will want ETC students to work on and/or review software or other products under NDAs or some other agreement. These are defined below:

*Non-Disclosure Agreement (NDA)*
NDAs are Non-Disclosure Agreements. They are designed to safeguard the intellectual property of a company by having individuals sign a legally binding document wherein the individual agrees not to disclose what he or she has seen, observed, or worked on, to a competing company. The intent of the NDA in fact, is to essentially swear the individual to secrecy, though they are entered into in good faith. It is very rare that the legal impact of NDAs is an issue unless an individual willfully violates the terms of the NDA and intends to compromise the competitive advantage of one company by divulging secrets to a competitor. That said, companies requiring NDAs take the exercise seriously. There has been significant friction generated between companies and students over perceived violation of NDA principles.

*Grant of Rights and Licenses Student Form*
Instances will arise wherein ETC students are given the opportunity to work with dynamic, potentially revolutionary technology which may indeed have a tremendous impact on the entertainment industry. The benefit here is in students being able to work on the next generation of entertainment technology, in having a company become familiar with their talent, dedication, and work ethic for the purposes of offering students a summer internship and/or employment, and for enhanced resume and portfolio purposes. It is often the case that even in instances where a *Grant of Rights and Licenses Student Form*

are signed, the student is able to reference the work done and often include a demonstration of the work for the purpose of portfolio review.

## *Internships and Co-ops*

## *Co-op Requirements*

**Eligibility**

Students in good academic standing are eligible to request a co-op for one semester of study during the 2nd year with the ETC (for their 3rd or 4th semester, but not both). An ETC co-op requires the approval of the Director. Students in an accelerated master's program are not eligible for co-ops as all students must complete 2 semester projects.

Eligibility for a co-op for the coming fall semester is determined by the core course grades and QPA at the end of the previous spring semester. Eligibility for a co-op for the spring semester is determined by the core course grades and QPA at midterm of the previous fall semester. Students who make a B- or lower in their coop course are subject to the academic requirements listed above, and as such, cannot retake a coop course during the rest of their academic studies at the ETC.

**Co-op Process**

Students need to send requests to the Director along with a job description and copy of the official offer letter from their prospective employer. For a fall semester co-op the requests must be submitted by mid-July of the prior summer and for a spring semester co-op the requests must be submitted by the end of November, (exact dates will be shared each semester). Decisions will be made based on the faculty's academic and performance evaluations of the student to date and the assessment of the best learning opportunity for the student. Note: students must get written academic approval from the Director before they sign and accept their offer letter.

If approved, students will enroll in the ETC co-op Course (36 units) for the coming semester.

If denied, students will receive written feedback from the faculty stating reasons for the denial. Denied students can appeal to the Dean (following the appeal process).

Students on a co-op semester have the elective requirement waived, but they can explore the possibility of taking one elective (9-12 units) with the approval of their supervisor at the company with which they have a co-op, as well as the ETC Director. Students cannot take other core courses during a co-op semester.

Criteria for a co-op include:

- 15 weeks in length in the fall and spring with a start and end date that mirrors the academic calendar
- full time employment (37.5 - 40 hours per week)
- paid (unpaid can be considered provided the work does not violate the Fair Labor Standards Act and is a highly valuable learning experience for the student)
- at the employer's location, not remote work
- work that is fitting master’s students studying entertainment technology
- International students who plan to have an internship or work in the United States must contact OIE for eligibility and requirements prior to making arrangements for outside work and/or accepting an offer.

Students cannot do a co-op at a company in which another student has a supervisory or financial role.

While the ETC faculty and Director of Career Services will assist students in their efforts to obtain a co-op, and while the ETC may develop relationships with some companies to help place students in co-ops, obtaining a co-op is the responsibility of the student.

## *Internship Opportunities*

In the intervening summer between the two years of academic study, the ETC strongly encourages students to obtain an internship (paid or unpaid). The ETC finds that students who obtain an internship not only have a valuable learning experience, but also have improved chances for success after they graduate.
Students on internship during the summer semester will be enrolled in the no-fee 3-unit ETC practicum training course for a Pass/Fail evaluation that counts toward their graduation requirements. International students who plan to have an internship or work in the United States must contact OIE for eligibility and requirements prior to making arrangements for outside work and/or accepting an offer.

The ETC practicum training course requires the approval of the Director. Criteria for this course include:

- job description and offer letter submitted to Director of Student Services at least six business days before the start of the internship
- at least 10 weeks in length with a start and end date that align with the University's Academic Calendar for the summer semester
- at least part time employment (20+ hours per week)
- work that is fitting master's students studying entertainment technology
- A written report submitted by the last day of the summer semester (around 750-1000 words) reflecting on the practical and professional skills developed during the internship.
- Faculty oversight will be provided for this course

Note: The course and guidelines are not in effect for post-graduation internships.

While the ETC faculty and Director of Career Services will assist students in their efforts to obtain a summer internship, and while the ETC may develop relationships with some companies to help place summer interns, obtaining an internship is the responsibility of the student. The Director of Career Services may contact the student's internship supervisor during the summer to check in on the student's performance.

## *Elective Requirements*

Every student beyond their first semester is required to take one elective (9-12 units) each semester they are taking a project course. In general, during a project course semester, a student can only take one elective with no additional audits, i.e., just one elective course (or multiple mini courses, but no more than 12 units total). Students in a project semester can take Improv 2&3, which is offered as a pass/fail course, in addition to their one elective.
NOTE: as a pass/fail course, Improv 2&3 will be on your transcripts, but will not count toward a student's graduation requirements, so students will need to pass their other elective in order to maintain good academic standing.

Students on a co-op semester have their elective requirement waived, but they can explore the possibility of taking one elective (9-12 units) with the approval of their supervisor at the company with which they have a co-op, as well as the ETC Director. As on a project semester, students on a co-op can only take one elective, no additional audits, just one elective course. That elective can be Improv2&3, or another course, but not another course along with Improv2&3 for coop students.

Students who are approved to take a student-defined semester have to follow the established guidelines of four courses that semester, with one additional optional audited course (with permission from the course instructor). The combined Improv2&3 can count as one course for students approved for a student-defined semester.

Depending on which of the four ways students are taking through the program (standard or one of the three variations listed above), they have to successfully complete two to six electives during studies at the ETC.

ETC students can consider taking one or two electives (3-24 units) during the summer semester that could count toward their graduation requirements if they make the minimum required grades. ETC electives are only offered in the summer if at least 10 ETC students are enrolled in the course. Students will not be full-time, and would be charged tuition based on the ETC per unit rate.

Students in good academic standing are eligible to request a student-defined semester for one semester of study in Pittsburgh for their final 3 semesters of study. A student-defined semester can only occur in Pittsburgh, so this isn't an option for students studying at the Silicon Valley location. During this semester students are required to take and pass four courses (with at least 36 units total), two of which must be ETC offered courses, and they can also choose to audit one more course. Students have to make at B or higher in at least three of the four courses during a student-defined semester.

When a course is taken outside the ETC to fulfill a curriculum requirement, the policies and procedures of the instructor, department, and school in which the course is taken must be adhered to fully. The grade assigned by the course professor shall stand.  Carnegie Mellon University offers students the opportunity to take elective courses for credit through a cross-registration program. 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. http://www.cmu.edu/policies/documents/TransferCredit.html

### *Student-Defined Semester Process*

Students need to develop an academic plan for this student-defined semester of study connecting the types of courses they hope to take to their professional development goals. They will submit this academic plan to their faculty mentor near the end of the semester (exact dates will be shared each semester), who will then share it with the rest of the faculty for approval. Decisions will be made based on the faculty's academic evaluation of the student's performance to date and the assessment of the best learning opportunity for the student in relation to the opportunities on well balanced project teams that upcoming semester as well. If approved, students will enroll in four courses for the coming semester. If denied, students will receive written feedback from the faculty stating reasons for the denial. Denied students can appeal to the Director (following the appeal process). Students in a student-defined semester are subject to the academic requirements listed above.

Students in an accelerated master's program are not eligible for a student-defined semester, as all students must complete 2 semester projects.

### *Graduate Assistant Requirements*

After their first semester, students can apply for Graduate Assistant (GA) positions. Most GAs are related to ETC MET (http://www.etc.cmu.edu/learn/curriculum/) and ETC Ideate (http://ideate.cmu.edu/undergraduate-programs/game-design/) courses where students need to be approved by the instructor of the course. There are also some departmental GA positions related to the library, labs and workshops around the ETC, where students will need to be approved by the faculty or staff member in charge of the position. Emails will be sent out each semester about GA opportunities for the following semester, but it is the responsibility of the students to apply. Students on academic probation are not eligible for GA positions. Students cannot be a GA for two positions in one semester. Note: ETC courses only have a GA if there are 20 (or more) students enrolled in the course.

If accepted as a Graduate Assistant for an ETC course, students can opt for a financial stipend, or can opt to do this for their elective course credit that semester. If they opt for a financial stipend, they can also

take an elective course during a project or coop semester, or four other electives during a student-defined semester.

*Graduate Assistantships and Electives*
During a semester, students must notify and discuss with their project instructor(s) if they are a Graduate Assistant for a course offered on main campus and are also taking an elective course that is offered on main campus. This is to help students prioritize and manage their time on projects.

## *ETC Graduate Concentration Requirements*

ETC students can declare a graduate concentration that they attempt to earn by taking specific sets of approved courses to graduate with a Master of Entertainment Technology with a concentration in a distinct area. To apply, students outline three elective courses (of 12 units each) that they plan to take to earn their graduate concentration. Of these three electives, two courses need to be ETC electives that are listed for that graduate concentration. The third elective can be proposed from other elective courses including an Independent Study course. If proposing a course that's not listed for that graduate concentration, students will need to submit the syllabus for this proposed third course for ETC faculty consideration of their concentration application along with a short statement of why the course they're proposing to take fits into the graduate concentration. While not a direct part of the degree, these concentrations enable students to focus their electives. In order to earn a concentration, students have to take three courses within the stated concentration, and make a B+ or above in each course. Students should work with their faculty mentors to plan out the courses that best line up with their professional development goals.

Students are only eligible to focus on one concentration. Students in an accelerated master's program are not eligible for a concentration, since they are only taking two electives to graduate.

The list of all approved courses for the concentrations are shared each semester.

## *Single Counting of Courses*

While there is some course overlap between the Ideate courses and ETC graduate elective offerings, in general, CMU students won't be able to count the same course for their Bachelor's, Undergraduate minor, and/or Master's studies. For instance, if a CMU undergraduate takes Role Playing Games Writing Workshop as a part of their undergraduate studies, it would not count as an elective during their MET graduate studies. Similarly, a student in another CMU graduate program cannot have the same course count for both graduate degrees.

As noted above, students in an accelerated master's program are not eligible for co-ops or student-defined semesters or graduate concentrations.

## *Transfer Courses and PCHE*

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

http://www.cmu.edu/policies/documents/TransferCredit.html
https://www.cmu.edu/hub/registration/undergraduates/cross/

The ETC will only accept PCHE transfer credits for elective courses, not for any of the core courses nor for our graduate concentrations (all listed above) due to the unique nature of our program. Transfer credits must have a minimum grade of a B, 3.0, or higher. The Director and Director of Student Services will evaluate requests for transfer credits through review of the accreditation status of the sending institution, the course syllabus and student work product to determine if there is an educational relation with the academic mission and goals of the MET.

## *Summer Course Options*

**Electives**
ETC students can consider taking one or two electives (3-24 units) during the summer semester that could count toward their graduation requirements if they make the minimum required grades. ETC electives are only offered in the summer if at least 10 ETC students are enrolled in the course. Students will not be full-time, and would be charged tuition based on the ETC per unit rate.

**Internships**
Students on internship during the summer semester will be enrolled in the no-fee 3-unit ETC practicum training course for a Pass/Fail evaluation that counts toward their graduation requirements. International students who plan to have an internship or work in the United States must contact OIE for eligibility and requirements prior to making arrangements for outside work and/or accepting an offer.

## *Appeal Process*
## *Final Grade Appeal*

As per CMU policy, a graduate student who believes a final grade assigned for a course is based upon a manifest error (e.g. clear error such as arithmetic error in computing a grade) or the faculty or staff member who assigned the grade did so in violation of a University policy should first present the case informally to the faculty or staff member responsible for the course in which the student believes an inappropriate grade has been awarded. If the student is not satisfied with the resolution at this first step, the student shall submit a formal, written appeal, with appropriate documentation, within the first fourteen (14) days of the semester following the awarding of the final grade under challenge, to the head of the department in which the course was offered. The department head (or the program head if the department head chooses to delegate the decision to him/her) will issue a written decision on the appeal within 30 days, or as soon thereafter as practical. If the student is not satisfied with the decision of the department head (or program head), the student may submit a formal, written appeal, with appropriate documentation, within seven (7) days to the Dean of the College in which the course is offered. The Dean shall render a decision within 30 days, or as soon thereafter as practical. The decision of the Dean shall be final and not appealable.

## *Co-op and Student-Defined Semester Appeal*

Students who are denied their request for a co-op or a Student-Defined Semester should submit a formal, written appeal, with appropriate documentation, to the ETC Director. The Director will issue a written decision on the appeal within seven (7) days, or as soon thereafter as practical. The decision of the Director shall be final and not appealable.

## *Graduate Student Appeal and Grievance Procedures*

http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html

Graduate students will find the Summary of Graduate Student Appeal and Grievance Procedures on the Graduate Education Resource webpage. This document summarizes processes available to graduate

students who seek review of academic and non-academic issues. Generally, graduate students are expected to seek informal resolution of all concerns within the applicable department, unit, or program before invoking formal processes. When an informal resolution cannot be reached, however, a graduate student who seeks further review of the matter is to follow the formal procedures outlined on the site. These appeal and grievance procedures shall apply to students in all graduate programs of the University. Students should refer to the department-specific information in this handbook for department and college information about the administration and academic policies of the program. Additionally, students may confer with the graduate student ombudsman, Assistant Vice-Provost Suzie Laurich-McIntyre, on issues of process or other concerns as they navigate conflicts.

## *Publishing Papers*

Although the ETC is more about "making things" than about "publishing papers," for some projects, publication is an appropriate way to share lessons learned with colleagues. Publication can leave an archival record of the project work that can live much longer than the project artifact itself. Since publication is a process where experience matters, ETC students should work closely with their project course instructors when publishing. One model for authorship is that if an individual student takes on the bulk of the work of writing the paper, she or he should be the first author listed. Based on the traditional convention, it is customary for the project course instructor(s) to be listed last (this is sometimes known in academic culture as "senior author"), unless the project course instructor actually writes the paper. Barring unusual circumstances, all other student members on a project should be listed as authors on an ETC produced paper, in alphabetical order, to reflect their contribution to the project. All ETC project teams will be required to write post-mortems as part of their archival materials.

## *Instruction and Communication*

All CMU instruction is offered, and all student assignments are submitted, in English. As such, all ETC students are required to use English in their academic work and meetings in order to most effectively communicate with their teams. See Appendix A for more information on the Intercultural Communication Center (ICC) and language support and cross-cultural training to help all students who are non-native English speakers succeed in their studies.

