

# Carnegie Mellon University

Emerging Media Program

2015-2016

## Graduate Handbook

College of Fine Arts (CFA)

Master of Arts in Emerging Media – Narrative, Composition, and Experiential Media

Master of Arts in Emerging Media – Participatory Culture and Digital Humanities

Master of Arts in Emerging Media – Enactive Technologies and Interfaces

College of Engineering (CIT)

Master of Science in Emerging Media – Mobility

Master of Science in Emerging Media – Sensor Networks and Multimodal Signals

Master of Science in Emerging Media – Mechatronics and Controls

School of Computer Science (SCS)

Master of Science in Emerging Media – Visual Computing

Master of Science in Emerging Media – Multimedia Data Science

Master of Science in Emerging Media – Interactions in Media

Master of Science in Emerging Media – Sound and Music Computing

### **CONTACT:**

Director of Emerging and Integrative Media Initiatives

Dean of University Libraries

Keith Webster

[kwebster@andrew.cmu.edu](mailto:kwebster@andrew.cmu.edu)

Degree Administrator

Gretchen Graff

[ggraff@andrew.cmu.edu](mailto:ggraff@andrew.cmu.edu)

*While this handbook is specific to your academic experience in the Emerging Media Program, 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 can be found at <http://www.cmu.edu/graduate/>*

<b>1</b>	<b>EMERGING MEDIA PROGRAM OVERVIEW</b>	<b>1</b>
<b>2</b>	<b>UNIVERSITY POLICIES AND EXPECTATIONS</b>	<b>3</b>
	Statement of Assurance	
<b>3</b>	<b>THE CARNEGIE MELLON CODE</b>	<b>4</b>
<b>4</b>	<b>GRADUATE STUDIES IN THE EMERGING MEDIA PROGRAM</b>	<b>5</b>
	Master Degree Structure	
	Degree Attainment	
	Degree Timeline	
	First Year Specialization Path Requirements	
	Second Year Fusion Studios	
	Independent Studio and Thesis Option	
	Completion of Degree and Portfolio Requirement	
	Residency Requirements & Limits	
<b>5</b>	<b>EMERGING MEDIA ADMINISTRATION</b>	<b>18</b>
	Department Personnel	
	Graduate Program Management	
	Academic Advising	
<b>6</b>	<b>STANDARDS, POLICIES, &amp; PRACTICES</b>	<b>21</b>

Academic Rights & Responsibilities	
Academic Actions & Standards	
Enrollment Information and Registration	
Academic Resources	
Assistance for Individuals with Disabilities	
Safeguarding Educational Equity	
Student Rights: Concerns & Grievances	
Enrollment Verification	
“Grandfather” Practice	
Intellectual Property Policy, Restricted Research, & Policy for Handling Alleged Misconduct in Research	
Financial Obligations & Support	
Graduate Student Fellowships & Teaching Assistantships	
Outside Employment	
University Information on Finance and Financial Aid	
Maternity Accommodation Protocol	

<b>7</b>	<b>APPENDIX A: Highlighted University Resources for Graduate Students</b>	<b>28</b>
----------	---	-----------

<b>8</b>	<b>APPENDIX B: DEPARTMENTAL POLICY REFERENCES</b>	<b>37</b>
----------	---	-----------

<b>9</b>	<b>APPENDIX C: GRADUATE STUDENT GRADING STANDARD</b>	<b>38</b>
----------	--	-----------

	<b>Addendum I: <i>issued 3.7.16</i>, Emerging Media Internship Option, CPT and Emerging Media Internship</b>	<b>40</b>
--	--	-----------

# 1 Emerging Media Program Overview

The Emerging Media Program (EM2) teaches students to solve challenges in emerging media that produce outcomes with potential for societal impact. Digitally enabled mediation of information, human activity and the overall lived experience is entering an exciting stage of maturation. In this degree program, the “how” and the “why” are addressed in tandem for problems where quality of experience, growth of cultural capital, societal change, technological advance and economic benefit are integrally connected.

Such integration requires the interconnected evolution of technological advances (big data, embedded computing, nano-sensing, computer vision, digital graphics and audio, additive manufacturing, robotics, artificial intelligence) with advances in creative practice (experience design, participatory culture, parametric design, algorithmic composition, computational narrative, hybrid instruments and tools, home entertainment, mobile apps, games, media rich learning). The EM2 program aims to provide to students the required connectivity among the evolving activities of these areas both in terms of educational experiences and research projects.

The structure of the EM2 program recognizes that addressing grand challenges in emerging media requires both increased connectivity and specialization. Thus, the degree combines a first year where the students increase their specialized knowledge in a component area of emerging media with a second year focused on knowledge fusion studios organized around grand challenges. Many fusion studios include participation of industry and community.

## Degrees offered in the Emerging Media Program

### **College of Fine Arts (CFA)**

Master of Arts in Emerging Media – Narrative, Composition, and Experiential Media  
*administered and certified by the School of Architecture*

Master of Arts in Emerging Media – Participatory Culture and Digital Humanities  
*administered and certified by the School of Architecture*

Master of Arts in Emerging Media – Enactive Technologies and Interfaces  
*administered and certified by the School of Architecture*

### **College of Engineering (CIT)**

Master of Science in Emerging Media – Mobility

*administered and certified by the Information Networking Institute*

Master of Science in Emerging Media – Sensor Networks and Multimodal Signals

*administered and certified by the Department of Electrical & Computer*

*Engineering*

Master of Science in Emerging Media – Mechatronics and Controls

*administered and certified by the Department of Mechanical Engineering*

**School of Computer Science (SCS)**

Master of Science in Emerging Media – Visual Computing

*administered and certified by the Robotics Institute*

Master of Science in Emerging Media – Multimedia Data Science

*administered and certified by the Language Technologies Institute*

Master of Science in Emerging Media – Interactions in Media

*administered and certified by the Human Computer Interaction Institute*

Master of Science in Emerging Media – Sound and Music Computing

*administered and certified by the Computer Science Department*

## 2 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 program graduate student handbook and the relevant departmental handbooks, 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/index.html>

Please see Appendix A for additional information about The Word and University Resources. Please see Appendix B for information relevant to the departmental handbooks.

