2018 - 2019
Master of Information and Technology Strategy
Student Handbook

Note: The information contained in this graduate handbook focuses on the resources and locations available at the Carnegie Mellon Pittsburgh Campus
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University General Information

Graduate Student Handbook Overview

This document is intended to be an informal source of information for students in the Master of Information Technology Strategy program in the College of Engineering, the Dietrich College of Humanities and Social Sciences, and the School of Computer Science. Herein, you can expect to find information on a broad range of policies, procedures, university and program-specific resources, ranging from academic policies to campus dining options. We hope that you will find the guide useful. Be aware, however, that the MITS program adheres to all university guidelines and procedures, detailed below.

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:

- Academic Integrity Website: [https://www.cmu.edu/student-affairs/ocsi/academic-integrity/index.html](https://www.cmu.edu/student-affairs/ocsi/academic-integrity/index.html)
- University Policies Website: [www.cmu.edu/policies/](http://www.cmu.edu/policies/)
- Graduate Education Website: [www.cmu.edu/graduate/policies/index.html](http://www.cmu.edu/graduate/policies/index.html)

The process for handling various academic and non-academic policy violations or other grievances vary from grievance to grievance. A Summary of Graduate Student Appeal and Grievance Procedures can be reviewed on the Graduate Education website.

The process for addressing alleged violations of non-academic policies and appeal procedures can be found on the University Policies website at: [www.cmu.edu/policies](http://www.cmu.edu/policies) and in The Word at: [www.cmu.edu/student-affairs/theword/comm_standards/standards.html](http://www.cmu.edu/student-affairs/theword/comm_standards/standards.html), including contact information for questions.

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
The Carnegie Mellon Code

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

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, and commitments kept.

Not only are Carnegie Mellon individuals expected to uphold the standards of the community, they are obliged to hold others accountable for the same. 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 will not apply.

The discovery, advancement, and communication of knowledge is 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 to 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: www.cmu.edu/student-affairs/theword/code.html.

University Policy on Plagiarism and Cheating

The Software Engineering Professional Programs adheres to all university guidelines and procedures, including the University Policy on Plagiarism and Cheating.

Please review the entire policy at: www.cmu.edu/policies/documents/Academic%20Integrity.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.

**Statute of Limitations**

As outlined in Carnegie Mellon’s Master’s Students Statute of Limitations, [https://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html](https://www.cmu.edu/policies/student-and-student-life/masters-students-statute-of-limitations.html), students who have matriculated at Carnegie Mellon beginning Fall 2012 will complete all requirements for the master’s degree within a maximum of five years from original matriculation as a master’s student, per program-specific policy. Once this time-to-degree limit has lapsed, a student may resume work towards a master’s degree only if newly admitted to a currently offered master’s degree program under criteria determined by that program.

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 (or designate), defer the lapse for a period commensurate with the duration of that interruption. Students who are pursuing a master’s 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.

**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: [https://www.cmu.edu/policies/administrative-and-governance/sexual-harassment-and-sexual-assault.html](https://www.cmu.edu/policies/administrative-and-governance/sexual-harassment-and-sexual-assault.html)

If you believe you have been the victim of sexual harassment or sexual assault, you are encouraged to contact any of the following resources:

- **Office of Title IX Initiatives:** 412-268-7125, [www.cmu.edu/title-ix/](http://www.cmu.edu/title-ix/)
- **Sexual Harassment Advisors:** a list of advisors can be found in Appendix A of the Policy Against Sexual Harassment and Sexual Assault
- **Survivor Support Network:** a list of support individuals can be found in Appendix B of the Policy Against Sexual Harassment and Sexual Assault
- **Sexual Harassment Process and Title IX Coordinators:** a list can be found in Section II of the Policy Against Sexual Harassment and Sexual Assault
- **University Police:** 412-268-2323; [www.cmu.edu/police](http://www.cmu.edu/police)
- **University Health Services:** 412-268-2157; [www.cmu.edu/HealthServices](http://www.cmu.edu/HealthServices)
- **Counseling and Psychological Services:** 412-268-2922; [https://www.cmu.edu/counseling/contact/index.html](https://www.cmu.edu/counseling/contact/index.html)
Maternity Accommodation Protocol

Students whose anticipated delivery date is during the course of the semester may consider taking time away from their coursework. All female students who give birth to a child while engaged in coursework are eligible to take either a short-term absence or formal leave of absence. Students actively engaged in coursework may want to consider working with their instructors to receive incomplete grades, elect to drop to part-time status, or take a semester leave of absence.