## *Career Services Code of Ethics*

The ETC provides career service support and professional development advice, but it is ultimately the responsibility of students to apply and interview for opportunities while conducting themselves in a professional manner. This Code of Ethics applies to students searching for employment (internship, co-op and full time) as conducted through the Entertainment Technology Center Career Services and CMU's Career and Professional Development Center. By adhering to this code, students will project a positive image of themselves, their class, the ETC, and CMU.

If students plan to utilize Career Services or any of its resources, follow this code and sign this handbook, indicating an understanding and willingness to abide by its tenets. Due to the potential harm that the violation of this Code of Ethics could cause to other students and important employer relationships, students should understand that violations can result in severe sanctions (e.g., termination of some or all career services, referral to the Director of Career Services or referral to the Director).

**Present qualifications and interests accurately.**
Falsifying data, such as GPA, date of graduation, degrees obtained, institutions attended, prior work experience and eligibility to work in the United States is unethical and is grounds for immediate dismissal with most employing organizations.

**Learn about the employers and their positions.**
Employers expect that candidates will make an effort to learn about their companies. Failure to do so indicates a lack of interest and reflects poorly on the candidate and the school.

**Interview only when genuinely interested in the advertised positions.**
Do not interview for practice; this will cause the recruiter to feel his or her time is being wasted and takes away valuable interview time from fellow students who may have a sincere interest in the organization. If students are concerned about their interviewing skills, mock interviews are available. When signing up to attend an employer sponsored event/information session or Career Services event *it is expected that students will be on time and remain until the conclusion of the event*.

**Participate in the interview.**
Employers take the interview process seriously and expect students to honor their agreement to arrive on time and participate in the interview. Not showing or canceling late (defined as canceling less than 24 hours before an interview, or 72 hours if the interview is scheduled on a Monday) reflects poorly on the candidate and the ETC**.**

**Notify organizations of a student's acceptance or rejection of offers as soon as that decision is made and no later than the deadline prescribed by the employer.**
Candidates should expect offers to be confirmed in writing, and likewise, should notify the company of accepted or rejected offers by telephone first, followed-up with a letter or email. Requests for extensions of decision deadlines should be made as early as possible, not at the last minute.

**Honor an accepted offer as a contractual agreement.**
Upon accepting a position, candidates should withdraw from interviewing and notify Career Services of a decision. Continuing to interview after accepting an offer or reneging on an accepted offer is considered unethical.

**Be fully engaged when attending events such as information sessions, workshops and site visits.**

- RSVPs are required for many events. Students should RSVP through the given website for the events they are attending then honor that RSVP by coming to the event. If students can no long attend the event, they need to cancel their RSVP.
- Be on-time and stay for the duration of the event. If students need to leave early, let the employer or Career Service professional know.
- Turn off cell phones and close laptops.
- Students should give their full attention to the presenter.

# ETC Project and Group Policies

## *Professional Standards*

As a member of the ETC, and as a member of a project group, students should consider themselves a professional representing our department, our school, and themselves. Please behave as a professional, especially when meeting with clients. For client meetings and when making departmental presentations, business casual dress is expected. Students should ask the faculty or Director of Career Services to define business casual if they are unsure what this means. Always remember that punctuality is essential.

## *ETC Project Process*

The central part of the ETC curriculum is the project course. The ETC regularly surveys the student body in order to get regular student input on project interests as related to career goals, to help shape the types of projects offered for the upcoming semesters. Students are asked about their preferred role(s) based on their expertise and experience and the type(s) of project based on interests. The faculty and staff work to offer projects that resonate with the interests expressed through the student surveys. Faculty will work to get students their role on the type of project in which they are interested.

Note: Projects can generate high interest from students for the specific project team roles. As such, student apply with resumes and portfolios to help select well-balanced teams.

## *ETC Project Course Structure*

In the project course students are in small, interdisciplinary teams, creating artifacts under direct faculty supervision. An artifact may be a web site, a piece of software, a piece of hardware, a design document, or a number of other things. Artifacts are typically intended to be working prototypes or playable proofs of concept, not production models. Each project team, working with guidance from their project course instructor(s), must design what they are going to create, the mechanisms by which they will create it, and then actually create it.

ETC Projects occur in 3 ways:

1) Client Sponsored – in which an external group supports a project on which an ETC team will work.
2) ETC Research – in which a faculty member has a research idea on which an ETC team can work.
3) Student Pitch – in which a group of students go through the ETC pitch process and get approved.

The structure of the project course is intended to balance several issues:
1) The creation of an environment where all students can receive individual guidance and feedback on how they are doing, in the context of a group project where the group succeeding is a paramount value.
2) The focus on process (learning how to work effectively), product (successfully creating an artifact/prototype) and production (the team deliverables throughout the semester.)

A Project Course syllabus will be shared with all ETC students during their semesters of study at the ETC. For many students, this kind of project course may be a new experience; so please feel free to ask questions of project course instructor(s), any other ETC faculty members, or the Director at any time. The goal is to help all the ETC students learn how to do this kind of interdisciplinary work effectively and professionally.

**Year-Long Projects**
The ETC often offers year-long projects for students to consider across the fall and spring semesters of the 2nd year of study. This enables larger-scale studio projects that engage professional pipeline strategies from ideation to completion. The ETC faculty works to balance teams across both semesters, as well as for continuity for the project. If a project isn't meeting expectations in the fall semester, it may be decided to not continue it into the spring.

## *Project Purchasing*

ETC projects will periodically need additional software, props, and other material requiring purchase from outside companies ranging from standard retail outlets to online vendors. Still, the presumption is that ETC projects do not have intrinsic budgets, but rather the needs of the project will drive and justify the purchase of goods and services. As a general rule of thumb, requests that are made with reasonable lead time, and requests for equipment that is likely to also be useful in other current or future ETC projects, are mostly likely to be approved.

- NOTE: All purchases are property of the ETC.

A request to purchase goods and/or services for an ETC project should be made directly through the project course instructor(s) of the specified ETC Project. If there is a serious time constraint involved, petition can be made directly to the Director. All purchase requests for ETC project course material must check with the Facilities Coordinator to see if the ETC already has the item(s), and all requests must be authorized by the Director through written confirmation.

If students make a purchase in which tax is added to the overall purchase price, the university will not

reimburse the tax and students will be held accountable for it. Also, purchases made by students that are not approved prior will not be reimbursed, even if a student feels certain that it will be approved after the fact.

Note: Any purchases for ETC elective courses need to be approved in writing by the instructor of record and the Director before any purchases are made.

# ETC Communication Policies

## *Email Policy*

The culture of the ETC relies heavily on email and mailing list communication. Official communications are often made only through email.

**Students are required to check email at least once every 24 hours. 24 hours after an email is sent, students are responsible for having read and understood it (including weekends). Forwarding problems and spam filtering false-positives cannot be used as excuses.**

**Official emails are sent to students CMU (Andrew) email address. If students are using a different email address, they are obligated to either check both accounts, or set up forwarding from their CMU address to that address. For more information on forwarding CMU email, look here:** https://emailtools.cmu.edu/addresses

## *Mailing Lists (dlists)*

There are many mailing lists used by the ETC, including ones for each class of students, faculty and staff, each BVW team, each class taught, and each project. Membership of some lists is mandatory; for others it is optional.

## *Mailboxes (physical)*

Students have individual mailboxes in the fifth floor ETC mailroom for professional use. These mailboxes should not be used for personal mail. Please check mailboxes daily. If students would like to have something mailed or delivered to this address, please be sure to use the complete address: **First Name and Family Name, Entertainment Technology Center, Carnegie Mellon University, 700 Technology Drive, Pittsburgh, Pennsylvania, 15219**. Students should also make sure the Administrative Coordinator has a phone number with which to notify them of incoming Fed Ex, UPS, Priority Mail, or other overnight package deliveries that may be delivered. The department will empty mailboxes at the end of each semester.

## *Telephones (wired)*

There are phones in the conference and interview rooms in the building. To make calls pertaining to ETC projects or business, students can reserve the rooms through email at: etc-reserve@lists.andrew.cmu.edu. Faxes may be made with the Administrative Coordinator. ETC students are encouraged to share cell phone numbers.

# Department Resources

Listed below are the ETC policies on the use and distribution of resources within the department. All of the policies are designed with a few key ideas in mind:

1) The ETC faculty and staff make the decisions on how resources are distributed.
2) Decisions are based around the needs of a project, or in some cases a course, not personal needs.
3) Mutual respect, personal responsibility, teamwork, and effective sharing.

## *Computers*

The computing environment at the ETC is unique and its design is always being re-evaluated based on the needs of the ever-changing industry in which the ETC educates students to thrive.

All of the policies and guidelines set forth by the Computing Services group at Carnegie Mellon apply here at the ETC. In addition to those rules, the ETC has its own policies and guidelines, none of which supersede Computing Services' guidelines. Please refer to the following URL for Computing Services' policies and guidelines: http://www.cmu.edu/computing/guideline/. Students are responsible for following the policies and guidelines of both the ETC and Carnegie Mellon.

Each student will be assigned a computer pre-loaded with all the software needed for the course and project work assigned here. The computer, monitor, keyboard and mouse all belong to the ETC, but will be considered a student's personal space during the duration of their study here, subject to all University policies governing the use of computer equipment. Students should not personalize nor deface the equipment (e.g. adding stickers and carving), if they do they may be fined. Proper use of the desktop computer is the student's responsibility.

ETC students are given Administrator Rights to their computers and are free to install software, or make configuration changes, that they feel are necessary to complete their project and course work . However, because of this privilege, a student also has the ability to "un-do" configurations (such as un-installing programs, disabling the local firewall, or removing the anti-virus application) that can negatively impact the intended function of the computer. As such, the overall security and health of a student's computer ultimately is that student's responsibility. The ETC technical staff is here to help with anything that goes wrong, but the staff can't be held responsible for any problems that may result from the abuse or neglect of the computer.

Support is only provided for computers that the ETC owns and maintains. The ETC cannot provide support for computers that students own, such as personal laptops, even if the student chooses to use it for their coursework or project work here. This includes floating and cloud-based software, such as Adobe CC, as official support is tied to the hardware upon which the supported software runs.

## *Software*

In addition to the software pre-loaded on each student's machine, software is available on the main file server. Most of this software is free and/or open-source and as such, it does not need to be licensed to install and use.

Most of the licensed software is there as well, but is only to be used in cases of re-install or re-configuration, and is not to be installed on machines that the ETC does not own. Sometimes there are upgrades to newer versions of pre-loaded software available, and when deemed necessary, it will be upgraded over the network by the ETC system administrators automatically. In some cases, students may be emailed instructions on how to perform the upgrade with assistance from the ETC technical staff.

## *Printing*

There are several communal, monochrome network printers located throughout the building. In general, use of the printers is for project and academic needs only. Color printing is reserved for official project, class, and internal needs and access for color printing must be requested. As each color printer resides in a staff or faculty office, students must plan ahead for requests, as access will only be granted during normal business hours.

For a list of the shared printers, their locations, capabilities and restrictions, look here:
http://www.etc.cmu.edu/computing/printing/

### *Servers*

There are four types of servers at the ETC:

1) Class I - Production Servers for General Infrastructure
2) Class II - Production Servers for Projects
3) Class III - Non-production Servers for Projects
4) Class IV - Testing Servers

For a list of ETC servers and their services, look here: http://www.etc.cmu.edu/computing/servers/

It's common for a project team to require a server on which to host the deliverable the team is creating, such as a web-based game or dynamical website. If this is required, student teams should consult with their project course instructor(s) and, if approved, then contact the IT department to request the server: etc-support@lists.andrew.cmu.edu

A virtual server, either GNU/Linux or Windows, can be provisioned and control of it can be delegated to a designated member of the project team. The server will be maintained for the duration of the project, after which time it will be decommissioned and archived.

The main thing to note with the use of ETC servers is that they are solely for ETC class and project use. Personal use of ETC servers, services, or storage is not permitted. This includes storing personal files on ETC servers.

### *ETC Equipment and Resources*

The ETC has a wide variety of items that can be signed out to students, faculty and staff for periods of time ranging from brief to semester-long. Currently there are two main Checkout Systems.

**Library Checkout System**

This checkout system is self-governed as there is no "librarian" to facilitate the lending process. Instead, there is a laptop with a bar-code scanner that displays the ETC Library Checkout System website. From there, students can choose a book and sign it out by following the posted instructions. Students are on their honor to properly sign an item out before taking it from the library. To see the listing of books and DVDs, look here: http://checkout.etc.cmu.edu/library/

**Equipment and Media Checkout System**

This checkout system is managed by several of the ETC staff members. The physical location of items is listed in the detail view on the Equipment Checkout System webpage, which is here: http://checkout.etc.cmu.edu

To sign out an item, go to the listed location and ask for it from the staff member there. Students must return the item, in person, to the same location as where they signed it out originally. Students cannot leave it in front of the staff member's door or give it to someone else. Until students see the item's manager sign the item back in upon returning it, they are responsible for it. Please read carefully the full list of rules and policies regarding equipment and media loaning here: http://checkout.etc.cmu.edu/policy/

## ETC Facility Policies

### *Facility Hours*

The ETC is open to ETC students, staff and faculty 24 hours a day, with brief exceptions surrounding some holidays. Signs will be posted, and email will be sent, in advance of any such closings.

## *PTC Shuttle*

The PTC Shuttle operates daily, and departs from CMU campus on the 3/4 of the hour, and departs from the ETC on the 1/4 of the hour. For a full schedule and more information, visit: http://www.cmu.edu/police/shuttleandescort/

## *Facility rooms*

Trash and recyclables are to be thrown out in the proper receptacles. There are two types of recycling receptacles; for paper, and for aluminum, glass and plastic. CMU is a green university and the ETC wants to keep it that way and, in fact, make it better. Recycling is taken very seriously. Recycling, though, takes effort and individual responsibility. Everyone in the ETC needs to police this policy. If students see the need for a recycling container in a designated ETC areas please let the staff know.

No personal items are to be kept beside computers or on tables in the fifth floor computer lab. Students are not allowed to attempt to “establish ownership” of the public terminals or work areas. Personal items must be kept in a project room or a locker, or they may get thrown out.

There are public refrigerators in the kitchen area on each floor and in the Student Break Room on the fifth floor. Students are responsible for helping keep the kitchen areas clean.

No ETC room is to be used by any person or group not affiliated with the ETC unless the Director approves such use in advance.

## *Keys*

The Administrative Coordinator will assign keys. Every student will receive the general ETC key, and project room keys will be assigned by semester according to need. Keys must be signed out and in, and loss of a key will result in a $30 charge placed against the student's account. If the general key is lost and the entire space must be re-keyed, the ETC reserves the right to charge the student for the modifications. The ETC is not responsible for the loss of anything of value that may be left unattended in the project rooms or lockers. However, students should consider using lockers and locking their project rooms, as this will ensure a little extra security measure on their part.

All common ETC areas (the mailroom, library, lounge, etc.) have combination locks and security cameras. The combinations will be changed regularly for security of these areas.

## *Meeting Rooms*

Students need to reserve meetings rooms in advance in order to use them. The Third and Second Floor Conference Rooms and Interview Rooms need to be reserved through email at: etc-reserve@lists.andrew.cmu.edu.