### 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/student-affairs/theword/assurance.html>.

### 3 THE CARNEGIE MELLON CODE

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

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

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

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

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

The Carnegie Mellon Code can also be found on-line at:

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

## 4 GRADUATE STUDIES IN THE EMERGING MEDIA PROGRAM

Carnegie Mellon University is recognized for outstanding contributions to science, technology, management, policy and the fine arts. The Emerging Media Program builds on a tradition of interdisciplinary study. Our faculty's diverse set of backgrounds and commitment to teaching, professional practice and scholarly research make for a rich learning experience. Carnegie Mellon University's graduates hold positions in technology companies, innovative design practices, research organizations, federal and municipal governments, the building and manufacturing industries, and at leading universities both in the US and abroad. Our programs reflect a commitment to excellence. Students with motivation and ability receive an outstanding educational opportunity through Carnegie Mellon University's Emerging Media Program.

### Master Degree Structure

The Emerging Media Program (EM2) offers collaborative master degrees certified by the [College of Fine Arts](#) (CFA), [School of Computer Science](#) (SCS), and the [College of Engineering](#) (CIT). The program consists of a first-year experience that builds fundamental specialized skills coupled with a second year that focuses on interdisciplinary knowledge fusion and program solving. EM2 is based in Pittsburgh with semester/year residency opportunities in New York City\* and Silicon Valley.

Students enter the Emerging Media program through CFA, CIT, or SCS. Emerging Media students who enter in a CFA specialization path will receive a Master of Arts (MA); those entering into a CIT or SCS specialization path will receive a Master of Science (MS).

Each student applies for a specialization path administered and certified by a specific department at Carnegie Mellon University. The path governs the selection list of core required courses and other degree requirements. The degree title includes the specialization path completed (i.e. Master of Science in Emerging Media – Multimedia Data Science.)

The specialization paths are:

- College of Fine Arts (CFA);** Master of Arts in Emerging Media
  - Narrative, Composition, and Experiential Media  
*administered and certified by the School of Architecture*
  - Participatory Culture and Digital Humanities  
*administered and certified by the School of Architecture*
  - Enactive Technologies and Interfaces

*administered and certified by the School of Architecture*

**College of Engineering (CIT); Master of Science in Emerging Media**

- Mobility

*administered and certified by the Information Networking Institute*

- Sensor Networks and Multimodal Signals\*\*

*administered and certified by the Department of Electrical & Computer Engineering*

- Mechatronics and Controls\*\*

*administered and certified by the Department of Mechanical Engineering*

**School of Computer Science (SCS); Master of Science in Emerging Media**

- Visual Computing

*administered and certified by the Robotics Institute*

- Multimedia Data Science

*administered and certified by the Language Technologies Institute*

- Interactions in Media

*administered and certified by the Human Computer Interaction Institute*

- Sound and Music Computing

*administered and certified by the Computer Science Department*

*\* Carnegie Mellon's ability to offer and provide this program in NYC (in Brooklyn, at the Steiner Studios) is subject to and contingent upon, among other things, Carnegie Mellon timely obtaining (i) the approval of the Board of Regents of the New York State Education Department to offer and provide this program in NYC, (ii) authorization from the U.S. Department of Homeland Security to enroll non-immigrant students in the program in NYC, and (iii) authorization from the U.S. Department of Education to allow the use of Federal Financial Aid for this program in NYC. Unless and until those approvals and authorizations are obtained, the NYC location will not be available for this program.*

*Further, because Steiner Studios is a full-service, state-of-the-art "production factory," equipped for start-to-finish production of major motion pictures, independent films, television, broadcast commercials, photo shoots and music videos, students in the program at the NYC location will be required to acknowledge and agree to the following, as a condition to participation (and/or continued participation) in the program while at Steiner Studios: (i) all production activity on the Steiner Studios' lots is confidential, (ii) no filming, photographing, videotaping or other recording is permitted on the lots by third parties (including Carnegie Mellon students), other than within the interior of Carnegie Mellon's space at Steiner Studios (but excluding the recording from the Carnegie Mellon space of activities of third parties on the lots outside of the Carnegie Mellon space), (iii) there is to be no posting to any social media website or other services (Facebook, Twitter, Instagram, etc.) about or involving any filming, photographing, videotaping or other recordings prohibited by (ii) above or confidential production activity on the lots, and (iv) no third parties (including Carnegie Mellon students) may enter any stage on the lots or any other space of any other Steiner Studio client on the lots, nor attempt to view any activities within any such other space, nor communicate with any "talent" on the lots, except where explicitly invited by representatives of Steiner Studios. Any Carnegie Mellon student who violates the foregoing confidentiality requirements will be denied access to Steiner Studios (and, therefore, to the Carnegie Mellon space), and may be personally liable to Steiner Studios and/or its clients for the violation.*

*\*\* These paths not currently offered for Fall 2015 semester.*

## Degree Attainment

The total number of units required for degree attainment is 144. Students must attain a final 3.0 QPA to graduate.

*Department and college policy determine grading and degree attainment policies. Policies may vary by department, and students are advised to check with their individual colleges/departments for details (ex. QPA requirements, grading scales, academic standing, and other academic policies.) Information is generally found in the departmental handbooks, and a reference guide is included in Appendix B of this handbook. As the rules for each specialization path vary by department, review of the departmental handbooks for core course grading requirements is beneficial.*

### First year

In the first year, students take at least four core courses under their specialization path. Some of the courses are required and some can be chosen from a list of course options per path. Please see “First Year Specialization Path Requirements” on page 8 for more details.

Students are placed in the Emerging Media Professional Seminar (48-717) cross-college course in their first semester (Fall semester) to expose them to the key components of the EM2 program within and outside of their chosen theme.

First year students are also introduced to interdisciplinary collaboration within a community of practice through enrolling in a 12 unit portal fusion studio during the spring semester of their first year to learn alongside second-year EM2 students and/or faculty engaged in knowledge fusion studios. The portal fusion studio is offered as a required 12-unit course for the spring semester of the first year. Students can petition to replace the 12 unit portal fusion studio with another 12 unit relevant elective course that provides collaborative innovation skills. If a student wishes to replace the 12 unit portal fusion studio with an elective, they must first discuss and acquire approval with their faculty mentor and/or track chair at least one week prior to registration week. The faculty mentor/track chair will review this with the home department certifying the path’s degree to ensure that it meets certification requirements.