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.

Students are encouraged to review the entire protocol at:

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


In addition to the contents of this handbook, graduate students are expected to be familiar with The Word, Carnegie Mellon University’s Student Handbook. The Word contains additional information regarding University-wide policies, some of which are specific to graduate students, procedures, resources and opportunities. The Word can be found on-line at http://www.cmu.edu/student-affairs/theword/index.html

Academic Integrity Statement

Carnegie Mellon University educates its students to become professionals who will serve society with integrity. The university also creates and disseminates new knowledge and expressions of knowledge in ways that benefit society. Carnegie Mellon strives to serve the changing needs of society through the three primary goals outlined in its mission statement:

- to create and disseminate knowledge and art through research and artistic expression, teaching and learning and transfer to society;
- to serve students by teaching them leadership and problem-solving skills, and the values of quality, ethical behavior, responsibility to society and commitments to work;
- to pursue the advantages provided by a diverse community, open to the exchange of ideas, where discovery and artistic creativity can flourish.

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.
Please review the University expectations at: https://www.cmu.edu/student-affairs/ocsi/academic-integrity/statement-AI.html

Please review the entire policy at: https://www.cmu.edu/student-affairs/ocsi/academic-integrity/index.html
Key Offices for Graduate Student Support

Office of the Assistant Vice Provost for Graduate Education

The Office of the Assistant Vice Provost for Graduate Education (AVPGE), directed by Suzie Laurich-McIntyre, PhD, 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 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 the programs has 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

The Office of the Dean of Student Affairs (https://www.cmu.edu/student-affairs/) provides central leadership to the metacurricular experience at Carnegie Mellon. The offices that fall under the division of Student Affairs led by Gina Casalegno, Vice President and Dean of Student Affairs, include but are not limited to:
• Career and Professional Development Center
• Cohon University Center
• Counseling & Psychological Services (CAPS)
• Dining Services
• Housing Services
• Office of Integrity and Community Standards
• Office of International Education (OIE)
• Student Activities
• University Health Services

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: [www.cmu.edu/student-affairs/index.html](http://www.cmu.edu/student-affairs/index.html). The Office of the Dean of Student Affairs also manages the **Emergency Student Loan** (ESL) process. The ESL service is made available through the generous gifts of alumni and friends of the university. The ESL 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 Integrity and Community Standards 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).

**Eberly Center for Teaching Excellence & Educational Innovation**

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 ([www.cmu.edu/teaching](http://www.cmu.edu/teaching)). 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/graduatesstudentsupport/index.html](http://www.cmu.edu/teaching/graduatesstudentsupport/index.html).

**Carnegie Mellon Ethics Hotline**

The health, safety, and well-being of the university community are top priorities at Carnegie Mellon. 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, research, and campus safety.

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

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) (www.cmu.edu/stugov/gsa/index.html), passes legislation, allocates student activities funding, advocates for legislative action locally and in Washington D.C. on behalf of Graduate student issues and needs, and otherwise acts on behalf of all graduate student interests. GSA also contributes a significant amount of funding for conferences and research, available to graduate students through application processes managed by the Office of the Assistant Vice Provost for Graduate Education. GSA also plans various social opportunities for graduate students and maintains a website of graduate student resources on and off-campus: https://www.cmu.edu/stugov/gsa/Resources-for-Graduate-Students/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)

The Intercultural Communication Center (ICC) (www.cmu.edu/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 and/or undergraduate programs 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

Carnegie Mellon hosts international graduate and undergraduate students who come from more than 90 countries. The Office of International Education (OIE) (www.cmu.edu/oie/) is the liaison to the University for all non-immigrant students and scholars. OIE provides many services: advice on personal, immigration, academic, social and acculturation issues; programs of interest such as international career workshops, tax workshops, and cross-cultural and immigration workshops; support for international and cultural student groups such as the International Student Union and the International Spouses and Partners Organization; a resource library that includes information on cultural adjustment, international education and statistics on international students in the U.S.; distribution of pertinent information to students through email and the OIE website, and conducts orientation programs.
Veterans and Military Community

Military veterans are a vital part of the Carnegie Mellon community (www.cmu.edu/veterans/). Graduate students can find information on applying veteran education benefits, campus services, veteran’s groups at CMU, non-educational resources and international military service information through the Veterans and Military Community website. There are also links and connections to veteran resources in the Pittsburgh community. The Naval ROTC and Veteran Affairs Offices are located at 4615 Forbes Avenue, uro-vaedbenefits@andrew.cmu.edu, 412-268-8747.