## *Project Rooms*

Each project group will be assigned a project room. The Facilities Coordinator will give teams proper hanging supplies for walls and doors; do not use tape or tacks. No permanent changes may be made to the space however without the permission of the Director. At the end of the semester, students are responsible for cleaning out their rooms before they leave. If a room is damaged, each team member will have a $50 charge placed on their student's account. To help reduce the potential for damage, the rooms are set up in advance for the teams.

In some rooms there is equipment set up by the department that runs various kiosks and other devices that are visible from the hallway. Under no circumstances are students to tamper with the equipment, unplug it or any of its peripherals, or borrow any of its cables. If students need those items, they need to request them from the IT department: etc-support@lists.andrew.cmu.edu.

### *Etiquette for Facilities Rooms and Project Rooms*

Basic etiquette and mutual respect apply, but there is one special note to be made with regards to noise in shared rooms. Computer speakers are not distributed with student workstations. In a shared space, students must respect others by not playing audio out loud. Students will often need to listen to audio to do their work, but when doing so they must use headphones.

The ETC doesn't stock headphones for general use because of hygiene. Therefore, students are responsible for bringing in their own headphones.

This policy is strictly applied in the Bullpen and Dugout. It is viewed as a guideline for project rooms as each project team can decide how they want to deal with audio for themselves. However, desktop speakers and headphones are still not provided in these cases.

## "Grandfather" Policy

When polices are changed it is because the department believes the new rules offer an improvement; any such changes will be discussed at a meeting with ETC students. However, currently enrolled students whose degree program is affected by a change in policy may choose to be governed by the older policy that was in place at the time of their matriculation. In case degree requirements are changed and certain courses are no longer offered, the department will try to find some compromise that allows students to satisfy the original requirements.

## University Policies and Expectations

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

- The Word/Student Handbook: http://www.cmu.edu/student-affairs/theword/
- Academic Integrity Website: http://www.cmu.edu/academic-integrity/
- University Policies Website: http://www.cmu.edu/policies/
- Graduate Education Website: http://www.cmu.edu/graduate/policies/
- Official Course Enrollment: https://www.cmu.edu/hub/alerts/archive/fall-2013/verification.html

Please see Appendix A for additional information about The Word and University resources.

## Carnegie Mellon University Statement of Assurance

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

Inquiries concerning the application of and compliance with this statement should be directed to the vice president for campus affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2056.

Obtain general information about Carnegie Mellon University by calling 412-268-2000.

The Statement of Assurance can also be found on-line at:
http://www.cmu.edu/policies/documents/SoA.html

## *Additional Department and University Policies/Protocols*

### *Assistance for Individuals with Disabilities*

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical and programmatic campus access to all events and information within the Carnegie Mellon community. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Sections 503 and 504 of the Rehabilitation Act of 1973. Students who would like to receive accommodations must submit a Voluntary Disclosure of Disability Form (http://www.cmu.edu/hr/eos/forms/voluntary-disclosure-of-disability.pdf) to access@andrew.cmu.edu to begin the interactive accommodation process.
For more information please see http://www.cmu.edu/hr/eos/disability/index.html. Students with disabilities are encouraged to self-identify with Equal Opportunity Services by contacting Larry Powell, 412-268-2013, lpowell@andrew.cmu.edu to access the services available at the university and initiate a request for accommodations.

### *Safeguarding Educational Equity Policy Against Sexual Harassment and Sexual Assault*

Sexual harassment and sexual assault are prohibited by CMU, as is retaliation for having brought forward a concern or allegation in good faith. The policy can be viewed in its entirety at: http://www.cmu.edu/policies/documents/SA_SH.htm. If you believe you have been the victim of sexual harassment or sexual assault, you are encouraged to make contact with any of the following resources:

- Sexual Harassment Advisors, found in appendix A of the Policy Against Sexual Harassment and Sexual Assault;
- Survivor Support Network, found in appendix B of the Policy Against Sexual Harassment and Sexual Assault;
- Sexual Harassment Process and Title IX Coordinators, found in section II of the Policy Against Sexual Harassment and Sexual Assault;
- University Police, 412-268-2323
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

### *Maternity Accommodation Protocol*

Students whose anticipated delivery date is during the course of the semester may consider taking time away from their coursework and/or research responsibilities. All female students who give birth to a child while engaged in coursework or research are eligible to take either a short-term absence or formal leave of absence. Students in course work should consider either working with their course instructor to receive incomplete grades, or elect to drop to part-time status or to take a semester leave of absence. Students engaged in research must work with their faculty to develop plans for the research for the time they are away.

Students are encouraged to consult with relevant university faculty and staff as soon as possible as they begin making plans regarding time away. Students must contact the Office of the Dean of Student Affairs to register for Maternity Accommodations. Students will complete an information form and meet with a member of the Dean's Office staff to determine resources and procedures appropriate for the individual student. Planning for the student's discussion with her academic contact(s) (advisor, associate dean, etc.) will be reviewed during this meeting.

# Appendix A

**Highlighted University Resources for Graduate Students and The WORD, Student Handbook**

**Key Offices for Graduate Student Support**

**Office of the Assistant Vice Provost for Graduate Education**

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

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

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

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

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

- Conference Funding Grants
- Graduate Small Project Help (GuSH) Research Funding
- Graduate Student Professional Development: seminars, workshops and resources
- Graduate Women Gatherings (GWG)
- Inter-university Graduate Students of Color Series (SOC)

**Office of the Dean of Student Affairs**

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

The Office of the Dean provides central leadership of the metacurricular experience at Carnegie Mellon. The offices that fall under the division of Student Affairs led by Dean of Student Affairs Gina Casalegno, include:

Career and Professional Development Center
Counseling & Psychological Services (CAPS)
Housing & Dining Services
Orientation & First Year Programs (note: for undergraduate students)
Office of International Education (OIE)
Student Activities
Student Life

Graduate students will find the enrollment information for Domestic Partner Registration and Maternity Accommodations in the Office of the Dean of Student Affairs and on the website. The Office of the Dean

of Student Affairs also manages the Emergency Student Loan (ESLs) process. The Emergency Student Loan service is made available through the generous gifts of alumni and friends of the university. The Emergency Student Loan is an interest-free, emergency-based loan repayable within 30 days. Loans are available to enrolled students for academic supplies, medication, food or other expenses not able to be met due to unforeseeable circumstances. The Office of the Dean of Student Affairs also provides consultation, support, resources and follow-up on questions and issues of Academic Integrity: www.cmu.edu/academic-integrity.

**Assistance for Individuals with Disabilities**
Students with disabilities are encouraged to self-identify with Equal Opportunity Services by contacting Larry Powell, 412-268-2013, lpowell@andrew.cmu.edu to access the services available at the university and initiate a request for accommodations.

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

**Carnegie Mellon Ethics Hotline**
The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to financial matters, academic and student life, human relations, health and campus safety or research.

Students, faculty and staff can anonymously file a report by calling 877-700-7050 or visiting www.reportit.net (user name: tartans; password: plaid). All submissions will be reported to appropriate university personnel.
**The hotline is NOT an emergency service. For emergencies, call University Police at 412-268-2323.**

**Graduate Student Assembly**
www.cmu.edu/stugov/gsa/index.html
The Carnegie Mellon Student Government consists of an Executive Branch and a Legislative Branch. This is the core of traditional student government, as governed by the Student Body Constitution. The Executive Branch serves the entire student body, graduate and undergraduate, and consists of one president and four vice-presidents. The Legislative Branch for graduate students, The Graduate Student Assembly (GSA) passes legislation, allocates student activities funding, advocates for legislative action in locally and in Washington D.C. on behalf of graduate student issues and needs, and otherwise acts on behalf of all graduate student interests. GSA also contributes a significant amount of funding for conferences and research, available to graduate students through application processes. GSA also plans various social opportunities for graduate students and maintains a website of graduate student resources on and off-campus, www.cmu.edu/stugov/gsa/resources/index.html. Each department has representation on GSA and receives funding directly from GSA's use of the student activities fee for departmental activities for graduate students. The department rep(s) is the main avenue of graduate student representation of and information back to the graduate students in the department.

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

**Office of International Education (OIE)**
www.studentaffairs.cmu.edu/oie/
Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. Office of International Education (OIE) is the liaison to the University for all non-immigrant students and scholars. OIE provides many services including: advising on personal, immigration, academic, social and acculturation issues; presenting programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; supporting international and cultural student groups such as the International Student Union and the International Spouses and Partners Organization; maintaining a resource library that includes information on cultural adjustment, international education and statistics on international students in the United States; posting pertinent information to students through email and the OIE website, and conducting orientation programs.

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

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

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

**Office of Research Integrity & Compliance**
www.cmu.edu/research-compliance/index.html
The Office of Research Integrity & Compliance (ORIC) is designed to support research at Carnegie Mellon University. The staff work with researchers to ensure research is conducted with integrity and in accordance with federal and Pennsylvania regulation. ORIC assists researchers with human subject research, conflicts of interest, responsible conduct of research, export controls, intellectual property rights

and regulations, and institutional animal care & use. ORIC also consults on, advises about and handles allegations of research misconduct.

**Key Offices for Health, Wellness & Safety**

**Counseling & Psychological Services**

www.studentaffairs.cmu.edu/counseling

Counseling & Psychological Services (CAPS) affords the opportunity for students to talk privately about issues that are significant for them in a safe, confidential setting. Students sometimes feel confused about why they are feeling upset and perhaps confused about how to deal with it. An initial consultation with a CAPS therapist will clarify options and provide a recommendation to the appropriate mental health resource at Carnegie Mellon or the larger Pittsburgh community. CAPS services are provided at no cost. Appointments can be made in person or by telephone, 412-268-2922.

**Health Services**

www.cmu.edu/HealthServices/

University Health Services (UHS) is staffed by physicians, advanced practice clinicians and registered nurses who provide general medical care, allergy injections, first aid, gynecological care and contraception as well as on-site pharmaceuticals. The CMU student insurance plan covers most visit fees to see the physicians and advanced practice clinicians & nurse visits. Fees for prescription medications, laboratory tests, diagnostic procedures and referral to the emergency room or specialists are the student's responsibility and students should review the UHS website and their insurance plan for detailed information about fees. UHS also has a registered dietician and health promotion specialists on staff to assist students in addressing nutrition, drug and alcohol and other healthy lifestyle issues. In addition to providing direct health care, UHS administers the Student Health Insurance Program. The Student Health Insurance plan offers a high level of coverage in a wide network of health care providers and hospitals. Graduate students should contact UHS to discuss options for health insurance for spouses, domestic partners and dependents. Appointments can be made by visiting UHS's website or by telephone, 412-268-2157.

**University Police**

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

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

The University Police Department is located at 300 South Craig Street, Room 199 (entrance is on Filmore Street). The department's services include police patrols and call response, criminal investigations, shuttle and escort services, fixed officer and foot officer patrols, event security, and crime prevention and education programming. Visit the department's website for additional information about the staff, escort and shuttle, emergency phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

Shuttle and Escort Services

University Police coordinates the Shuttle Service and Escort Service provided for CMU students, faculty, and community. Full information about these services, stops, routes, tracking and schedules can be found online at: http://www.cmu.edu/police/shuttleandescort/

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

**The WORD**

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

The WORD is Carnegie Mellon University's student on-line handbook and is considered a supplement to the department (and sometimes college) handbook. The WORD contains campus resources and opportunities, academic policy information and resources, community standards information and resources. It is designed to provide all students with the tools, guidance, and insights to help you achieve your full potential as a member of the Carnegie Mellon community. Information about the following is included in The WORD (not an exhaustive list) and graduate students are encouraged to bookmark this site and refer to it often. University policies can also be found in full text at: http://www.cmu.edu/policies/.

- Carnegie Mellon Vision, Mission
- Carnegie Code
- Academic Standards, Policies and Procedures
  - Educational Goals
  - Academic and Individual Freedom
  - Statement on Academic Integrity
  - Standards for Academic & Creative Life
    - Assistance for Individuals with Disabilities
    - Master's Student Statute of Limitations
    - Conduct of Classes
    - Copyright Policy
    - Cross-college & University Registration
    - Doctoral Student Status Policy
    - Evaluation & Certification of English Fluency for Instructors
    - Final Exams for Graduate Courses
    - Grading Policies
    - Intellectual Property Policy
    - Privacy Rights of Students
    - Research
      - Human Subjects in Research
      - Office of Research Integrity & Compliance
      - Office of Sponsored Programs
      - Policy for Handling Alleged Misconduct of Research
      - Policy on Restricted Research
    - Student's Rights
    - Tax Status of Graduate Student Awards

- Campus Resources & Opportunities
  - Alumni Relations
  - Assistance for Individuals with Disabilities
  - Athletics, Physical Fitness & Recreation
  - Carnegie Mellon ID Cards and Services
  - Cohon University Center
  - Copying, Printing & Mailing
  - Division of Student Affairs
  - Domestic Partner Registration
  - Emergency Student Loan Program
  - Gender Programs & Resources
  - Health Services
  - Dining Services
  - The HUB Student Services Center
  - ID Card Services
  - Leonard Gelfand Center
  - LGBTQ Resources

- Multicultural and Diversity Initiatives
- Opportunities for Involvement
- Parking and Transportation Services
- SafeWalk
- Survivor Support Network
- Shuttle and Escort Services
- Spiritual Development
- University Police
- Student Activities
- University Stores

Community Standards, Policies and Procedures

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

## Student Acknowledgement

The ETC Student Handbook has been prepared for your information and understanding of the policies, philosophies and practices of the Entertainment Technology Center at Carnegie Mellon University. Please read it carefully. Upon completion of your review of the handbook, sign the statement below, and return it to the Director by the due date. A copy of this acknowledgment appears at the back of the handbook for your records.

By signing, you are stating that you have read a copy of the ETC Student Handbook and that you acknowledge, understand, accept, and agree to comply with the information and guidelines contained therein, including the Career Services Code of Ethics, and all references to external information (i.e. links to webpages with additional information).

You understand this handbook is not intended to cover every situation that may arise during your course of study, but is simply a general guide to the goals, policies, practices, and expectations of the ETC. You understand that the ETC Student Handbook is not a contract and should not be deemed as such.

_____ _____

(Student Signature) (Date)

_____

(Printed Name)

Please return by: The Friday of the First Week of School.