Elective courses can be taken to develop complementary or prerequisite skills to the chosen focus area. Elective courses may be taken pass/fail.

### Second year

In their second year, students participate in two 24-unit fusion studios. Fusion studios bring together students from many specialization paths. Many studios include industry

and community participation. For more details, please see “Second Year Fusion Studios” on page 14.

Students have the option of replacing a fusion studio with a thesis and/or creating a related independent studio. An independent studio is supervised by at least two faculty mentors from different schools. For more details, please see subheading “Independent Studio and Thesis Option” on page 15.

All students will complete either a portfolio or thesis review at the end of their final semester. This review will be held at Carnegie Mellon University campus in Pittsburgh, PA. Any students studying in a location other than Pittsburgh will be required to return to Pittsburgh, PA, for the portfolio review at their own expense.

## Degree Timeline

The following degree timeline section shows a sample semester-by-semester course flow.

<b>Year 1 Fall</b>	Specialization Core Course (9-12 units*)	Specialization Core Course (9-12 units*)	Emerging Media Professional Seminar 48-717 (12 units)	36
<b>Year 1 Spring</b>	Specialization Core Course (9-12 units*)	Specialization Core Course (9-12 units*)	Portal Fusion Studio (12 units) / Elective (12 units)	36
<b>Year 2 Fall</b>	Fusion Studio (24 units) + Elective (12 units)	OR	Thesis (24 units) + Elective (12 units)	36
<b>Year 2 Spring</b>	Fusion Studio (24 units) + Portfolio Review (12 units)	OR	Independent Studio (24 units) + Thesis Review (12 units)	36
			<i>Total units:</i>	<b>144</b>

*\* Semester full-time status is 36 units. If considering a 9-unit course, students should first consult their faculty mentor and specialization path graduate coordinator to discuss total overall units for the semester and total overall units for degree planning. International*

*students must maintain a full time status of 36 units per semester.*

## **First Year Specialization Path Requirements**

Each student applies for acceptance to a specialization path offered by the admitting College or School that governs the selection of core required courses. The specialization paths and their associated first year courses are listed below. In the first year, students must complete four required specialization courses within a path, in addition to the required 12-unit Emerging Media Professional Seminar (48-717) course and an option of either a 12-unit portal Fusion Studio or 12-unit related elective.

Some paths have two preselected required courses (marked required in the lists below) and a set of courses from which a student can select another two. Some paths have pre-requisites. All pre-requisites will be checked upon registration. If the students do not have the necessary pre-requisite knowledge for a path, they need to take the appropriate preparatory/pre-requisite courses; these courses do not count towards the degree total unit count. Any questions pertaining to pre-requisites should be addressed to the specialization path Track Chair, who will review it with the student's department.

---

## **CFA Specialization Path Core Requirements and Course Options**

Students in the following CFA paths will develop skills in areas of emerging media that investigate computational applications within architecture, design, drama, music and studio art.

For all CFA paths, the School of Architecture will be the administrative and operational "unit," and also will serve as the formal authoritative body for curriculum approval/oversight and academic certification of degree-completion under university policy.

### **Narrative, Composition, Experiential Media Core Classes**

Specialization in integrative research and creation with emerging media within the contexts of installation, performance, theater, film, design fiction and storytelling.

- 60-416/60-7xx Advanced ETB: Documentary Storytelling
- 60-412/60-7xx Interactive Art
- 54-889 Composition for Theatrical Sound: (pre-req 54-166)
- 54-XXX Video and Media Design
- 51-878 Design Fiction and Imaginary Futures
- 57-345/57-7xx Hacking the Music World

- 53-471/53-7xx Game Design, Prototyping, and Production
- 53-831 Building Virtual Worlds
- 53-711 Improvisational Acting

### **Participatory Culture and Digital Humanities Core Classes**

Specialization in computational applications within anthropology, sociology, social networks, journalism, documentary and library science.

- 54-899 Graduate Decoding Media
- 60-398/60-7xx Social History of Animation
- 51-878 Design Fiction and Imaginary Futures
- 76-761 Digital Humanities: Corpus Rhetoric
- 57-XXX Computational Humanities
- 51-796 Design Ethos and Action
- 48-777 Starter Kit for Participatory Practice

### **Enactive Technologies and Interfaces Core Classes**

Specialization in physical computing, environmental sensing, parametric design, scripting, digital fabrication, and interaction design as related to the built environment.

- 48-530/48-7xx Human Machine Virtuosity
- 48-531/48-7xx Fabricating Customization
- 48-624/48-724 Parametric Modeling
- 48-539/48-7xx Haptic Actions: Special Topics in Tangible Interaction Design
- 48-739 Making Things Interactive
- 48-XXX Embodied Interfaces for Human Machine Collaboration
- 48-390/48-7xx Physical Computing
- 48-468/48-7xx Synthetic Flows
- 48-568/48-7xx Advanced CAD, BIM, and 3D Visualization
- 48-XXX Emerging Media for Urban Design

## **CIT Specialization Path Core Requirements and Course Options**

### **Sensor Networks and Multimodal Signals Core Classes**

Electronic design, sensor integration, signal processing, wireless communication and distributed computing platforms.

This specialization path is administered and certified by the Department of Electrical and Computer Engineering.

- 18-320 Microelectronic Circuits
- 18-341 Logic Design and Verification

- 18-349 Embedded Real-Time Systems<sup>†</sup>
- 18-422 Analysis and Design of Digital Circuits
- 18-491 Fundamentals of Signal Processing
- 18-622 Advanced Digital Integrated Circuit Design
- 18-623 Analog Integrated Circuit Design
- 14-814/18-637 Wireless Network Security
- 18-748 Wireless Sensor Networks<sup>†</sup>
- 18-792 Advanced Digital Signal Processing
- 18-794 Pattern Recognition Theory

In this path, only two courses 499 below can count towards the degree, but students may need to take more to satisfy prerequisites. In addition, students should check the prerequisites for the above courses.