Key Offices for Academic and Research Support

Computing and Information Resources

Computing Services provides a comprehensive computing environment at Carnegie Mellon. Graduate students should seek Computing Services for information and assistance with their 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 students should know. The policy and guidelines are available at: www.cmu.edu/computing/guideline/index.html

For more information about Computing and Information Resources, see: www.cmu.edu/computing

Research at CMU

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 to 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: www.cmu.edu/research/index.shtml

Office of Research Integrity & Compliance

The Office of Research Integrity & Compliance (ORIC) is designed to support research at Carnegie Mellon. The staff works with researchers to ensure research is conducted with integrity and in accordance with federal and Pennsylvania regulation. ORIC assist researchers with human subject research, conflicts of interest, responsible conduct of research, export controls, intellectual property rights and regulations, and institutional animal care and use. ORIC also consults on, advises about, and handles allegations of research misconduct.

For more information about ORIC, see: www.cmu.edu/research-compliance/index.html
Key Offices for Health, Wellness, and Safety

Counseling & Psychological Services (CAPS)

Counseling & Psychology 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.

For more information about CAPS, see: www.studentaffairs.cmu.edu/counseling

University Health Services (UHS)

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 and nurse visits. Fees for prescription medications, laboratory test, diagnostic procedures and referral to the emergency room or specialists are the student’s responsibility and students should review the UHS website and their insurance plan for detailed information about the university health insurance requirements and fees. UHS also has a registered dietician and health promotion specialist 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 (www.cmu.edu/HealthServices) or by telephone, 412-268-2157.

Campus Wellness

At the university, we believe our individual and collective well-being is rooted in healthy connections to each other and to campus resources. There are a wide variety of resources, opportunities and people that help students thrive inside and outside the classroom. The BeWell@CMU e-newsletter seeks to be a comprehensive resource for CMU regarding all wellness-inspired events, announcements and professional and personal development opportunities. To sign up for the e-newsletter, text BEWELLATCMU to 22828 and share your preferred email address.

For more information about CAPS, see: http://www.cmu.edu/student-affairs/wellness/
**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](mailto:access@andrew.cmu.edu) to begin the interactive accommodation process.

For more information, please see [http://www.cmu.edu/education-office/disability-resources/](http://www.cmu.edu/education-office/disability-resources/). Students with disabilities are encouraged to self-identify with Equal Opportunity Services by contacting Catherine Getchell, 412-268-6121, getchell@cmu.edu to access the services available at the university and initiate a request for accommodations.

**University Police**

The University Police Department is located at 300 South Craig Street, Room 199 (entrance 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 ([www.cmu.edu/police](http://www.cmu.edu/police)) for additional information about the staff, escort and shuttle, emergency phone locations, crime prevention, lost and found, finger print services, and annual statistic reports.

- Emergencies: 412-268-2323
- Non-emergencies: 412-268-6232

**Shuttle and Escort Services**

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

**Campus Security & Fire Safety Report**

Carnegie Mellon publishes an annual campus security and fire safety report describing the university’s security, alcohol and drug, sexual assault, fire safety policies and contains statistics about the number and type of crimes committed on campus and the number and causes of fires in campus residence facilities during the preceding three years. 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)
Department and General Information

Master of Information Technology Strategy Program Mission Statement

The goal of the Master of Information Technology Strategy (MITS) program is to produce leaders with the critical thinking skills and strategic perspective needed to solve challenges within the information and cyber domains.

Degree Offered

Master of Information Technology Strategy (MITS)

- For future leaders in information dominance, those with the critical thinking skills and a strategic perspective required to solve future challenges within the information and cyber domain; 16 months, full-time, campus.