Entertainment Technology Center
Carnegie Mellon University
700 Pittsburgh Technology Center
Pittsburgh, Pennsylvania 15219
(412) 268-5791
Fax: (412) 268-4988
etc.cmu.edu

# Master of Entertainment Industry Management Program

Carnegie Mellon University

## 2017.2018 Student Handbook

*Revised March 1, 2018*

Daniel T. Green, Program Director
Dan J. Martin, Faculty Chair

**College of Fine Arts**
Dan J. Martin, Dean
Eric Anderson, Associate Dean
Franco Sciannameo, Associate Dean
Patricia Pavlus, Assistant Dean
Elizabeth Fox, Assistant Dean

**H. John Heinz III College**
Ramayya Krishnan, Dean
Andy Wasser, Associate Dean
Jackie Speedy, Associate Dean
Kathryn Heidemann, Assistant Dean

**MEIM – Pittsburgh (Year One)**
Hamburg Hall 1119E, 4800 Forbes Ave. Pittsburgh, PA 15213 412.268.6706
**MEIM - Los Angeles (Year Two)**
4640 Lankershim Blvd. Suite 125 * North Hollywood, CA 91602 818.980.6346
Program Website: http://www.heinz.cmu.edu/school-of-public-policy-management/entertainment-industry-management-meim/index.aspx
Handbook Website: http://www.heinz.cmu.edu/academic-resources/student-handbook-forms/index.aspx

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## 1. INTRODUCTION

This handbook provides specific information on the curriculum and program requirements for the Master of Entertainment Industry Management (MEIM) Program. Heinz College also publishes a separate handbook that details College-wide policies and procedures pertaining to educational planning, program committee, teaching, scheduling and course credit, performance standards, academic standing, ethics and discipline, student privacy rights and major forms and deadlines. Students should familiarize themselves with both, as each contains information that is critical for your success. These handbooks can be obtained through your program director and via the Heinz College website at:

http://www.heinz.cmu.edu/academic-resources/student-handbook-forms/index.aspx

### 1.1 ABOUT HEINZ COLLEGE

The Heinz College was founded in 1968 by a small group of faculty members from the Graduate School of Industrial Administration (now the Tepper School of Business) to better prepare students for the challenges of public and non-profit sector management careers. Originally named the School of Urban and Public Affairs (SUPA), the College offered training in public policy and management through the Master of Science in Public Policy and Management (MSPPM) program. In 1982, the Master of Public Management (MPM) program was added to the College, and in 1987, the Master of Arts Management (MAM) program was created in collaboration with the College of Fine Arts. In the mid-1990's, the College added programs in information systems management to prepare students for private sector careers that bridge the gap between technology and business (MISM and MSISPM). The focus of these programs is on the intelligent application of IT in corporate environments. During the 2000's the program in Entertainment Industry Management was added, as was the MSPPM-DC track.

Over 10,000 students have graduated from the Heinz College and are employed by government, private industry, consulting firms and non-profit, arts, entertainment, and health organizations around the world. Most students in our full-time master's programs come to the Heinz College with three years or less work experience. Students in the part-time programs typically hold full-time professional positions and have 2 or more years of work experience.

In October 2008, the Heinz School became the H. John Heinz III College with two schools: the School of Information Systems and Management and the School of Public Policy and Management. These two schools serve as the platform for our educational programs listed below.

## 1.2 MEIM MISSION STATEMENT

The mission of the Master of Entertainment Industry Management (MEIM) Program is to prepare the next generation of successful executives and entrepreneurs for leadership in Film, TV, Music, & Video Game Production, Marketing and Content Distribution across all entertainment media platforms and screens.

The MEIM program instills critical thinking skills, encourages professionalism, integrity, and business ethics; and promotes career development skills to benefit graduates throughout their career. Based on Heinz College's world-class policy and management curriculum, the MEIM program balances a well-designed, rigorous graduate academic experience with practical professional skills acquired through internships with leading industry companies. The MEIM program seeks to create a diverse, global community that includes students, alumni, faculty and the media/entertainment professional community to collectively address the direction of the industry, and to promote positive and effective change through applied research and business strategies.

Students in the MEIM Program learn to:

- Understand and employ the theoretical foundations of entertainment industry management;
- Apply effective leadership tools, skills and techniques;
- Investigate and expand the field through theoretical and applied research;
- Function effectively in collaborative, team and project-based environments; and
- Operate efficiently in a connected, networked professional setting.

The MEIM Program supports its students through:

- Individual attention to the needs and aspirations of all students;
- A culture that values cooperation, collaboration, professionalism and personal responsibility, and
- An academic community that values diversity, promotes creative thinking, and encourages ethical behavior.

## 2. SUMMARY OF KEY REQUIREMENTS

1) Familiarize yourself with the MEIM Handbook to ensure that you comply with all program requirements. **If you do not meet all of the requirements for graduation, you will not be permitted to graduate.** You must submit requests for waivers of requirements or approval of special academic programs in advance.
2) To graduate, you *must* complete 198 units of coursework with at least a 3.0 cumulative Grade Point Average. You must successfully complete all first-year course work in Pittsburgh prior to commencing the second year of the program in Los Angeles.
3) Your faculty advisor (Program Director) must approve your initial schedule and all schedule changes.
4) For each semester except your last, you must take between 45 and 60 units. In your final semester, you must take at least 36 units. This means that you will have to take at least five elective credits during the final semester in order to reach 36 units and be considered full-time. If you want to take more or less than the suggested number of credits, you must submit a petition to the Director of the MEIM Program **in advance**.
5) Students can change their schedules -- once they have met with their advisor -- using Carnegie Mellon's Online Registration, up until the official Add/Drop deadline for the semester or mini.
6) You are permitted to take up to 12 units of Independent Study, but you must submit a petition to the Director of the MEIM Program for permission to take additional units.
7) If extenuating circumstances beyond your control prevent you from completing all requirements for a course by the end of a semester, you may ask the instructor for permission to take an incomplete and to make-up the work. If the instructor agrees (and s/he may refuse), you must sign a formal contract. You must sign the contract before the end of the semester, and you must complete the work by the end of the following semester. Instructors will impose grade penalties for incompletes, except when they are due to serious illness or other unavoidable circumstances.
8) It is your obligation to understand and comply with the rules of academic conduct at Heinz College. Penalties for breach of these standards can range from failure of the course to expulsion from the College. Be sure that you know each instructor's rules regarding permissible collaboration on assignments.
9) Unless there are extenuating circumstances, you must complete an internship (of 300 hours) between your first and second years in the program. You also have a 300-hour internship requirement during the fall and spring semesters of the second year of the program. The MEIM Program Director must approve this internship in advance.
10) A leave of absence must be requested in advance if you intend to be away from College for an extended period of time. Any student who interrupts his or her program of study without such approval will be deemed to have withdrawn and will be required to seek readmission before returning.

## 2.1 MEIM RESOURCES

There are several people who will be a part of your journey as a MEIM student. What follows are the key personnel who you will support you throughout your two years in the program. A * denotes Los Angeles based.

| Name | Title | Email |
|---|---|---|
| Eber, David | Director, Admissions & Financial Aid | deber@andrew.cmu.edu |
| Green, Daniel* | Director, MEIM Program/ Academic Advisor Year One and Two | dtgreen@andrew.cmu.edu |
| Heidemann, Kathryn | Assistant Dean, Heinz College/ College of Fine Arts | heidemann@cmu.edu |
| Krishnan, Ramayya | Dean, H. John Heinz III College | rk2x@andrew.cmu.edu |
| Martin, Dan J. | Dean, College of Fine Arts/ MEIM Program Chair | djmartin@cmu.edu |
| May, Maureen | Associate Director, Career Services | mm@andrew.cmu.edu |
| Peyser, Brenda | First Year Academic Advisor | peyser@andrew.cmu.edu |
| Reilly, Ross | MEIM Coordinator (Pitts): Year One | rossreilly@cmu.edu |
| Ryan, Mary* | MEIM Senior Academic Coordinator | maryryan@andrew.cmu.edu |
| Tarnoff, John* | Head of Industry Relations, MEIM | jtarnoff@andrew.cmu.edu |

## 3. EDUCATIONAL PLANNING

### 3.1 ADVISORS

During your first year in Pittsburgh, you will have access to two advisors. One advisor will be the MEIM program director. You will also be assigned a first-year advisor (located in Pittsburgh) to help with day-to-day advisement. Your advisors can help you in selecting courses and working through academic problems. You should plan to meet with your advisor each semester, but feel free to call upon your advisor or program director at any time. It is your responsibility to obtain approval and communicate schedule and class changes to the program director as well the assigned advisor. In the second year of the program, the program director will act as your sole academic advisor.

### 3.2 STUDENT RESPONSIBILITIES

The College's faculty and staff will try to help you in every way possible to successfully complete your program. However, it is ultimately your responsibility to ensure that you meet all of your program's requirements.

### 3.3 CHANGES TO REQUIREMENTS

This handbook is intended to summarize the policies of the MEIM curricular requirements. These policies and requirements may change. The College will make a serious effort to see that all students are informed of any relevant changes in policy or operations. In general, when such revisions and additions increase requirements, only the next entering class will be bound by such revisions unless specifically communicated to the student.

## 4. CURRICULUM

The MEIM Program is to be completed in two academic years of full-time study – one year in Pittsburgh and one year in Los Angeles. You must successfully complete all first-year course work in Pittsburgh prior to commencing the second year of the program in Los Angeles. The MEIM curriculum is structured with a set of Common Core courses and electives. In order to successfully complete the MEIM Program, you must complete the following:

- 198 units of course credit;
- passing grades in all Core courses (unless you exempt them);
- approved electives;
- successful completion of the Capstone project; and
- all other standards for graduation, including meeting minimum grade point averages and completing the required practicum assignments (internships) in good standing.

### 4.1 COURSE LOADS

A full semester course carries 12 units of credit and is generally expected to require an average of 12 hours per week of time, including time spent in and out of the classroom. "Mini" courses are those that are half a semester in length; they generally carry 6 units of credit, and also require approximately 12 hours per week of time. At times, there may be a 3-unit elective "mini" course offered. These classes are set up to expose the student to a specific area or distinct subject matter in the entertainment industry.

You will need a minimum number of 54 units during each of the first two semesters in Pittsburgh. You will need approval from the program director for a course load that exceeds 60 units, but students are heavily discouraged from taking more than 60 units per semester. Individual circumstances may dictate a heavier or lighter course load in a given semester.

**First Year - Pittsburgh**

| Fall Semester | Spring Semester |
|---|---|
| • 48 Units Core<br>• 06 Units - Electives<br>• 54 Units minimum needed<br>• Can take up to 6o units without approval | • 30 units Core<br>• 24 Units – Electives<br>• 54 Units minimum needed<br>• Can take up to 6o units without approval |

**Second Year - Los Angeles**

| Fall Semester | Spring Semester |
|---|---|
| • 43 Units Core<br>• Electives (Can take up to 13 units) | • 31 Units Core<br>• Electives (Can take up to 18 units)<br>• You will need at least 5 elective units to get to 36 units to be full-time status<br>• Entire Year 2 = Need 90 units minimum |

158 Core + 40 Electives = 198 Minimum Units to graduate

## 5. CORE (REQUIRED) COURSES

| | | |
|---|---|---|
| *MEIM-Specific Core Courses:* | | |
| 93.751 | Entertainment Economics | 6 units |
| 93.851 | Film Economics, Marketing & Distribution | 12 units |
| 93.852 | Production Management | 6 units |
| 93.853 | Digital Content Distribution | 6 units |
| 93.855 | Intellectual Property Rights Issues | 6 units |
| 93.856 | Business Development | 6 units |
| 93.858 | Market Research in Entertainment | 3 units |
| 93.861 | Script/Story Analysis | 6 units |
| 93.869 | Television Economics | 6 units |
| 93.871 | Television Business & Legal Affairs | 9 units |
| 93.876 | Television Marketing & Advertising | 6 units |
| 93.887 | Practicum I | 1 unit |
| 93.888 | Practicum II | 1 unit |
| 93.889 | Capstone Management Project I | 3 units |
| 93.890 | Capstone Management Project II | 9 units |
| 94.900 | Practicum (Summer) | 0 units |
| | | *86 units sub total* |
| *Heinz College Courses:* | | |
| 90.710 | Applied Economic Analysis | 12 units |
| 90.707 | Statistical Reasoning/90.711 Statistical Reasoning w/R | 12 units |
| 90.718 | Strategic Presentation Skills | 6 units |
| 94.700 | Organizational Design and Implementation | 6 units |
| 94.701 | Business English or (94.702) Strategic Writing Skills | 6 units |
| 94.707 | Principles of Marketing | 6 units |
| 94.800 | Negotiation | 6 units |
| 90.723 | Financial Statement and Analysis of Companies | 6 units |
| 95.716 | Principles of Finance OR 90.725 Management Accounting | 6 units |
| 90.XXX | An IT elective from a list to be provided | 6 units |
| | | 72 units sub total |
| | | 158 units of Core Classes |

## 6. ELECTIVES

Below are courses MEIM students have taken as electives. Not every course will be available each semester and the semester listed may change from year to year. For a complete list of electives, please consult either the Heinz College Fall and Spring schedules of courses or the individual department catalogue:
http://www.heinz.cmu.edu/academic-resources/course-schedules/index.aspx

Pittsburgh Elective (Sample List)

| Course Number | Title | Units | Semester offered | Pre-req class |
|---|---|---|---|---|
| ***IT Electives (you need 6 units total)*** | | | | |
| 90-728 | Introduction to Database Management | 6 | F | |
| 90-782 | Multimedia | 12 | F,S | |
| 90-801 | Desktop Publishing | 6 | F, S | |
| 90-812 | Introduction to Python | 6 | F | |
| 91-729 | Business Analytics for Managers | 6 | S | 90-711 & 90-728 |
| 94-806 | Privacy in the Digital Age | 6 | F | |
| 94-823 | Measuring Social | 6 | F, S | |
| 94-832 | Business Intelligence & Data Mining SAS | 6 | F, S | 90-728 |
| 95-723 | Managing Disruptive Technologies | 6 | S | 90-710 |
| 95-819 | Measuring Causal Effects in On-line Platforms | 6 | S | 90-711 & 94-842 |
| 95-868 | Exploring and Visualizing Data | 6 | S | 90-711 |
| ***Marketing Electives*** | | | | |
| 95-732 | Marketing Digital Media | 6 | S | |
| 95-873 | Digital Marketing Analytics | 6 | S | 90-707 or 90-711 |
| ***Management Electives*** | | | | |
| 91-809 | Organizational Change | 6 | S | |
| 91-869 | Conflict Resolution | 6 | S | |
| 94-801 | Acting for Management | 6 | F, S | |
| 94-810 | Supply Chain Management | 6 | F, S | |
| 94-811 | Strategy Development | 6 | F, S | |
| 94-813 | Project Management | 6 | F, S | |
| 94-814 | Evidence Based Management | 6 | F, S | |
| 94-828 | Survey Design | 6 | F, S | |
| 94-821 | Diversity Management & Intergroup Leadership | 6 | S | |
| 94-830 | Analysis of Survey Data | 6 | S | |
| 94-854 | Developing as a Leader | 6 | F, S | |

| | | | | |
|---|---|---|---|---|
| ***Decision Analysis and Modeling*** | | | | |
| 90-722 | Management Science I | 6 | S | |
| 90-760 | Management Science II | 6 | S | |
| 94-834 | Econometrics I & II | 6 & 6 | F & S | 90-711 |
| ***Entertainment Electives*** | | | | |
| 53-471 | Game Design Prototyping | 12 | S | ETC class |
| 53-871 | Roleplaying Workshop | 9 | S | ETC class |
| 53-872 | Storytelling in Entertainment Technology | 9 | S | ETC class |
| 54-701 | Grad Screenwriting class (non-majors) | 9 | | Drama |
| 54-707 | Advanced Grad Screenwriting class (non-majors) | 9 | S | Drama |
| 54-727 | How to Write a Shakespeare Play | 9 | F | Drama |
| 54-793 | Intro to Writing for TV | 9 | F | Drama |
| 54-796 | Graduate Writing the Musical Book | 9 | F | Drama |
| 93-769 | Films of the Coen Brothers | 6 | F | Heinz |
| 93-837 | Artist Development in the Music Industry | 6 & 6 | F | Heinz |

Los Angeles Electives

| | | | | |
|---|---|---|---|---|
| ***Entertainment Electives*** | | | | |
| 93.854 | Film Acquisition | 6 | S | Heinz/CFA |
| 93.857 | The Business of Gaming | 4 | F | Heinz/CFA |
| 93.859 | Music in Media | 3 | S | Heinz/CFA |
| 93.860 | Economy of a Record Label | 3 | F | Heinz/CFA |
| 93.862 | Digital Strategy | 3 | F | D Heinz/CFA |
| 93.865 | The Future of the Industry | 3 | S | Heinz/CFA |
| 93.866 | Creative Producing | 9 | S | Heinz/CFA |
| 93.868 | Entertainment Ethics | 9 | F | Heinz/CFA |
| 93.873 | Film Exhibition | 3 | S | Heinz/CFA |
| 93.878 | Branded Entertainment | 3 | S | Heinz/CFA |
| 93.879 | Navigating…Realities of the Film Industry | 3 | F | Heinz/CFA |

## 7. RECOMMENDED SCHEDULE OF COURSES

The following schedule of courses, recommended by the MEIM Program, meets the *minimum* unit requirements for graduation (198 units).