Courses marked by (†) require 18-213/15-213/15-513 Introduction to Computer Systems as a prerequisite. Carnegie Mellon offers a distance education course 15-513 Introduction to Computer Systems. Admitted CIT and SCS path students take this course via distance education as a non-degree student during the summer before attending CMU. The student is responsible for the cost of this course, which is charged per unit. A grade of “B” or higher in 15-513 is required. Final exam testing for the class occurs after the student arrives on campus in August. If the student does not pass with at least a B, they would need to retake it as a 12 unit course in the Fall during their first semester

#### ■ **Mobility Core Classes**

Specialization in technical aspects of mobile applications, services and devices. This specialization path is administered and certified by Information Networking Institute.

- 14-839: The Mobile Ecosystem (SV campus, over VTC)
- 14-840/18-644: Mobile Hardware for SW Engineers (SV campus, over VTC)
- 14-841/18-843: Mobile & Pervasive Computing (SV campus, over VTC)
- 14-837/18-641: Java for Smart Phone Development (SV campus, over VTC)
- 18-759 Wireless Networks
- 18-748 Wireless Sensor Networks
- 14-814/18-637 Wireless Network Security (SV campus, over VTC)
- 14-829 Mobile Security (SV campus, over VTC)
- 18-842 Distributed Systems (online through Acatar platform)
- 14-836 Mobile Game Development

Prerequisites:

- 18-342 Fundamentals of Embedded Systems
- 14-740: Fundamentals of Telecommunications & Computer Networks
- 15-513: Introduction to Computer Systems\*

\* Carnegie Mellon offers a distance education course 15-513 Introduction to Computer Systems. Admitted CIT and SCS path students take this course via distance education as a non-degree student during the summer before attending CMU. The student is responsible for the cost of this course, which is charged per unit. A grade of "B" or higher in 15-513 is required. Final exam testing for the class occurs after the student arrives on campus in August. If the student does not pass with at least a B, they would need to retake it as a 12 unit course in the Fall during their first semester.

In the Mobility path, only two courses numbered 300-599 can count towards the degree, but students may need to take more to satisfy prerequisites

■ **Mechatronics and Controls Core Classes**

Specialization in multi-disciplinary research and development with emerging media through using mechatronic and control theory approaches, which will be applicable to media, wearable technology, electronic fashion, and other directions. This specialization path is administered and certified by the Department of Mechanical Engineering.

Feedback Control, Mechatronics and Robotics (Choose 4 from this list OR 3 from this list and 1 from the list below.)

- 24-451 Feedback Control Systems
- 18-370 Fundamentals of Control
- 18-474 Embedded Control Systems
- 24-778/16-778 Mechatronic Design
- 24-674 Design of Biomechatronic Systems for Humans
- 16-711 Kinematics, Dynamics Systems and Control
- 16-735 Robotic Motion Planning
- 24-673 Soft Robotics

Computational Tools and Materials (choose 1 from this list if only doing 3 from the main list.)

- 24-688 Introduction to CAD and CAE Tools
- 24-703 Numerical Methods in Engineering
- 27-357, 24-651 Introduction to Materials Selection

A maximum of 2 courses that are 500 or below can be counted toward this degree path. No more than two 9-unit courses can be taken in this track. Students also should check the prerequisites for the above courses. Students, who do not have the prerequisites for the courses from previous study, should complete them before attempting to enroll or contact the course instructor about the prerequisites.

## SCS Specialization Path Core Requirements and Course Options

Students in the SCS paths will develop skills in computational analysis of emerging media and promote computational thinking in its applications.

1. All students in all SCS paths must take the preparation course 15-513: Introduction to Computer Systems the summer prior to their first year.

Carnegie Mellon offers a distance education course 15-513 Introduction to Computer Systems. Admitted CIT and SCS path students take this course via distance education as a non-degree student during the summer before attending CMU. The student is responsible for the cost of this course, which is charged per unit. A grade of "B" or higher in 15-513 is required. Final exam testing for the class occurs after the student arrives on campus in August. If the student does not pass with at least a B, they would need to retake it as a 12 unit course in the Fall during their first semester.

2. Students must take the two specialization core courses shown by asterisks (\*) within their specialization path course list.

3. Students must choose two additional courses from the course list in their specialization.

### Visual Computing Core Classes

This specialization path is administered and certified by the Robotics Institute.

**(required core courses indicated by \*)**

- 15-869B: Physically Based Character Animation
- 15-869: Visual Computing Systems\*
- 15-663/15-862: Computational Photography
- 16-XXX: Computational Design and Fabrication
- 16-720: Computer Vision\*
- 16-XXX: Digital Geometry Processing
- 15-618: Parallel Computer Architecture and Programming

### Multimedia Data Science Core Classes

This specialization path is administered and certified by the Language Technologies Institute.

**(required core courses indicated by \*)**

- 11-791: Design and Engineering of Intelligent Information Systems\*
- 15-618: Parallel Computer Architecture and Programming

- 10-605: Machine Learning with Large Datasets
- 16-831: Statistical Techniques in Robotics
- 10-601: Machine Learning\*
- 15-619: Cloud Computing
- 05-834: Applied Machine Learning
- 18-XXX: Video and Image processing

### **Interactions in Media Path Core Classes**

This specialization path is administered and certified by the Human Computer Interaction Institute.

**(required core courses indicated by \*)**

- 05-392: Interaction Design Overview\*
- 05-610: User-Centered Research and Evaluation\*
- 05-833: Applied Gadgets Sensors and Activity Recognition in HCI
- 16-867: Principles of Human-Robot Interaction
- 05-834: Applied Machine Learning
- 05-820: Social Web: Content, Communities, and Context
- 05-872: Rapid Prototyping of Computer Systems
- 05-899D: Game Design Studio
- 05-899: Designing Mobile Systems

### **Sound and Music Computing Core Classes**

This specialization path is administered and certified by the Computer Science Department.

**(required core course indicated by \*)**

- 18-491: Fundamentals of Signal Processing\*
- 15-322: Introduction to Computer Music
- 15-323: Computer Music Systems and Information Processing\*
- 18-797: Machine Learning for Signal Processing
- 60-739: Building Hybrid Instruments
- 57-947: Sound Recording
- 05-834: Applied Machine Learning

## Second Year Fusion Studios

In close collaboration with industry and community partners, groups of faculty and students will develop knowledge fusion studios on current emerging media topics. Topics will fall under one of four themes in which CMU has distinctive strengths: Responsive Environments and Human Centered Adaptation; Media for Daily Living; Mediated Performance and New Content Systems; Game Design.