For the purposes of this handbook, policies and procedure mentioned herein pertain to the MITS program. All questions regarding other degree or certificate programs should be directed to the Program Manager, Jane Dixon Miller (mil3@cs.cmu.edu).
Program Resources

Personnel

The Master of Information Technology Strategy is a cooperative endeavor of the College of Engineering, Dietrich College of Humanities and Social Sciences, and School of Computer Science. We recommend that you become familiar with the leadership of all of these organizations.

Below you will find information on all associated faculty, mentors, and staff; including the possible ways in which you may interact with them.

College of Engineering

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>James H. Garrett Jr.</td>
<td>SH 110</td>
<td>412-268-5090</td>
</tr>
<tr>
<td>Dean</td>
<td></td>
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</tbody>
</table>

Institute for Politics and Strategy

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiron K. Skinner</td>
<td>BPH 154</td>
<td>412-268-2831</td>
</tr>
<tr>
<td>Director, Taube Professor</td>
<td></td>
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</tbody>
</table>

School of Computer Science

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Office</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Andrew Moore</td>
<td>GHC 5113</td>
<td>412-268-2063</td>
</tr>
<tr>
<td>Dean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank Pfenning</td>
<td>GHC 7019</td>
<td>412-268-6343</td>
</tr>
<tr>
<td>Computer Science Department Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guy Blelloch</td>
<td>GHC 9211</td>
<td>412-268-6245</td>
</tr>
<tr>
<td>Associate Dean for Undergraduate Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>David Garlan</td>
<td>WEH 4218</td>
<td>412-268-5056</td>
</tr>
<tr>
<td>Associate Dean for Master’s Programs</td>
<td></td>
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</tr>
</tbody>
</table>
# Institute for Software Research

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Office</th>
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<tbody>
<tr>
<td>Bill Scherlis, Director, ISR</td>
<td>WEH 5222</td>
<td>412-268-8741</td>
</tr>
<tr>
<td>Tony Lattanze, Director, Software Engineering Professional Programs</td>
<td>GHC 7019</td>
<td>412-268-6343</td>
</tr>
</tbody>
</table>

## MITS – Who We Are, Where We Are, and What We Do

### Executive Board

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Affiliation</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Brumley</td>
<td>Electrical and Computer Engineering, School Computer Science</td>
<td>CIC 2202, 412-268-3851, <a href="mailto:dbumley@cmu.edu">dbumley@cmu.edu</a></td>
</tr>
<tr>
<td>Baruch Fischhoff</td>
<td>Institute for Politics and Strategy, Engineering and Public Policy</td>
<td>PH 219 E, 412-268-3246, <a href="mailto:baruch@cmu.edu">baruch@cmu.edu</a></td>
</tr>
<tr>
<td>David Garlan</td>
<td>Institute for Software Research, School of Computer Science</td>
<td>WEH 5126, 412-268-5056, <a href="mailto:garlan@cs.cmu.edu">garlan@cs.cmu.edu</a></td>
</tr>
<tr>
<td>Colin Clarke</td>
<td>Institute for Politics and Strategy</td>
<td>PH 223G, <a href="mailto:cclarke@andrew.cmu.edu">cclarke@andrew.cmu.edu</a></td>
</tr>
</tbody>
</table>