**MEIM Course Schedule for the Class of 2019**
Year 1 Fall: 48 Core (06 electives) = 54 minimum
Year 1 Spring: 30 Core (24 electives) = 54 minimum
*Year 1 = 108 units minimum (at least 6 IT)*

**Summer between year one & two:**
Need to complete Summer Practicum (0 units)

Year 2 Fall: 43 Core (up to 13 electives)
Year 2 Spring: 31 Core (up to 18 electives)
*Year 2 = 90 units minimum, unless more in year one*

**158 Core + 40 Electives =**
**198 Units Total to graduate**

NOTE: Core courses must be taken according to the schedule below, unless you obtain permission from the MEIM Program Director to defer required courses or you exempt the class. If you exempt a first-year required course, contact your advisor about appropriate electives or other core courses you might take, either at Heinz, Tepper or another School at the University. Please note that you must successfully complete all first-year classes (in Pittsburgh) before commencing the second year of the program (in Los Angeles).

### 7.1 FIRST YEAR (PITTSBURGH)

**Fall Semester 2017** **Spring Semester 2018**

| Course Number | Course Name | Units | Course Number | Course Name | Units |
|---|---|---|---|---|---|
| 90.710 | Applied Economic Analysis | 12 | 90.718 | Strategic Presentation | 6 |
| 90.711* | Stats 90.707 Intro/90.777 Intermediate | 12 | 90.723 | Finance Statements Analy. of Comp. | 6 |
| 93.861 | Script & Story Analysis | 6 | 95.716 | Princ of Finance/Mgt. Acct./90.725 | 6 |
| 94.700 | Org Design & Implement. | 6 | 93.751 | Entertainment Economics | 6 |
| 93.717 | Writing: or (93.701) Bus English | 6 | 94.800 | Negotiation | 6 |
| 94.707 | Principles of Marketing | 6 | xx.xxx | IT Elective if not in falll | 6 |
| xx.xxx | IT Elective from list TBD** | 6 | xx.xxx | Electives | 18 |
| | **Sample IT Elective List** | 48 Core | | | 30 Core |
| | (other IT classes available) | 06 electives | | | 24 |
| 90.782 | Multimedia (12) | 54 total | | | Electives |
| 90.728 | Database Management (6) | (Need 6 IT | | | 54 total |
| 90.801 | Desktop Publishing (6) | units in | | | |
| 94.806 | Privacy in the Digital Age (6) | either | | | |
| 94.823 | Measuring Social (6) | Fall or | | | |
| 95.722 | Digital Transformations (6) | Spring) | | | |
| 95.732 | Marketing & Digit. Strategy (6) | | | | |
| 95.808 | IT Project Management (6) | | | | |

*90.707 Statistical Reasoning/ 90.711 Statistical Reasoning with R/ 90.777 Intermediate Statistical Methods

## 8. SUMMER INTERNSHIP: BETWEEN YEAR ONE AND TWO

### Summer 2018

| Course Number | Course Name | Units |
|---|---|---|
| 94.900 | Summer Practicum | 0 |

## 8.1 SECOND YEAR (LOS ANGELES)

| Fall Semester 2018 | | | Spring Semester 2019 | | |
|---|---|---|---|---|---|
| **Course Number** | **Course Name** | **Units** | **Course Number** | **Course Name** | **Units** |
| 93.851 | Film Econ Mktg. & Distribution | 12 | 93.855 | Intellectual Property | 6 |
| 93.852 | Production Management | 6 | 93.856 | Business Development | 6 |
| 93.853* | Digital Innovation/Entrepreneurship | 6 | 93.858 | Market Research in Entertainment | 3 |
| 93.871 | TV Bus & Legal Affairs | 9 | 93.869 | Television Economics | 6 |
| 93.876 | TV Marketing & Advertising | 6 | 93.888 | Practicum II | 1 |
| 93.887 | Practicum I | 1 | 93.890 | Capstone II | 9 |
| 93.889 | Capstone I | 3 | ------ | -------LA Electives-------- | --- |
| ------- | -------LA Electives---------- | --- | 93.854 | Film Acquisitions | 3 |
| 93.857 | The Business of Gaming | 4 | 93.859 | Music in the Media | 3 |
| 93.860 | The Economy of a Record Label | 3 | 93.865 | The Future of the Industry | 3 |
| 93.862 | Digital Strategy | 3 | 93.866 | Creative Producing | 6 |
| 93.868 | Entertainment Ethics | 3 | 93.873 | Film Exhibition | 3 |
| 93.879* | Navigating the Ent. Industry | 3 | 93.878 | Branded Entertainment | 3 |
| | | 43 Core<br>16 Elective | | | 31 Core<br>21 Elective<br><br>Need 36 minimum |
| | * 93.879 is pass/fail course<br>* 93.853 counts as Heinz IT elective<br>* Some LA electives may change due to faculty availability | | | | |

## 9. THE CAPSTONE PROJECT: ENTERTAINMENT INDUSTRY PARTNERS

A key feature of the MEIM second-year curriculum is the Capstone Project. This yearlong mandatory course goes further than a traditional thesis by giving students the opportunity to work on a topical applied research project under the direction and guidance of a marquee entertainment business client company. The Capstone project offers students the opportunity to apply and demonstrate their analytical and practical management skills in relation to a specific concept or issue while addressing and deepening their understanding of the challenges and issues the entertainment industry faces on a daily basis.

### 9.1 COLLABORATION

The Capstone thesis gives students the opportunity to work together in teams, much as they will do in their actual careers within this very project-centric, team-oriented industry. Researching, compiling, drafting and presenting the Capstone Project provides students with a compelling "deliverable" on their resume, further supporting their career prospects. Work experiences gained from student projects provide strong comparative advantages to graduating students in job interviewing and acquiring job offers. There is both a writing component and a presentation component related to the Capstone thesis. Working together on the Capstone, students will:

- Develop project management, teamwork, and communication skills
- Integrate and synthesize the lessons from prior coursework
- Engage in a "real world" organizational experience
- Earn "bragging rights" around a professional project for an industry company performed as part of the degree.

### 9.2 PAST CAPSTONE SPONSORS HAVE INCLUDED:

| | |
|---|---|
| • Black List, The | • Neon Studios |
| • BBC America | • Networked Insights |
| • C4 R & D | • Nielsen Company (Nielsen, NRG) |
| • Concord Music (Stax Records) | • PricewaterhouseCooper |
| • D Squared Entertainment | • RelishMIX |
| • Enso Collaborative | • SocialEdge |
| • Flipagram | • Sony Pictures Television |
| • Fox Television Studios | • Sundance Institute |
| • IM Global | • The Producers Guild of America |
| • IMAX | • Twitter |
| • IPSOS OTX Research | • Troika Pictures |
| • Jerry Bruckheimer Games | • Variety Media |
| • LD Entertainment | • Warner Bros. Studios |
| • Lionsgate Entertainment | • Walt Disney/ABC Television Group |
| • MPRM Public Relations | • Sony Music Entertainment |

## 10. INTERNSHIPS

The required practicum (internship) assignments allow the students to gain first-hand knowledge of how the theories and principles learned in the classroom are implemented in the profession. Not only will this practicum allow students to test and refine classroom experiences in a professional setting, but it also allows students to enhance their personal network of contacts and build their resume. The internships also serve as the foundation for many discussions in the rest of the program's curriculum. There is an internship requirement during the summer (94.900) and both the fall (93.887) and spring (93.888) semesters of the second year of the program. There is no internship requirement in the first year of the program, though some students do partake in opportunities while in Pittsburgh. Students may do an internship after conferring with the Program Director and the Career Services MEIM representative.

### 10.1 THE SUMMER INTERNSHIP

The mandatory summer internship is intended to acquaint MEIM students with industry practices and vernacular, to strengthen the students' professional networks and to expand students' skills, knowledge and resumes. Students enroll in a 0-unit Summer Practicum class (94.900).

During the summer between the first and second year of study, MEIM students complete an eight-to-ten week, full-time internship at a film, television, digital production studio, music, gaming production company or a related agency. The internship is a core requirement and a graduation requirement of the MEIM Program. Students cannot progress to the second year of the program without successfully completing the summer internship. Please note the following in regard to the summer internship:

- Minimally, the internship requires the equivalent of eight-to-ten weeks of employment at 30 hours per week (or approximately 300 hours minimally). The internship should have formal supervision, be professional in nature, include work that is of importance to the organization, and should have significant educational value.
- Before beginning the internship, students must complete the online Career Services Internship Reporting Form for approval: http://www.heinz.cmu.edu/jobs-and-internships/students/internship-reporting-form/index.aspx
  The internship will be verified with the students' supervisors and then approved. Students must notify their Career Advisor of any significant changes in their internships, such as length, location, hours of work, etc.
- Once the internship has been approved, students will be registered for the zero-unit internship course. Students will not receive academic credit for the internship, but it will be reflected on their transcript as a course with P/F grade. If a student plans to exempt the internship, they will need to complete the Petition for Course Exemption.

- Near the end of the internship, the Career Services Office will request supervisors to complete a Student Performance Evaluation Form.
- **F1 Visa Students:** You must apply for Curricular Practical Training (CPT) employment authorization for your summer internship. CPT authorization is required regardless of the internship being paid or unpaid. CPT is only available to F-1 students who have not graduated and who have been enrolled on a full-time basis for one full academic year (i.e. fall and spring.) The MEIM program requires students to complete a summer internship, therefore international students can qualify for CPT. Processing CPT may take up to 2 weeks and you cannot begin employment until you receive authorization. Guidelines, forms and instructions can be found at the Office of International Education's website.

**10.2 SECOND-YEAR PRACTICUM**

The second-year practicum is an immersion in the heart of the entertainment industry, exponentially enlarging the benefits of the previous skills and providing the students with a critical platform for showcasing their knowledge and experience.

Unique to the program is the schedule that allows students to work nearly full time (30+ hours/week – Mondays through Thursdays) in the management divisions of film, interactive, music, gaming, television studios, production companies, agencies or related firms supporting the entertainment industry.

**10.3 PRACTICUM CREDIT**

The MEIM Program recognizes that federal labor law requires the film/television/music/gaming industry to limit internship opportunities to students who receive formal credit for the practicum. The fact that internships are degree requirements (section 10) is sufficient for most firms' human resources and legal department, but MEIM students may encounter practicum opportunities where more formal credit is required. Because of this, MEIM students enroll for practicum credit (94.900 – summer, 93.887- fall, 93.888 - spring). These are either 0 or 1-unit core class requirements in the program.

According to the U.S. Department of Labor, an internship should be similar to the training a student would receive in an educational environment. The internship experience should be beneficial to the intern and the intern should work under the supervision of existing staff at the company. For that reason, work related to the MEIM internships is to be on-site and not performed remotely. Though a student may be paid for the internship, an intern is not automatically entitled to wages for the time spent at the internship. Many of our students have subsequently been hired at the company where he or she has interned, but it should be noted that the intern is not entitled to a job at the conclusion of the internship.

## 11. UNIVERSITY LIBRARIES

The University Libraries provide a range of services including access to the Libraries' collections, expertise, and facilities; use of collections held by other libraries; and services enabling Carnegie Mellon students, faculty, and staff to deposit their work in the University Libraries.

The University Libraries host a web page (www.library.cmu.edu) that provides access to numerous resources useful to faculty and students in public affairs and administration. These include library catalogs, databases, subject web pages, a virtual reference desk and more. Some frequently used journals include: Human Rights Quarterly, Contributions to Economic Analysis & Policy, Economic Policy Review, Business & Politics, and Global Economy Journal.

The web page also has links to sites focusing on associations and societies, gateways, government documents, journals, reference resources, statistical sources, think tanks and academic departments.

Access to most library databases is university-wide and searchable from on- or off-campus. Some of the available databases concerned with public affairs and administration include: PAIS International, INFORMS PubsOnline, Homeland Security Digital Library, LexisNexis Academic, LexisNexisCongressional, CQ Library and ProQuest.

There are three libraries on campus at Carnegie Mellon to which all students, staff and faculty have access:

- Hunt Library, 4909 Frew Street
- Mellon Institute Library, Mellon Institute, 4th floor, 4400 Fifth Avenue
- The Engineering and Science Library, Wean Hall, 4th floor

Members of the Carnegie Mellon community can use and borrow directly from The Carnegie Library of Pittsburgh and the University of Pittsburgh libraries except for those that do not participate in the Oakland Library Consortium (OLC): Fine Arts, Law, Nursing, Western Psychiatric Institute, and the Pitt branch libraries in Bradford, Greensburg, Johnstown, and Titusville.

## 12. WEB RESOURCES

| | |
|---|---|
| MEIM Web Page | http://www.heinz.cmu.edu/school-of-public-policy-management/entertainment-industry-management-meim/index.aspx |
| MEIM LinkedIn | https://www.linkedin.com/profile/view?id=323454207&trk=nav_responsive_tab_profile |
| MEIM Twitter | https://twitter.com/meimprogram |
| University Web Resources | www.cmu.edu |
| University Libraries | www.library.cmu.edu |
| Heinz College Web Resources | www.heinz.cmu.edu |
| Course Schedules | www.heinz.cmu.edu/academic-resources/course-schedules/index.aspx |
| Course Descriptions | http://heinz.cmu.edu/academic-resources/course-results/index.aspx |
| Academic Calendar | www.heinz.cmu.edu/current-students/academic-calendar/index.aspx |
| Events Calendar | www.heinz.cmu.edu/events/index.aspx |

### 12.1 RELATED MEIM PARTICIPATION CONTACTS

Listed below are some of the organizations that MEIM students have been involved with in the past.

| | |
|---|---|
| Academy of Television Arts and Sciences | www.emmys.com |
| Hollywood Radio & TV Society | hrts.org |
| Film Independent | filmindependent.org |
| The American Pavilion at Cannes | ampav.com |
| The Creative Minds Group at Cannes | thecreativemindgroup.com |
| Sundance Film Festival | sundance.org |
| South By Southwest Film and Interactive Festival | sxsw.com |
| Festival de Cannes | festival-cannes.com |

## 13. ACADEMIC INTEGRITY POLICY

The following is Carnegie Mellon University's policy on academic integrity, excerpted from the University policy at http://www.cmu.edu/policies/documents/Academic Integrity.htm.

Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience a university establishes clear standards for student work.

In any presentation, creative, artistic or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

Cheating includes but is not necessarily limited to:

- Plagiarism, explained below.
- Submission of work that is not the student's own for papers, assignments or exams.
- Submission or use of falsified data.
- Theft of or unauthorized access to an exam.
- Use of an alternate, stand-in, or proxy during an examination.
- Use of unauthorized material including textbooks, notes or computer programs in the preparation of an assignment or during an examination.
- Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.
- Collaboration in the preparation of an assignment. Unless specifically permitted or required by the instructor, collaboration will usually be viewed by the university as cheating. Each student, therefore, is responsible for understanding the policies of the department offering any course as they refer to the amount of help and collaboration permitted in preparation of assignments.
- Submission of the same work for credit in two courses without obtaining the permission of the instructors beforehand.

Plagiarism includes – but is not limited to – failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student: a phrase, written or musical; a graphic element; a proof; specific language; and an idea derived from the work, published or unpublished, of another person.

## 14. GRADING GUIDELINES

Instructors are responsible for determining their own grading scale to establish how many points a student may need in order to earn a particular grade. However, the Heinz College operates on the grade weighting system shown below:

| Grade | Interpretation | Points | Credit Toward Graduation |
|---|---|---|---|
| A+ | Exceptional | 4.33 | Yes |
| A | Excellent | 4 | Yes |
| A- | Very Good | 3.67 | Yes |
| B+ | Good | 3.33 | Yes |
| B | Acceptable | 3 | Yes |
| B- | Fair | 2.67 | Yes |
| C+ | Poor | 2.33 | Yes |
| C | Very Poor | 2 | Yes |
| C- | Minimal Passing | 1.67 | Yes |
| R | Failing | 0 | No |

The Heinz College faculty has endorsed guidelines for grades. The mean grade in a core class should be 3.33 - 3.42 and in advanced core, concentration and elective courses it should be 3.5. For project courses, the mean grade should be 3.66.

These standard-grade guidelines result from the substantial variation that emerged in grading practices across the courses and a slow but steady grade inflation that set in over the past years. There might be instances where extraordinary performance by an entire group of students – extraordinary in either direction – will determine that grades should depart from these guidelines. Still, keep these guidelines in mind as you assign grades.

## 15. EXPECTATIONS

It is important that you communicate effectively and efficiently when dealing with staff, faculty, and fellow students. It is not enough to just show up at classes. To make the most out of the program, you should stay engaged and committed. Keep in mind the following as you progress as a master's student.

### 15.1 ACTIVE PARTICIPATION IN CLASS

Your contribution in class is vital. Your focused and attentive participation, openness to others' ideas, and positive attitude toward the learning experience are expected throughout the courses offered in the MEIM program. Many faculty members (and almost all faculty in LA) will have a grading component hinged to class participation.

### 15.2 SELF-REGULATION

As a master's student, you are expected to regulate your own behavior and to not need to be reminded of deadlines. Ask for feedback, take the initiative to get what you need from classes, and be courageous in the questions you ask. Take risks and take responsibility for your own learning.

### 15.3 COHERENT, PROFESSIONAL WRITING

You are expected to write in a way that is clear, concise, coherent, and professional. Every written assignment should be at least a second draft. If you have difficulty with your writing, Carnegie Mellon offers assistance on campus. In addition, there are tutors designated to assist MEIM students in both Pittsburgh and Los Angeles. It is to your advantage to take the initiative to pursue assistance in these areas. You also need to keep electronic communication (emails/ LinkedIn) respectful and professional. Communicating effectively is paramount in the entertainment industry.

### 15.4 COLLEGIALITY

At its heart, the MEIM program is an opportunity for you to become a colleague with your classmates and others you meet in the program, including professors. In past years, some teachers have even asked students to work on professional projects outside of class. Respect for one another's ideas, a willingness to engage the hard questions, and openness to new ways of thinking about issues are some of the hallmarks of collegiality. An appropriate balance of challenge and support for one another is expected in the program.

## 16. OTHER INFORMATION

The entertainment industry is very exciting, but can be quite competitive. The move to Los Angeles can also be intimidating at times. Rest assured that Carnegie Mellon staff, faculty and friends of the program will support you as you progress through the two years of the program. You will also have the support of the growing MEIM alumni population. You should take advantage of opportunities that may be presented to you. The two years will go by fast.

### 16.1 TRANSPORTATION IN LOS ANGELES

Los Angeles is a large city with many transportation challenges. Unlike most big cities, Los Angeles has a poor public transportation system. Accordingly, it is highly suggested that you have access to an automobile and a valid driver's license upon your arrival in Los Angeles. If you have any questions or concerns about this issue, please speak with the Program Director prior to the end of the first year.

### 16.2 FILM FESTIVALS/EXTRA-CURRICULAR OFFERINGS

All students in the program will attend South by Southwest Film and Interactive Festival in the first year of the program (March), and Sundance Film Festival in the second year of the program (January). Some students may have the opportunity to attend Cannes International Festival in France (May, year one). In addition, there are several guest speakers and seminars that will be offered throughout the two years you are in the program. It is expected that you will attend as many of these offerings as possible. Attendance at MEIM scheduled events in Pittsburgh should be considered mandatory.

### 16.3 ATTENDANCE FOR PLANNED EVENTS

Please note that MEIM leadership takes great effort and expense to secure accommodations and tickets for film festivals and other planned events. Students are given plenty of notice regarding which events are mandatory and which events are optional. In addition, students are given time to decline attendance or participation to these events when possible.

As a result, if for some reason a student fails to show up for a film festival or other planned MEIM event that they were originally scheduled to attend, there will be a charge incurred that will be billed to the student's CMU school account. Extenuating circumstances will be taken into consideration, but those circumstances may or may not remove the possibility of a charge. Please be advised as you proceed through the program.

**16.4 LINKEDIN MEIM GROUP**

The MEIM program maintains a private sub-group on LinkedIn's Heinz College group exclusively for current MEIM students, alumni and faculty/staff. This is a convenient place to share information about business developments, including internship and job opportunities, networking events, cultural events, and other relevant MEIM updates. Students are encouraged to join the group at the beginning of year one

**16.5 CAREER SERVICES**

MEIM is a professional program focused on providing career development skills for our students. An assigned Heinz College Career Services Director (in Pittsburgh), working in tandem with the Head of Industry Relations and the Program Director (both based in Los Angeles), conduct a number of events to help students transition into their careers. Students are strongly encouraged to take advantage of these offerings, and to learn and use the College's "Career Navigator" database (instruction will be provided at the beginning of the first year).

## 17. EMERGENCY TELEPHONE NUMBERS

| | |
|---|---|
| Carnegie Mellon University Police Department<br>300 South Craig Street, Suite, 199 (Filmore Street Entrance)<br>Pittsburgh, PA 15213 | Emergency: (412) 268-2323<br>Non-Emergency: (412) 268-6232<br>Email: campuspd@andrew.cmu.edu |
| University of Pittsburgh Medical Center<br>200 Lothrop St, Pittsburgh, PA 15213 | (412) 647-8762 |
| Pittsburgh Fire Bureau Station 18<br>5858 Northumberland St<br>Pittsburgh, PA | (412) 255-2863 |
| North Hollywood Police Department<br>11640 Burbank Blvd, North Hollywood, CA 91601 | (818) 623-4016 |
| Providence Saint Joseph Medical Center<br>501 S Buena Vista St, Burbank, CA 91505 | (818) 843-5111 |
| Los Angeles Fire Dept. Station 60 (Tujunga Ave.)<br>North Hollywood CA | (818) 756-8660 |
| University Center Information Desk | (412) 268-2107 |
| MEIM - Pittsburgh<br>Hamburg Hall 1119E, 4800 Forbes Ave. Pittsburgh, PA 15213 | (412) 268-6706 |
| MEIM - Los Angeles<br>4640 Lankershim Blvd. Suite 125, North Hollywood, CA 91602 | (818) 980-6346 |

## 18. STATEMENT OF ASSURANCE

Carnegie Mellon University does not discriminate and Carnegie Mellon University is required not to discriminate in admission, employment, or administration of its programs or activities on the basis of race, color, national origin, sex or handicap in violation of Title VI of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973 or other federal, state, or local laws or executive orders.

In addition, Carnegie Mellon University does not discriminate in admission, employment or administration of its programs on the basis of religion, creed, ancestry, belief, age, veteran status, sexual orientation or in violation of federal, state, or local laws or executive orders.

## 19. HANDBOOK INFORMATION

This MEIM Handbook supersedes and replaces all previous policies and procedures including, but not limited to, all memoranda or written policies which may have been issued on the subjects covered in this handbook prior to the revised date on page one. The policies included in this handbook are guidelines only and are subject to change.

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*The last update of this document was completed March 1, 2018.*

## 20. ADDENDUM FOR CALIFORNIA PRIVATE POSTSECONDARY EDUCATION ACT OF 2009

Carnegie Mellon University is a private, non-profit institution, approved to operate in California by the California Bureau for Private Postsecondary Education.

As part of the California Private Postsecondary Education Act of 2009, the Bureau for Private Postsecondary Education (BPPE) requires state-level oversight of private postsecondary schools. As students in the Master of Entertainment Industry Management (MEIM) program reside in the state of California for the second year of the program, the following information is made available to all interested students. http://www.cmu.edu/hub/consumer/disclosure.pdf

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, toll-free telephone number (888) 370-7589 or by fax (916) 263-1897.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 toll-free or by completing a complaint form, which can be obtained on the bureau's internet website, at www.bppe.ca.gov

**Accreditation & State Approvals**

Carnegie Mellon University is accredited by the Middle States Commission on Higher Education (MSCHE). Details regarding accreditation & State Approvals can be found here: http://www.cmu.edu/hub/consumer/disclosure.pdf

### 20.1 DESCRIPTION OF PROGRAM AND REQUIREMENTS

Second year class sessions are offered at the MEIM: Los Angeles Center, located at 4640 Lankershim Blvd. Suite 125, North Hollywood, CA 91602. A description of the Master of Entertainment Industry Management Program, the requirements for completion including required course load and internship requirements, can be found on the MEIM website: http://www.heinz.cmu.edu/school-of-public-policy-management/entertainment-industry-management-meim/index.aspx

### 20.2 INFORMATION REGARDING THE FACULTY AND THEIR QUALIFICATIONS

Heinz Faculty members are experts in their field of study. You may find information about those who teach in the first year of the program at the following website: http://www.heinz.cmu.edu/faculty-and-research/faculty-profiles/index.aspx?search_type=a&from_letter=A&to_letter=A

For information and bios about those who teach in Los Angeles or who teach MEIM specific classes, please refer to the following website page: http://www.heinz.cmu.edu/school-of-public-policy-management/entertainment-industry-management-meim/faculty/index.aspx

## 20.3 UNIVERSITY POLICIES & EXPECTATIONS

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

- The Word/Student Handbook: http://www.cmu.edu/student-affairs/theword/index.html
- Academic Integrity Website: http://www.cmu.edu/academic-integrity
- University Policies Website: http://www.cmu.edu/policies/
- Graduate Education Website: http://www.cmu.edu/graduate/policies/index.html
- The WORD is Carnegie Mellon University's student on-line handbook and supplement to the department (and sometimes college) handbook. The Carnegie Mellon Code can also be found on-line at: http://www.cmu.edu/student-affairs/theword/code.html.

## 20.4 HEINZ COLLEGE APPLICATION PROCESS

Before applying, please carefully review the application process and admission requirements for the Master of Entertainment Industry Management Program.

### MEIM Admissions Requirements -Overview

The MEIM program is looking for dynamic, motivated critical thinkers who are drawn to the ever-changing entertainment field. The MEIM program seeks leaders who want to hone their strategic and entrepreneurial skills, and build a strong business foundation to help realize their career goals in the entertainment industry.

MEIM applicants should be interested in how screen-based entertainment is produced, developed, packaged, financed, marketed and distributed. However, MEIM students come from a wide variety of undergraduate backgrounds. While the program welcomes graduates of film, TV and communications programs, students have come to the MEIM program with liberal arts degrees in literature, sociology or history. Business, social science, marketing degrees, fine arts, theater, or even music programs are great preparations for a MEIM degree. In short, because the entertainment industry draws on so many different disciplines, the MEIM program believes in assembling a student body with diverse and synergistic backgrounds.
The MEIM program also welcomes individuals who have completed their Bachelor's degree and spent the past few years pursuing their careers – either in entertainment, or in other fields. Having some professional experience under one's belt can provide an added level of focus, and such students also do well in the program.

For more information on the MEIM student body, including demographics and test scores, view the **class profile**.

Because of the quantitative nature of Heinz College graduate programs, the faculty requires that all incoming students have a solid quantitative foundation prior to enrollment at Heinz. Since successful applicants come from diverse academic backgrounds, the College offers the

Quantitative Skills Summer Program (QSSP) to prepare incoming students who did not previously complete college-level courses like advanced algebra, pre-calculus and/or statistics. **Click here for more information**.

The Admissions department invites all interested candidates to contact the college directly with any questions about qualifications, eligibility or any other topic or concern. Admissions' representatives will work closely to help MEIM candidates successfully complete an application to the Program. **Admission Process and Required Application Materials-MEIM Program.**

**Verification Requirement for all Enrolling Students**
We are committed to ensuring the integrity of our admissions process and the reputation of our educational programs. We also want to protect and enhance the value of the degrees that we confer. The purpose of the background check is to protect all stakeholders of our programs (students, faculty, staff and alumni) from those who would falsify their backgrounds to gain an unfair advantage in the admissions process. We have made the decision to implement an independent verification process of all application materials for any master's student enrolling in the Heinz College. We believe the verification will support our efforts to ensure integrity throughout the program. Upon admission, you will receive more details about this process.

**20.5 ATTENDANCE POLICIES**

Students in the Master of Entertainment Industry Management program are expected to attend all classes outlined in a course syllabus as part of their degree. All absences must be approved and arranged with the course professor on an individual basis. Please note that the leadership of the MEIM program do not support excessive course absences for job interviewing, networking events, screenings, or internship conflicts. Excessive course absences may influence a student's ability to pass a course and/or complete their degree.

**20.6 STUDENT'S RIGHT TO CANCEL (WITHDRAWAL/LEAVES OF ABSENCE)**

A student has the right to cancel the student's Enrollment Agreement by either taking a leave of absence from the Program (leaving Carnegie Mellon University temporarily with the firm and stated intention of returning) or by withdrawing from the Program (leaving Carnegie Mellon University with no intention of returning). If the student withdraws or take a leave of absence from Carnegie Mellon University, the student may be eligible for a tuition adjustment or a refund of certain fees (excluding any Application Fee, Registration Fee and Enrollment Deposit, and any applicable Student Tuition Recovery Fund assessment).