The Emerging Media Management committee decides on the specific fusion studio offerings for second year students at the beginning of the fall semester of the students' first year, and will communicate these options to students. Students should discuss the options with their faculty mentors. By mid November, first year students will be required to submit their first, second, and third choice preference of the offered fusion studios. Shortly afterward, the Emerging Media Management Committee will assign students to the second year fusion studios based on their preferences, seat availability, and interdisciplinary balance necessary for the studio topic. The assignments will be communicated and reviewed with the students by their faculty mentors. Students will still be responsible for registering for the assigned fusion studios via Student Information Online during their second year.

The list of specific fusion studios may evolve as the program evolves. For a current list of studios, please visit:

<http://ideate.cmu.edu/graduate-programs-research/emerging-media/fusion-studios/>

### Independent Studio and Thesis Option

Students can elect to replace one fusion studio (24 units) with supervised thesis work (24 units) for their second year. A thesis proposal would need to be supported by at least one faculty mentor and one contributing mentor from a different department. The proposed thesis topic and work can be connected to another fusion studio the student takes in the second year. Student Thesis topics must be reviewed approved by the Emerging Media Management Committee.

If one of the degree sponsored fusion studios does not fit the thesis/creative interests of the student, then the fusion studio requirement (24 units) can be replaced by an independent studio (24 units). The independent studio topic should be suggested by at least two students from at least two different disciplines and supported by two faculty mentors who can commit at least 10 hours a week for supervision of the studio. The Emerging Media Management Committee must approve requests for independent studios. Independent studio class teams must submit a syllabus, learning objectives, assessment and evaluation material for the proposed studio by the second week of the spring semester in the first year for review by the Emerging Media Management Committee.

If a student wishes to pursue the thesis or independent studio option for the second year, they should consult their faculty mentor at least two weeks prior to the end of the first year Fall semester (around the time when the fusion studio assignments are made.) Students will have until the second week of Spring semester to submit information

regarding their topic for review by the Emerging Media Management Committee. The Management Committee will then review, make a determination on approval, and/or can assign the student a second deadline to provide additional information as needed.

If approved, the faculty mentor will then review the benchmarks and timeline for completion of the thesis and/or independent studio with the student(s).

Any student pursuing the thesis option will need to present and defend their thesis to the Emerging Media Management Committee for the 12-unit requirement for graduation and for completion of the program. The thesis presentation will be scheduled at the end of the final semester alongside the Portfolio Review Presentations, and will occur at CMU in Pittsburgh, PA. *[Note: Any student studying in a satellite location will need to return to Pittsburgh for the portfolio review presentation meeting at their own expense.]*

### Completion of Degree and Portfolio Requirement

The total number of units required for degree attainment is 144. Students must attain a final 3.0 QPA to graduate.

*Department and college policy determine grading and degree attainment policies. Policies may vary by department, and students are advised to check with their individual colleges/departments for details (ex. QPA requirements, grading scales, academic standing, and other academic policies.) Information is generally found in the departmental handbooks, and a reference guide is included in Appendix B of this handbook. As the rules for each specialization path vary by department, review of the departmental handbooks for core course grading requirements is beneficial.*

Students are also required to compile a portfolio showing their unique contributions to the projects realized in their fusion studios. A student should meet with their primary faculty mentor during the week one of their final semester and arrange a meeting schedule to periodically discuss progress on the development of their digital portfolio. At the end of the final semester, the Emerging Media Management committee will hold portfolio review examinations at CMU in Pittsburgh, PA. *[Note: Any student studying in a satellite location will need to return to Pittsburgh for the portfolio review meeting at their own expense.]* At the portfolio review examination, each student will need to present and defend his or her portfolio to the Emerging Media Management Committee for the 12-unit requirement for graduation and for completion of the program.

Any student pursuing the thesis option will need to present and defend his or her thesis to the Emerging Media Management Committee for the 12-unit requirement for

graduation and for completion of the program. The thesis presentation will be scheduled at the end of the final semester alongside the portfolio review examination meeting, which occurs at CMU in Pittsburgh, PA. *[Note: Any student studying in a satellite location will need to return to Pittsburgh for the portfolio review meeting at their own expense.]*

## Residency Requirements & Limits

Minimum full-time residency requirements are stipulated in the curriculum for each respective Master degree program.

The University policy regarding the maximum candidature period for a Master degree states that it expires at the end of the seventh academic year after admission is granted into the degree program, with the exception of CIT, which expires at the end of the sixth academic year. Any period of absentia (where granted) is counted towards this maximum candidature period. The Emerging Media Management Committee, on recommendation of the specialization path faculty mentor/track chair, must approve any exception.

The university policy can be found at: <http://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html>

The CIT policy can be found at:

[http://engineering.cmu.edu/current\\_students/graduates/policies.html](http://engineering.cmu.edu/current_students/graduates/policies.html)

## 5 EMERGING MEDIA PROGRAM ADMINISTRATION

### Department Personnel

For a list of the Emerging Media program's administration and faculty, please visit: <http://ideate.cmu.edu/graduate-programs-research/emerging-media/faculty/>

### Graduate Program Management

The Emerging Media Program is managed by the Emerging Media Management Committee, which includes one representative for each specialization path, at least one representative from each remote site, and a representative from the ETC. The committee is chaired by the Director of Emerging and Integrative Media Initiatives and includes (ex officio) the Deans of CFA, CIT, and SCS.

#### Management Committee

The management committee meets regularly to review the curriculum, course syllabi, and credit load, including benchmarking against peer programs at other institutions, input from applicants, input from enrolled students and alumni, input from employers and related industry leadership, faculty/course evaluations by students, and faculty workshops. The Management Committee also considers and may approve any petition requesting an exception from the academic guidelines and requirements spelled out in this document.

#### Track Chair

Each specialization path has a Track Chair, who provides direction on departmental academic policies for the path. The Track Chair participates in the management committee as their department's path representative.

#### Degree Administrator

The Degree Administrator's role is to provide overall Emerging Media Program coordination and support, working in close collaboration with the faculty mentors, the

track chairs of the units sponsoring the specialization paths, the specialization path graduate coordinators, and the Emerging Media Management committee.

#### Faculty Mentor

Faculty mentors provide academic and registration advisement to students, and can help each student develop their path based on the prerequisites and courses in the path of their interest.

#### Specialization Path Graduate Coordinator

The Specialization Path Graduate Coordinators provide departmental support for registration issues, management of student record keeping, and any departmental notifications or announcements that are sent to students.

### Academic Advising

Prior to registration week, enrolled students should meet with their assigned faculty mentor about course registration. The faculty mentor provides advisement and can help each student develop their path based on the prerequisites and courses in the path of their interest. After the advisement meeting, students are expected to register themselves via Student Information Online.

Students are expected to bring matters such as: course selections, course substitutions or transfers, performance in courses and other academic matters, to the attention of both their faculty mentor and the degree administrator. The faculty mentor will work with the degree administrator assistance with any registration issues.

#### *Progress Review*

The Emerging Media Management Committee reviews the academic progress of all Master students during the grades meetings, which occur at the end of each semester. In this meeting, each Track chair will present a written progress report to the Emerging Media Management Committee along with oral reports by each faculty mentor representative of each Master student. Any academic actions or recommendations developed are transmitted, in writing, to students and to the Head of the school administering the path by the Emerging Media Management Committee, after the Emerging Media Program Grades Meeting. Students also are expected to meet with their Faculty Mentor and the Emerging Media Degree Administrator as needed to report their academic progress.

The Emerging Media Program adopts the Grading Practices and Academic Actions stipulated by the University and the admitting Colleges governing the specialization paths (CFA, SCS, and CIT.)

The University Grading policy can be found at:

<http://www.cmu.edu/policies/documents/Grades.html>.

To read more about policies implemented by the departments governing the specialization paths, please see Appendix B.

## 6 STANDARDS, POLICIES, & PRACTICES

Unless otherwise stated, and where specific and detailed declarations are provided by the Integrated Design, Arts, and Technology (IDEATE) office, the College of Fine Arts (CFA), the School of Computer Science (SCS), or the College of Engineering (CIT), the Emerging Media program adopts the standards, policies and practices stated in the prevailing Carnegie Mellon University Student Handbook (“The WORD”) pertaining to academic advising, academic resources, curricular and enrollment issues, and academic rights and responsibilities. The WORD can be found online at:

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

*Department and college policy determine grading and degree attainment policies. Policies may vary by department, and students are advised to check with their individual colleges/departments for details (ex. QPA requirements, grading scales, academic standing, and other academic policies.) Information is generally found in the departmental handbooks, and a reference guide is included in Appendix B of this handbook. As the rules for each specialization path vary by department, review of the departmental handbooks for core course grading requirements is beneficial.*

Please note that students of the School of Engineering can find more information about and follow grading policies outlined by CIT at

[http://engineering.cmu.edu/current\\_students/graduates/policies.html#grading](http://engineering.cmu.edu/current_students/graduates/policies.html#grading).

### Academic Rights & Responsibilities

Standard information pertaining to academic rights and responsibilities listed in the University Student Handbook ([The WORD](#)) cover the following:

- Degree attainment: achievement, timeline & format of requirements
- Financial Support
- Dissertation & Theses
- Graduate Student Concerns & Grievances
- Intellectual Property Policy
- Research
- Policy for Handling Alleged Misconduct in Research

## Academic Actions & Standards

### *Academic Integrity & Disciplinary Action*

Please review the University expectations at: <http://www.cmu.edu/academic-integrity/>

All Master students are strongly recommended to read the University Student Handbook ([The WORD](#)) with regard to Academic Integrity and Academic Disciplinary Actions Overview for Graduate Students as well as the University policy web page at <http://www.cmu.edu/policies/documents/Academic%20Integrity.htm>.

The Emerging Media program adopts all definitions and practices as stipulated, including:

- Statute of Limitation
- Confidentiality
- Procedures
- Initial Review
- Decision and Action(s)
- Reporting of Initial Action(s)
- Second-level Review & Action(s)

Access and review of a student's records by students and university personnel are governed by the Public Law 93-380 "The General Education Provisions Act" and other relevant policies of Carnegie Mellon University, as stated in the University Student Handbook ([The WORD](#)).

Students will be held to each department's requirements and disciplinary actions regarding academic integrity. Policies can be referenced in Appendix B.

### *Grading Policies*

Unless otherwise specifically declared, the Emerging Media program adopts the University policy, which offers details concerning university grading principles for students taking courses, <http://www.cmu.edu/policies/documents/Grades.html>.

This policy covers the specifics of Assigning and Changing Grades (including Final and Mid-Semester grades, Incompletes and Conditional Failures), Grading Options (Audit and Pass/Fail), Drop/Withdrawals, Course Repeats, and defines the undergraduate and graduate Grading Standards.

Further, department and college policy determine minimum passing grades in graduate

courses. Policies for graduate students vary and students are advised to check with their individual colleges/departments for details. Please see Appendix B for more information.

Questions about grading for a specific course should be addressed to the instructor of the course in question. Questions about the grading policies should be addressed to the Track Chair of the department that governs the student's specialization path.

A Table containing details on the Graduate student Grading Standard, according to University Policy (as of Fall 1995) can be found in Appendix C.

Please note that students of the School of Engineering can find more information about CIT's specific grading policies at

[http://engineering.cmu.edu/current\\_students/graduates/policies.html#grading](http://engineering.cmu.edu/current_students/graduates/policies.html#grading).

## Enrollment Information and Registration

Graduate students register for classes via the CMU Student Information Online.

Registration instructions can be found at

<http://www.cmu.edu/hub/registration/graduates/index.html>.

## Emerging Media Program Orientation

Orientation is mandatory and is held the Friday two weeks before the start of classes. Please plan to attend the entire orientation event. Do not make other plans for any portion of this day: morning, afternoon, or evening. During the orientation event, we will do our very best to welcome you to campus and the city, and to help you feel at home here, and get to meet your colleagues and key people on campus. We will review important policies, discuss important campus and community resources, and help you to understand Carnegie Mellon's rich academic culture and traditions. We will help you with any questions about the registration process. As part of the process, your individual photo will be taken as well as a group photo.

## Academic Resources

The University offers a range of academic resources, which are listed in the University Student Handbook ([The WORD](#)) and with the Graduate Education Office. These include Academic and Professional Development Seminars and Workshops, Teaching Support, intercultural communication, computing services and the Libraries.