To cancel the student's Enrollment Agreement and take a leave of absence or withdraw, the student must complete Carnegie Mellon University's Leave of Absence or Withdrawal form, as applicable, and return it to Carnegie Mellon University's Registrar's Office, at 5000 Forbes Ave., Warner Hall A12, Pittsburgh, PA 15213. The Leave of Absence and Withdrawal forms, and additional information of leaves of absence and withdrawal, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/registration/leave.html
If the student notifies Carnegie Mellon University of the student's intent to withdraw or take a

leave of absence, the student's official date of withdrawal or leave of absence is the earliest of:

- The date the student began the student's withdrawal or leave of absence process at Carnegie Mellon University;
- The date the student notified the student's home department at Carnegie Mellon University;
- The date the student notified the associate dean of the student's College at Carnegie Mellon University; or
- The date the student notified the Carnegie Mellon University Dean of Student Affairs.

If the student does not notify Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is:

- The midpoint of the relevant semester in which the student withdraws or takes a leave of absence;
- The last date the student attended an academically-related activity such as an exam, tutorial or study group, or the last day the student turned in a class assignment.

**REFUND POLICY**

A. **Refunds in General.** Students who withdraw from the Program or take a leave of absence after having paid the current semester's tuition and fees or receiving financial aid are subject to the following refund and repayment policies. No other charges are refundable. Student Tuition Recovery Fund assessment, if any, is non-refundable.

B. **Exit Counseling.** All borrowers of Federal student loans must complete a Federally-mandated exit counseling session when graduating or dropping to less than half-time enrollment status, including by withdrawing or taking a leave of absence. Exit counseling prepares students for repayment. Students must complete an exit counseling session in its entirety, with complete and correct information; otherwise, the student's degree, diploma and official transcripts may be withheld. Information about exit counseling sessions can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/loans/entrance-exit/exit.html

C. **Withdrawals/Leaves On or Before 10th Class Day.** Students who withdraw or take a leave of absence on or before the 10th class day of the relevant semester may receive a refund of 100% of tuition and fees (excluding any Application Fee or Registration Fee and Enrollment Deposit). STRF assessment, in any, is non-refundable.

D. **Withdrawals/Leaves after 10th Class Day.** Students who withdraw or take a leave of absence after the 10th class day of the relevant semester but before completing 60% of the semester will be assessed tuition based on the number of days completed within the semester. This includes calendar days, class and non-class days, from the first day of classes to the last day of final exams. Breaks which last five days or longer, including the preceding and subsequent weekends, are not counted. Thanksgiving and Spring Break are not counted. There is no tuition adjustment after 60% of the semester is completed. There is no refund of fees after the 10th class day of the relevant semester.

E. **Tuition Adjustment Appeals**. Students may appeal to have tuition adjustments for their leave of absence or withdrawal if they feel that they have extenuating circumstances. These appeals will be reviewed in the context of Carnegie Mellon University's tuition adjustment policy, as stated above. These appeals must be made in writing to Carnegie Mellon University's Registrar using Carnegie Mellon University's Tuition Appeal Adjustment form. Information

about Carnegie Mellon University's tuition adjustment policy, and tuition adjustment appeals, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/tuition/adjustment.html

F. **Repayment to Lenders/Third Parties.** If any portion of refundable tuition and/or fees was paid from the proceeds of a loan or third party, the refund may be sent to the lender, third party or, if appropriate, to the Federal or state agency that guaranteed or reinsured the loan, as required by law and/or Carnegie Mellon University policy. Any amount of the refund in excess of the unpaid balance of the loan shall be first used to repay any student financial aid programs from which the student received benefits, in proportion to the amount of the benefits received, and any remaining amount shall be paid to the student.

G. **Responsibility for Loan.** If the student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If the student has received Federal student financial aid funds, the student is entitled to a refund of moneys not paid from Federal student financial aid program funds. If the student is eligible for a loan guaranteed by the Federal or state government and the student defaults on the loan, both of the following may occur: 1) The Federal or state government or a loan guarantee agency may take action against the student, including applying any income tax refund to which the person is entitled to reduce the balance owed on the loan. 2) The student may not be eligible for any other Federal student financial aid at another institution or other government assistance until the loan is repaid.

## 20.7 WARNING & PROBATION POLICIES

If you receive a warning, it is because the faculty is concerned about your progress at the College and your ability to successfully complete the program. You can expect to receive a warning if your cumulative GPA falls below 3.1 or if your semester GPA falls below 3.0.

If you are placed on probation, it is an indication that the faculty feels you are performing below the level needed to successfully complete the program. If you are on probation, it has implications for future academic action, and your eligibility for financial aid may be affected. The Program Committee considers recommending probation to the faculty if your cumulative GPA falls below 3.0.

If you are placed on probation, you must achieve at least a 3.0 GPA in the semester you are on probation; otherwise, the Program Committee will generally recommend to the faculty that you be suspended or dropped from the program. In addition, you must demonstrate the ability to raise your cumulative GPA to 3.0 within the normal timeframe of graduation. Again, if this seems impossible, the Program Committee will generally recommend to the faculty that you be suspended or dropped from the program.

## 20.8 SUSPENSION OR DROP POLICIES

In general, you will be dropped from your program only if you have been on probation during the previous semester. However, under extraordinary circumstances as determined by the faculty, you may be suspended or dropped without previously having been placed on probation.

The Program Committee will recommend that you be dropped if, at the end of the semester of probation, your semester GPA falls below 3.0, or if your cumulative GPA is such that it is unlikely that you will be able to complete the program in the normal period of time. The Program Committee may recommend that you be suspended from the program for up to one year if your performance in the program is unsatisfactory, even if you have not previously been placed on probation. Suspension is, in effect, a temporary drop. If you are suspended, you cannot register for or take classes at the College for a specified period of time, usually a year. The faculty views a suspension as a time to make up deficiencies, to develop a mature approach to the program, or to give more thought to future career goals. If you are suspended, you may enroll in your Program again after the specified period and the faculty will indicate the conditions of your re-enrollment in your original suspension letter.

The decision of the faculty to suspend or drop a student is final. If you wish to appeal expulsion from the College, you can speak to the Dean; however, the Dean will only determine whether the Program Committee and the faculty followed due process and considered all relevant information over a sufficient time period.

**20.9 LEAVE OF ABSENCE POLICY**

Occasionally, a student will have pressing personal circumstances that require him or her to take a leave of absence from the program. In such cases, the student should complete a Leave of Absence form to be approved by the Program Director and Associate Dean. Typically, a leave of absence is for an academic year.

**20.10 ESTIMATED TOTAL CHARGES**

Please click below for the estimated cost of attendance for students attending the School of Public Policy and Management at the H. John Heinz III College. These budgets provide you with information about costs associated with attending the MEIM program and serve as the basis for determining federal financial aid awards.

All figures are estimates and subject to change. Individual students may find that their costs vary from the estimated budget; changes are considered on a case-by-case basis with appropriate documentation.

The estimates are used for federal financial aid calculation purposes. International students may use these figures as a guideline for creating personal budgets. I-20 eligibility is NOT based on these estimates (please refer to **www.cmu.edu/oie**).

**2016-2017 ESTIMATED COST OF ATTENDANCE**

**2017-2018 ESTIMATED COST OF ATTENDANCE**

## Other Funding Available from the MEIM Program

MEIM students are awarded a one-time **$1,200 re-location stipend** to assist all students with their expenses related to moving from Pittsburgh to Los Angeles prior to their second year.

In order to offset a portion of the additional expenses incurred during the second year of the MEIM program, all MEIM students who receive a scholarship for the first two semesters in the program receive **an additional $2,500/semester in scholarship** support in each of their final two semesters in the program.

### 20.11 FEDERAL AND STATE FINANCIAL AID PROGRAMS

Meeting the cost of a graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html

### 20.12 RESPONSIBILITY TO REPAY EDUCATIONAL LOANS

If you obtain a loan to pay for the Master of Entertainment Industry Management program, you will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If you have received federal student financial aid funds, you are entitled to a refund of moneys not paid from federal student financial aid program funds

### 20.13 STATEMENT OF NO PETITION IN BANKRUPTCY

Carnegie Mellon University does not have a pending petition in bankruptcy,
is not operating as a debtor in possession, and has not filed a petition in bankruptcy within the preceding 5 years, nor has Carnegie Mellon had a petition in bankruptcy filed against it within the preceding 5 years that resulted in re-organization under Chapter 11 of the United States Bankruptcy Code.

### 20.14 TUITION RECOVERY FUND

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or are enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.

2. You were enrolled at an institution or a location of the institution within the 120 day period before the closure of the institution or location of the institution, or were enrolled in an educational program within the 120 day period before the program was discontinued.

3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.

4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.

5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law, or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.

6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.

7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of noncollection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.

**20.15 TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED**

The transferability of credits you earn at Carnegie Mellon University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the Master degree you earn in Entertainment Industry Management is also at the complete discretion of the institution to which you may seek to transfer. If the Master degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Carnegie Mellon University to determine if your Master of Entertainment Industry Management coursework will be accepted.

Carnegie Mellon University

INTEGRATED INNOVATION INSTITUTE
ENGINEERING + DESIGN + BUSINESS

# Integrated Innovation Institute
# 2017-2018 Graduate Student Handbook

## Pittsburgh & Silicon Valley Campuses

Master of Integrated Innovation for Products & Services
Master of Integrated Innovation for Products & Services – Advanced Study
Master of Science in Software Management
Master of Science in Technology Ventures

PITTSBURGH | SILICON VALLEY

4612 FORBES AVENUE, PITTSBURGH, PA 15213
P: 412 268.6808 | F: 412 268.6807
www.cmu.edu/integrated-innovation

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Carnegie Mellon University

Information Networking Institute

College of Engineering



# INI Pittsburgh - Silicon Valley School Catalog

## Carnegie Mellon University

## Information Networking Institute

4616 Henry Street
Pittsburgh, PA 15213
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ini@cmu.edu (mailto:ini@cmu.edu)
www.ini.cmu.edu

## Branch Campus: Carnegie Mellon University - Silicon Valley

NASA AMES RESEARCH PARK, MS 23-11
Moffett Field, CA 94035
Phone: (650) 335-2886; Fax (650) 603-7032
www.cmu.edu/silicon-valley/

Carnegie Mellon University is a private, non-profit institution, approved to operate in California by the California Bureau for Private Postsecondary Education. Carnegie Mellon University is accredited through a voluntary, peer-review process coordinated by the Middle States Commission on Higher Education (MSCHE or Middle States). MSCHE is one of six regional accrediting agencies in the United States, each accrediting institutions of higher education within a specific geographic region. Middle States is recognized by the U.S. Department of Education. This recognition enables MSCHE's member institutions to establish eligibility to participate in federal financial aid programs (e.g., federal loans, grants, and work-study) administered by the U.S. Department of Education. Carnegie Mellon University has been accredited by Middle States since 1921. More information regarding accreditation standards and processes and to view the University's re-accreditation reports on the Middle States Accreditation website at: http://www.cmu.edu/middlestates/.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, toll-free telephone number (888) 370-7589 or by fax (916) 263-1897.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 toll-free or by completing a complaint form, which can be obtained on the bureau's internet website, at www.bppe.ca.gov

## Class Location

Classes offered for the INI Pittsburgh - Silicon Valley MSIT - IS/MOB programs in California are held at:
Branch Campus: Carnegie Mellon University - Silicon Valley
NASA AMES RESEARCH PARK, MS 23-11
Moffett Field, CA 94035
Phone: (650) 335-2886; Fax (650) 603-7032
www.cmu.edu/silicon-valley/

## Programs Offered

The INI offers two degrees through bicoastal delivery in collaboration with the Silicon Valley campus: Mobility (MSIT-MOB) and Information Security (MSIT-IS). These technical, interdisciplinary graduate degree programs provide students with an advanced, specialized curriculum combining computer science, electrical and computer engineering, software engineering, and information systems. It also exposes students to topics in business, management, and policy. The unique combination of rigorous technical topics, practical industry-oriented topics, and real-world project experience empowers students to be the movers and shakers of the tech industry, whether launching a tech start-up, joining an enterprise R&D team, or fighting cyber-crime.

MSIT-Mobility (MOB) - Prepares students to be at the forefront of the mobility field with a multidisciplinary curriculum spanning both technical and business topics in mobile applications, services and devices.

MSIT-Information Security (IS) - Prepares students to become industry leaders in information security by blending education in information security technology with other topics essential for the effective development and management of secure information systems.

For detailed outline of the requirements for completion of the INI Pittsburgh - Silicon Valley MSIT - IS/MOB programs, including required courses, any required internships, and the total number of units required for completion please refer to the INI Pittsburgh - Silicon Valley MSIT programs curriculum webpage at: http://www.ini.cmu.edu/degrees/psv_msit/curriculum-MS27.html.

Course descriptions for the INI Pittsburgh - Silicon Valley MSIT - IS/SM/MOB courses is available at: http://www.ini.cmu.edu/degrees/psv_msit/courses.html

Due to the interdisciplinary nature of our programs, INI students can take classes from various departments across CMU's campus while in SV including:

ECE: http://www.ece.cmu.edu/courses/index.html

SCS: http://www.cs.cmu.edu/course-listings-department

Heinz College: http://heinz.cmu.edu/academic-resources/course-results/index.aspx

III: http://www.cmu.edu/integrated-innovation/degrees/mssm/courses.html

## Faculty

Directory of all INI faculty members including contact information and bios is available at: http://www.ini.cmu.edu/people/index.html

Due to the interdisciplinary nature of our programs, INI students can take classes and work with faculty members from various departments across CMU's campus while in SV. Faculty directories for each of these departments are available at:

ECE: http://www.ece.cmu.edu/directory/index.html

SCS: http://www.cs.cmu.edu/directory

Heinz College: http://www.heinz.cmu.edu/faculty-and-research/faculty-profiles/index.aspx

III: http://www.cmu.edu/silicon-valley/faculty-staff/directory/index.html

## Admissions policies

### Deferral Policy

The INI does not allow admission deferrals. Each year applicants are reviewed and ranked with the current applicant pool. Students are accepted for admission into the program for a particular academic year and may not defer admission.

### Applicant's Responsibility

It is the responsibility of the applicant to provide all required information on the program application and to submit all requested supporting documents in the manner stated on the INI website or requested by the Admissions Staff.

An application may remain "Incomplete" if required documents are not received in the INI office or are not submitted in the proper manner. Applications not completed by the posted deadlines will remain incomplete.

The admissions staff makes every effort to assist applicants in completing their submission; however, the INI does not accept responsibility for documents that are missing or are improperly submitted resulting in an application remaining incomplete and un-reviewed.

The application submission package must include the material listed below. For details regarding this material, go to: http://www.ini.cmu.edu/degrees/psv_msit/details.html

To be considered for admission, you must submit the following documents:

- A completed Online Application Form
- Unofficial transcripts should be uploaded to the online application. Applicants should not upload WES reports; they are not accepted unless requested and will be deleted if uploaded. Admitted applicants who accept enrollment must be prepared to show Proof of Graduation from their undergraduate program.

Proof includes final official transcripts and degree certificate and/or diploma submitted no later than the end of July in the manner requested by the INI. Proof of graduation is a condition of enrollment. Submission of an application serves as an agreement to meet this requirement. Failure to submit proof of graduation can result in termination of enrollment.

- Applicants should not upload WES reports. They are not accepted unless requested by the INI.
- Three letters of recommendation (online only)
- Official GRE General Test scores
- Official TOEFL scores for applicants whose native language/mother tongue is not English

### Confidentiality of Communications

All information provided to students as a result of their application including subsequent correspondence is considered confidential and should not be communicated to other applicants. Please note that applicants are expected to comply with the confidentiality requirement as a condition of admission.