## 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](#) to [access@andrew.cmu.edu](mailto: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](mailto:lpowell@andrew.cmu.edu) to access the services available at the university and initiate a request for accommodations.

## Safeguarding Educational Equity

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](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

## Student Rights: Concerns & Grievances

The Emerging Media Program adopts the University's practices regarding student rights. 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 here. 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, Suzie Laurich-McIntyre, PhD [slaurichmcintyre@cmu.edu](mailto:slaurichmcintyre@cmu.edu), on issues of process or other concerns as they navigate conflicts. For further information about procedures that graduate students can pursue when addressing concerns and grievances, go to <http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html/>

### Enrollment Verification

Enrollment Services is the only University office that can provide an official letter of enrollment, official transcript, and enrollment verification. Enrollment verification can be requested online through The HUB at: <http://www.cmu.edu/hub/transcripts/verifications/enrollment.html>.

### “Grandfather” Practice

The Emerging Media Program maintains a “grandfather” practice that assures that students graduate under the policies in effect at the time of matriculation. The Emerging Media Program will inform students of any changes to policy, procedures or operations. In general, when such revisions and additions increase degree requirements, only the next entering class will be bound to them.

### Intellectual Property Policy, Restricted Research, & Policy for Handling Alleged Misconduct in Research

The Emerging Media Program adopts the University’s policies pertaining to:

- Intellectual Property: <http://www.cmu.edu/policies/documents/IntellProp.html>
- Restricted Research: <http://www.cmu.edu/policies/documents/RestrictResearch.html>

- Handling of Alleged Misconduct in Research:  
<http://www.cmu.edu/policies/documents/ResrchMisc.html>

## Financial Obligations and Support

The tuition charges for each academic year, as published by the University, apply only to the Fall and Spring semesters. Summer tuition, whenever applicable, is additionally charged and is normally based on number of academic units taken. The University also publishes estimated cost of living for a graduate student each year at:

<http://www.cmu.edu/hub/tuition/graduate/index.html>.

The Emerging Media program does not normally provide financial support for Master students. Refer below to the section, *University Information on Finance & Financial Aid*, for other available financial support sources.

## Graduate Student Fellowships and Teaching Assistantships

The Emerging Media Program offers limited opportunities for Graduate Student Fellowships and Teaching Assistantships. Fellowships and Teaching Assistantships are decided upon during the admission process and are merit-based.

## Outside Employment

International students are reminded that they must adhere to US Citizenship and Immigration Services (USCIS) policies governing their stay in the USA and must consult Carnegie Mellon University's Office of International Education.

More information about the Office of International Education can be found at <http://www.cmu.edu/oie/>.

Please note, Students of CIT should review the CIT specific policies on outside employment at:

[http://engineering.cmu.edu/current\\_students/graduates/policies.html](http://engineering.cmu.edu/current_students/graduates/policies.html)

## University Information on Finance & Financial Aid

The "Graduate Student Financial Aid Guide" provides detailed and useful information regarding the following:

- Financial Aid Application Process
- Loan Eligibility
- Fellowships and Scholarships Office (FSO)
- Tuition Payment Plans (TMS)
- Student Employment
- Summer Stipend Payment Options
- Tax Status of Graduate Student Awards
- Tuition Remission

Detailed information can be found online at:

<http://www.cmu.edu/finaid/docs/grad-guide.pdf> and  
<http://www.cmu.edu/finaid/basics/graduate/>

Graduate students who find themselves in need of immediate funds for emergency situations should contact the Office of the Dean of Student Affairs (see Appendix A), [www.cmu.edu/student-affairs/index.html](http://www.cmu.edu/student-affairs/index.html), to inquire about an Emergency Student Loan.

## 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](http://www.cmu.edu/graduate); [grad-ed@cmu.edu](mailto: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](http://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](http://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](mailto: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](http://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](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](http://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](http://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](http://www.cmu.edu/stugov/gsa/resources/index.html). Each department has representation on GSA and receives funding directly from GSA's use of the student activities fee for departmental activities for graduate students. The department rep(s) is the main avenue of graduate student representation of and information back to the graduate students in the department.

### **Intercultural Communication Center (ICC)**

[www.cmu.edu/icc/](http://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/](http://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](http://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](mailto: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](http://www.cmu.edu/computing/guideline/index.html).

## **Research at CMU**

[www.cmu.edu/research/index.shtml](http://www.cmu.edu/research/index.shtml)

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

## **Office of Research Integrity & Compliance**

[www.cmu.edu/research-compliance/index.html](http://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](http://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/](http://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](http://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

Last updated: June 10, 2015

## APPENDIX B: Departmental Specific Policy References

In any case where a specific policy is not stated in this handbook, the policy of the department administering and certifying their degree should be referenced. Included below is a link to each departmental policy handbook and referenced policies. Any academic policy questions should be addressed to the Track Chair of the path.

A listing of University Graduate Student policies can be found at <http://www.cmu.edu/graduate/policies/>