### Transfer of Credit Policy

Up to 24 units of courses taken at another university, whether taken before or after entering the INI graduate program, may be transferred and count as electives, providing:

1. They fulfill an INI graduate program requirement;
2. The are graduate-level courses at the university where they were taken; and
3. they have not been used to fulfill requirements for any previously earned degree.

A grade of 'B' or better must be earned for the courses transferred. All transfer credits must be approved by the INI and the College of Engineering Dean's Office, and the INI will determine how the transferred credits will be reflected in the student's degree requirements. The transfer credits will appear on the student's transcript as an INI elective and are not factored into the core or cumulative GPAs.

Transfer credit is not granted prior to admission to the graduate program and must be approved by the INI and the College of Engineering Dean's Office after the student has satisfactorily completed at least 36 units of graduate courses at Carnegie Mellon. After matriculating to Carnegie Mellon, INI students should consult with their academic advisor before taking a course at another university.

Students should submit an INI petition, along with an official transcript and the course syllabus from the semester in which the course was completed to the INI ESO. Information regarding petitions can be found our website: http://www.ini.cmu.edu/current_students/petition/index.html. Students may be required to show proof that the course(s) they want to transfer were not used to fulfill requirements for any previously earned degree. In addtiion, the student must complete the Graduate Transfer Credit Request Form, located with the College of Engineering graduate student policies at the following link: http://engineering.cmu.edu/current_students/graduates/policies.html. The INI, not the student, will forward the appropriate information to the Dean's Office for approval.

The university's policy on Transfer Credit Evaluation and Assignment is available at the following link: http://www.cmu.edu/policies/

## Cancellation, Withdrawal and Refund Policies

STUDENT'S RIGHT TO CANCEL (WITHDRAWAL/LEAVES OF ABSENCE)

1. A student has the right to cancel the student's Enrollment Agreement by either taking a leave of absence from the Program (leaving Carnegie Mellon University temporarily with the firm and stated intention of returning) or by withdrawing from the Program (leaving Carnegie Mellon University with no intention of returning). If the student withdraws or takes a leave of absence from Carnegie Mellon University, the student may be eligible for a tuition adjustment or a refund of certain fees (excluding any Application Fee, Registration Fee and Enrollment Deposit, and any applicable Student Tuition Recovery Fund assessment).

2. To cancel the student's Enrollment Agreement and take a leave of absence or withdraw, the student must complete Carnegie Mellon University's Leave of Absence or Withdrawal form, as applicable, and return it to Carnegie Mellon University's Registrar's Office, at 5000 Forbes Ave., Warner Hall A12, Pittsburgh, PA 15213. The Leave of Absence and Withdrawal forms, and additional information of leaves of absence and withdrawal, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/registration/leave.html

3. If the student notifies Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is the earliest of:

- The date the student began the student's withdrawal or leave of absence process at Carnegie Mellon University;
- The date the student notified the student's home department at Carnegie Mellon University;
- The date the student notified the associate dean of the student's College at Carnegie Mellon University; or
- The date the student notified the Carnegie Mellon University Dean of Student Affairs.
- If the student does not notify Carnegie Mellon University of the student's intent to withdraw or take a leave of absence, the student's official date of withdrawal or leave of absence is:
- The midpoint of the relevant semester in which the student withdraws or takes a leave of absence;
- The last date the student attended an academically-related activity such as an exam, tutorial or study group, or the last day the student turned in a class assignment.

## REFUND POLICY

1. Refunds in General. Students who withdraw from the Program or take a leave of absence after having paid the current semester's tuition and fees or receiving financial aid are subject to the following refund and repayment policies. No other charges are refundable. Student Tuition Recovery Fund assessment, if any, is non-refundable.

2. Exit Counseling. All borrowers of Federal student loans must complete a Federally-mandated exit counseling session when graduating or dropping to less than half-time enrollment status, including by withdrawing or taking a leave of absence. Exit counseling prepares students for repayment. Students must complete an exit counseling session in its entirety, with complete and correct information; otherwise, the student's degree,

diploma and official transcripts may be withheld. Information about exit counseling sessions can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/loans/entrance-exit/exit.html

3. Withdrawals/Leaves On or Before 10th Class Day. Students who withdraw or take a leave of absence on or before the 10th class day of the relevant semester may receive a refund of 100% of tuition and fees (excluding any Application Fee or Registration Fee and Enrollment Deposit). STRF assessment, in any, is non-refundable.

4. Withdrawals/Leaves after 10th Class Day. Students who withdraw or take a leave of absence after the 10th class day of the relevant semester but before completing 60% of the semester will be assessed tuition based on the number of days completed within the semester. This includes calendar days, class and non-class days, from the first day of classes to the last day of final exams. Breaks which last five days or longer, including the preceding and subsequent weekends, are not counted. Thanksgiving and Spring Break are not counted. There is no tuition adjustment after 60% of the semester is completed. There is no refund of fees after the 10th class day of the relevant semester.

5. Tuition Adjustment Appeals. Students may appeal to have tuition adjustments for their leave of absence or withdrawal if they feel that they have extenuating circumstances. These appeals will be reviewed in the context of Carnegie Mellon University's tuition adjustment policy, as stated above. These appeals must be made in writing to Carnegie Mellon University's Registrar using Carnegie Mellon University's Tuition Appeal Adjustment form. Information about Carnegie Mellon University's tuition adjustment policy, and tuition adjustment appeals, can be found on Carnegie Mellon University's website, at http://www.cmu.edu/hub/tuition/adjustment.html

6. Repayment to Lenders/Third Parties. If any portion of refundable tuition and/or fees was paid from the proceeds of a loan or third party, the refund may be sent to the lender, third party or, if appropriate, to the Federal or state agency that guaranteed or reinsured the loan, as required by law and/or Carnegie Mellon University policy. Any amount of the refund in excess of the unpaid balance of the loan shall be first used to repay any student financial aid programs from which the student received benefits, in proportion to the amount of the benefits received, and any remaining amount shall be paid to the student.

7. Responsibility for Loan. If the student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If the student has received Federal student financial aid funds, the student is entitled to a refund of moneys not paid from Federal student financial aid program funds. If the student is eligible for a loan guaranteed by the Federal or state government and the student defaults on the loan, both of the following may occur: 1) The Federal or state government or a loan guarantee agency may take action against the student, including applying any income tax refund to which the person is entitled to reduce the balance owed on the loan. 2) The student may not be eligible for any other Federal student financial aid at another institution or other government assistance until the loan is repaid.

## Probation and Dismissal Policies

Academic Probation for Poor Performance

At the end of each semester, after final grades have been posted, the academic performance of each student is reviewed. The GPA for academic review is computed based on the guidelines for graduation requirements.

Any student with a core and/or cumulative GPA of less than 3.0 is immediately placed on academic probation and may be subject to the following penalties:

- The student may have any scholarships and/or financial awards from the INI rescinded for the upcoming semester;
- The student may not be selected to receive awards, fellowships or scholarships; and
- The student may not formally represent the INI as an officer or other position in a student club or campus organization.

A student on academic probation will automatically be removed from probation during the next academic review if the student's core and cumulative GPAs, at that time, are 3.0 or better. If removed from probation, the student's scholarship or financial award will be reinstated for the future semesters; however, the amount that was rescinded will not be reapplied to the student's account.

If an INI student has a core or cumulative GPA lower than 3.0 at the end of two consecutive full semesters, the student may be permanently dropped from the INI. If this occurs, the student will have an opportunity to appeal to the provost. Unless the decision is overturned, the student is not entitled to a refund of tuition or student fees.

Courses that negatively affect the core GPA cannot be moved from the core requirement unless another completed course can replace the course with the lower grade.

### Academic Integrity

Students at Carnegie Mellon are engaged in intellectual activity consistent with the highest standards of the academy. The relationship between students and instructors and their shared commitment to overarching standards of respect, honor and transparency determine the integrity of our community of scholars. The actions of our students, faculty, and staff are a representation of our university community and of the professional and personal communities that we lead. Therefore, a deep and abiding commitment to academic integrity is fundamental to a Carnegie Mellon education. Honesty and good faith, clarity in the communication of core values, professional conduct of work, mutual trust and respect, and fairness and exemplary behavior represent the expectations for ethical behavior for all members of the Carnegie Mellon community.

The INI adheres to Carnegie Mellon's policy on academic integrity. The complete policy can be found at the following link:
http://www.cmu.edu/policies/documents/Academic%20Integrity.html.

The INI adheres to the College of Engineering's policy on graduate student academic integrity violations. The complete policy can be found at the following link:
http://engineering.cmu.edu/current_students/graduates/policies_academic_integrity.html.

### INI Student Penalties for Violating Academic Integrity

In addition to the course-level action imposed by the instructor, a student at the INI will be placed on academic probation for the remainder of the INI program and will be subject to the following penalties:

- The student will have any scholarships and/or financial awards awarded by the INI rescinded immediately including those received in previous semesters;
- The student cannot be selected to receive awards, fellowships or scholarships for the duration of the INI program (including Scholarship for Service and other federal awards); and

- The student may not formally represent INI as an officer or other position in a student club or campus organization for the duration of the INI program.

In accordance with the university's policy, 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. If the student attempts to drop the course, he/she will be re-enrolled.

Students who want to appeal an academic disciplinary action must state in writing to the provost their intention to do so within one week of the penalty date in question, and then must submit their written appeal to the provost no later than two weeks after said penalty date. Appeals must be in writing, with appropriate documentation.

If a student is appealing to the provost, he or she must schedule a mandatory meeting with the INI Director within one week after the provost's decision has been released. If a student is not appealing to the provost, he or she must schedule a meeting with the INI Director as soon as possible.

In extreme cases where a first violation is particularly deplorable as determined by the INI Director, a student may be permanently dropped from the INI. Upon second academic integrity violation, the student will be permanently dropped from the INI, even if an earlier offense has not been fully processed.

### Attendance policies

Students must be physically present and attend class at the start of the semester. If extenuating circumstances exist that prevent a student from arriving to campus at the start of the semester, the student must notify their academic advisor immediately. Not attending class from the start of the semester will have a detrimental effect on a student's progress in the program. The INI will make an effort to verify all students have arrived to begin their program and will consider a student as "withdrawn from the university" if he or she is not here by the tenth day of class.

### Suspension/Required Withdrawal Policy

University suspension is a forced, temporary leave from the university. A student may be suspended for academic, disciplinary and administrative reasons. The INI adheres to Carnegie Mellon's policy on student suspension/required withdrawal policy. The complete policy is available at the following link:
http://www.cmu.edu/policies/documents/Suspension.html.

### **Fees** and Charges for INI Pittsburgh - Silicon Valley MSIT – IS/MOB programs 2017-2018 (while on SV Campus)

| | Entire Program (SV Campus) | First Semester | |
|---|---|---|---|
| Program Tuition* | $46,000 | $23,000 | Prorated upon withdrawal/leave of absence. See Refund Policy provisions of this Enrollment Agreement. The amount quoted covers only the estimated tuition for the portion of the program provided in California. |
| Required University Fees | $834 | $417 | Non-Refundable after the 10th class day of the relevant semester. See Refund Policy provisions. |
| Books and Supplies (estimated) | $2,212 | $1,106 | Estimated cost for entire program. Used, digital and rented books and |

| | | | |
|---|---|---|---|
| | | | other factors may reduce/increase actual cost. The amount quoted covers only the estimated cost for the portion of the program provided in California. |
| Student Tuition Recovery Fund (STRF) | $0 | $0 | Non-Refundable ($.00 for every $1,000 of net tuition** rounded to the nearest $1,000). See information below about the STRF. |

### Financial Aid

Meeting the cost of an graduate education is a significant investment. Carnegie Mellon University is committed to making it financially possible for graduate students to enhance educational development and reach their career goals. There are many financial aid resources available to students pursuing graduate studies at Carnegie Mellon University. Carnegie Mellon University participates in a number of Federal and state financial aid programs. Information about these financial aid programs can be found on Carnegie Mellon University's website, at http://www.cmu.edu/finaid/index.html.

### Student Loan Repayment Obligation

If you obtain a loan to pay for INI Pittsburgh-Silicon Valley MSIT - IS/SM/MOB programs, you will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund. If you have received federal student financial aid funds, you are entitled to a refund of moneys not paid from federal student financial aid program funds.

### Pending Bankruptcy Disclosure

Carnegie Mellon University does not have a pending petition in bankruptcy, is not operating as a debtor in possession, and has not filed a petition in bankruptcy within the preceding 5 years, nor has Carnegie Mellon had a petition in bankruptcy filed against it within the preceding 5 years that resulted in re-organization under Chapter 11 of the United States Bankruptcy Code.

### Career Services

The INI Career Services and External Relations Office strives to bring together the talents of our students with professional opportunities, including:

- Internships
- Full-time jobs
- Practicum projects
- Research sponsorships
- Fellowship and scholarship support

At the INI, the students learn and develop professionally as much beyond the walls of our classrooms as they do in lecture halls and laboratories. They may contribute to real-world research, fulfill valuable internships and complete team-based projects for clients.

To this end, the INI Career Services and External Relations Office facilitates partnerships with representatives in industry, government and academia. The office also specializes in providing career counseling to students.

### Student Tuition Recovery Fund

The State of California created the Student Tuition Recovery Fund (STRF) to receive or mitigate economic losses suffered by students in educational programs who are California residents or are enrolled in a residency program attending certain schools regulated by the Bureau for Private Postsecondary Education. You may be eligible for STRF if you are a California resident or are enrolled in a residency program, attending prepaid tuition, paid STRF assessment, and suffered an economic loss as a result of one of the following:

1. The school closed before the course of instruction was completed.

2. The school's failure to pay refund or charges on behalf of a student to a third party for license fees or any other purpose, or to provide equipment or materials for which a change was collected within 180 days before the closure of the school.

3. The school's failure to pay or reimburse loan proceeds under a federally guaranteed student loan program as required by law or to pay or reimburse proceeds received by the school prior to closure in excess of tuition and other costs.

4. There was a material failure to comply with the Act or the Division within 30 days before the school closed or if the material failure began earlier than 30 days prior to closure, the period determined by the Bureau.

5. An inability after diligent efforts to prosecute, prove, and collect on a judgment against the institution for a violation of the Act.

**You must pay the state-imposed assessment for the Student Tuition Recovery Fund (STRF) if all of the following applies to you:**

1. You are a student in an educational program, who is a California resident or are enrolled in a residency program, and prepay all or part of your tuition either by cash guaranteed student loans, or personal loans, and

2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party.

**You are not eligible for protection from the STRF and you are not required to pay the STRF assessment if either of the following applies:**

1. You are not a California resident, or are not enrolled in a residency program, or

2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party.

Notice Concerning Transferability of Credits And Credentials Earned at Our Institution The transferability of credits you earn at Carnegie Mellon University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree and diploma you earn in the INI Pittsburgh - Silicon Valley MSIT - IS/SM/MOB programs is also at the complete discretion of the institution to which you may seek to transfer. If the units or degree, or diploma that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your

attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Carnegie Mellon University to determine if your units, or degree, or diploma will transfer.

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Student Resources
Events
CA Education Regulations
VISIT US ▶
APPLY NOW ▶

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