Department	ARC	INI	LTI	CS	HCI	RI
Handbook link	<a href="http://soa.cmu.edu/">http://soa.cmu.edu/</a>	<a href="http://www.ini.cmu.edu/current_students/handbook/">http://www.ini.cmu.edu/current_students/handbook/</a>	<a href="https://www.iti.cs.cmu.edu/sites/default/files/pdf/Handbook-MLT-13August2015.pdf">https://www.iti.cs.cmu.edu/sites/default/files/pdf/Handbook-MLT-13August2015.pdf</a>	<a href="https://www.csd.cs.cmu.edu/education/master/mcs-handbook-2014-2015.pdf">https://www.csd.cs.cmu.edu/education/master/mcs-handbook-2014-2015.pdf</a>	<a href="https://www.hci.cmu.edu/sites/default/files/handbook_2015_fall.pdf">https://www.hci.cmu.edu/sites/default/files/handbook_2015_fall.pdf</a>	<a href="http://www.ri.cmu.edu/downloads/education/TFE-ROBOTICS-MASTER-PROGRAM-2014-15.pdf">http://www.ri.cmu.edu/downloads/education/TFE-ROBOTICS-MASTER-PROGRAM-2014-15.pdf</a>
CGPA requirements for degree attainment	Ch 5	Ch. III, Section J	students are individually evaluated each semester (Sect. 3.7)	"Academic Policies," subheading "Minimum OPA" and "Graduation and Award of degree"	Ch "GRADES AND CREDITS"	"Degree Attainment," subheading "Grades & Grading"
Grading scale and passing grades	Ch A, pg 16	Ch. IV, Section A	Sect. 3.1.1	"Academic Policies," subheadings "Passing Grades" and "Dean's list"	Ch "GRADES AND CREDITS"	"Degree Attainment," subheading "Grades & Grading"
Core CGPA requirements	Ch 5	Ch. IV, Section B.1	Sect. 3.1.1	"Academic Policies," subheading "Minimum OPA"	Ch "GRADES AND CREDITS"	"Degree Attainment," subheading "Grades & Grading"
Academic standing policies	Ch 5 & 6	Ch. IV, Section B.2	Sect. 3.7	"Administrative Policies," subheading "Enforcement of Academic Policies"	Ch "GRADES AND CREDITS"	"Degree Attainment," subheading "Review of Progress,"
Academic Probation policies	Ch 5	Ch. IV, Section B.3	Sect. 3.7	"Administrative Policies," subheading "Enforcement of Academic Policies"	Ch "GRADES AND CREDITS"	Degree Attainment, subheading "Review of Progress,"
Academic Integrity policies	Ch 6	Ch. IV, Section C	Sect. 3.11	"Academic Policies," subheading "Academic Integrity"	Ch "Disciplinary Action for Cheating and Plagiarism "	"Academic Integrity"
Pass/fail policies		Ch. III, Section B.9.b	Sect. 4.1.3			RI follows the University guidelines as to what qualifies as a pass/fail in a course but does not count pass/fail courses towards a student's degree

\* Students of CIT should follow grading policies outlined by CIT at [http://engineering.cmu.edu/current\\_students/graduates/policies.html#grading](http://engineering.cmu.edu/current_students/graduates/policies.html#grading).

## APPENDIX C: Graduate Student Grading Standards

The Graduate student Grading Standard is as follows (as of Fall 1995):

Grading	Quality Points	
A+	4.33	
A	4.0	
A-	3.67	
B+	3.33	
B	3.0	
B-	2.67	
C+	2.33	
C	2.0	
C-	1.67	
D+	1.33	
D	1.0	
R	0.0	Failure
X	0.0	Conditional failure
S	Non-factorable	Satisfactory

P	Non-factorable	Passing
N	Non-factorable	Not Passing
O	Non-factorable	Audit
W	Non-factorable	Withdrawal
I	Non-factorable	Incomplete
AD	Non-factorable	Credit granted for work completed at another institution or by examination credit

This grading standard is for all students classified as seeking a graduate degree and special students taking graduate courses.

Students who entered Carnegie Mellon (as graduate students) prior to Fall 1995 follow their previous graduate grading standard. Graduate students who take a leave of absence and return to Carnegie Mellon will do so under the 4.33-point grading scale. These students will have their past semester QPAs recalculated at the time of their return.

No A+ may be given in an H&SS or CIT course. No D or D+ may be given in a GSIA course. Pass/Fail policies for graduate students vary and students should be advised to check with their individual colleges/departments/programs for details. Only GSIA and MCS record W grades.

Department and college policy determine minimum passing grades in graduate courses. Any course that a graduate student completes will be graded using this scale. This includes undergraduate courses taken by graduate students, and special students taking graduate courses.

**Please note that students of the School of Engineering can find more information about and follow grading policies outlined by CIT at**

**[http://engineering.cmu.edu/current\\_students/graduates/policies.html#grading](http://engineering.cmu.edu/current_students/graduates/policies.html#grading).**

## Addendum I

Issued: March 7, 2016

### Emerging Media Internship option

3 units, Pass/Fail

Internship is an option for students in the Emerging Media Program, but not a requirement. An internship (3 units) can be counted toward the 12-unit elective requirement for Emerging Media degree completion. To be eligible, students must be in good academic standing, and have completed 1 year of course study in the program. For academic standing expectations, see Appendix B of the Emerging Media Program Graduate Student Handbook. A maximum of 3 units of internship can be used during the academic year (Fall/Spring semesters.) If internship is taken during the summer semester, summer tuition is charged per unit. See <https://www.cmu.edu/summer/coursework/tuition.html> for summer tuition rates. If taken during the academic year, units earned will be included in academic year tuition.

Typically, students seek and secure their own internships. If a student is interested, they must first consult their faculty mentor's advice, and then submit to the Emerging Media Graduate Advisor a completed proposal request form describing the internship, its relevance to Emerging Media, and the expected learning outcomes. Registered internship units should be reflective of the work and learning outcomes proposed. The proposal request form will be reviewed for approval by the Associate Dean of IDEATE and Departmental Track Chair. International students interested in registering for the internship course should consult with the Office of International Education (OIE) regarding employment authorization. Students are required to keep a written log of internship learning outcomes. Upon completion of the internship, students must submit their log and a written report of their work experience, as well as a written evaluation from the company internship supervisor to the Emerging Media Graduate Office. The reports should demonstrate the internship work completed, the learning outcomes, as well as show an appropriate reflection of the academic units earned. After the reports have been reviewed and approved, a grade will be assigned.

### CPT and Emerging Media Internship

This process should be used by international students interested in using Curricular Practical Training (CPT). More information regarding CPT is available on OIE's website <http://www.cmu.edu/oie>. Students should understand that CPT regulations are subject to change at the discretion of the U.S. Department of Homeland Security (DHS). DHS regulations and university policies may change and supersede any CPT procedures stated here.

Curricular Practical Training (CPT) is an option for international students, but is not required. An internship (3 units) may be taken for credit in the United States, and can be counted toward the 12-unit elective requirement for Emerging Media degree completion.

Students must have completed their first year in good academic standing. A maximum of 3 units of internship and CPT can be used during the academic year (Fall/Spring semesters.) CPT approval requires: 1) an active, qualifying internship offer to occur within the United States, 2) the support of the faculty mentor, 3) approval from the Office of International Education (OIE), 4) the completion of all proposal request and documentation processes detailed in the “Emerging Media Internship Option” section above.