### Faculty

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Course</th>
<th>Contact Information</th>
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<tbody>
<tr>
<td>Yuvraj Agarwal, Assistant Professor, Institute for Software Research; Electrical &amp; Computer Engineering</td>
<td>18-349 Introduction to Embedded Real-Time Systems</td>
<td>CIC 2217, 412-268-4856, <a href="mailto:agr@ece.cmu.edu">agr@ece.cmu.edu</a></td>
</tr>
<tr>
<td>John Chin, Post-Doctoral Fellow, Institute for Politics and Strategy</td>
<td>84-622 Nonviolent Conflict and Revolution, 84-662 Diplomacy and Statecraft</td>
<td>PH 223H, <a href="mailto:ijchin@andrew.cmu.edu">ijchin@andrew.cmu.edu</a></td>
</tr>
<tr>
<td>Name</td>
<td>Title/Department</td>
<td>Courses and Information Security</td>
</tr>
<tr>
<td>-------------------------</td>
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</tr>
<tr>
<td>Nicolas Christin</td>
<td>Assistant Research Professor, Electrical &amp; Computer Engineering, CyLab</td>
<td>17-741/18-631 Introduction to Information Security</td>
</tr>
<tr>
<td>Colin Clarke</td>
<td>Assistant Teaching Professor, Institute for Politics and Strategy</td>
<td>84-605 The Future of Warfare 84-680 Grand Strategy in the United States 84-689 Terrorism and Insurgency 84-690 Social Media, Technology, and Conflict</td>
</tr>
<tr>
<td>Molly Dunigan</td>
<td>Lecturer, Institute for Politics and Strategy</td>
<td>84-686 The Privatization of Force 84-720 International Security Graduate Seminar</td>
</tr>
<tr>
<td>Baruch Fischhoff</td>
<td>Howard Heinz University Professor, Institute for Politics and Strategy</td>
<td>84-669 Decision Science for International Relations</td>
</tr>
<tr>
<td>Christos Faloutsos</td>
<td>Professor, Computer Science; Machine Learning</td>
<td>15-826 Multimedia Databases and Data Mining</td>
</tr>
<tr>
<td>David Garlan</td>
<td>Faculty, Institute for Software Research</td>
<td>17-655 Architectures for Software Systems</td>
</tr>
<tr>
<td>Virgil Gligor</td>
<td>Professor, Electrical &amp; Computer Engineering; CyLab; Computer Science</td>
<td>18-730 Introduction to Computer Security</td>
</tr>
<tr>
<td>Brent Kennedy</td>
<td>Risk Vulnerability Assessment Security, SEI Cybersecurity Assurance; MS in Information Security</td>
<td>95-884 Network Defenses</td>
</tr>
<tr>
<td>Hyong Kim</td>
<td>Professor, Electrical &amp; Computer Engineering</td>
<td>18-756 Packet Switching &amp; Computer Networks</td>
</tr>
<tr>
<td>Christopher May</td>
<td>Technical Director Workforce Development, SEI Workforce Development Fo, INI/MS</td>
<td>14-761 Applied Information Assurance</td>
</tr>
<tr>
<td>Name</td>
<td>Role</td>
<td>Courses</td>
</tr>
<tr>
<td>-----------------------</td>
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</tr>
<tr>
<td>Isaac Porche</td>
<td>Adjunct Faculty, Institute for Politics and Strategy</td>
<td>17-632 Engineering Run Time Malware Detection</td>
</tr>
<tr>
<td>Forrest Morgan</td>
<td>Adjunct Faculty, Institute for Politics and Strategy</td>
<td>84-688 Concepts of War and Cyber War</td>
</tr>
<tr>
<td></td>
<td></td>
<td>84-736 Analytical Social Science and National Security: Emerging Challenges in National Security</td>
</tr>
<tr>
<td>M. Granger Morgan</td>
<td>Professor, Engineering &amp; Public Policy</td>
<td>19-701 Intro to the Theory &amp; Practice of Policy</td>
</tr>
<tr>
<td>Bill Nace</td>
<td>Associate Teaching Professor, Electrical &amp; Computer Engineering</td>
<td>14-740 Fundamentals of Telecommunication Networks</td>
</tr>
<tr>
<td>Dani Nedal</td>
<td>Post Doctoral Fellow, Institute for Politics and Strategy</td>
<td>84-670 Global Nuclear Politics</td>
</tr>
<tr>
<td>Jon Peha</td>
<td>Professor, Engineering &amp; Public Policy</td>
<td>19-713 Policies of Wireless Systems &amp; the Internet</td>
</tr>
<tr>
<td>Isaac Porche</td>
<td>Adjunct Faculty, Institute for Politics and Strategy</td>
<td>84-687 Technology and Policy of Cyber War</td>
</tr>
<tr>
<td>Deva Ramanan</td>
<td>Associate Professor, Robotics Institute</td>
<td>16-720 Computer Vision</td>
</tr>
<tr>
<td>Carolyn Rose</td>
<td>Associate Professor, Language Technologies Institute; Human Computer Interaction Institute</td>
<td>05-834 Machine Learning in Practice</td>
</tr>
<tr>
<td>Ronald Rosenfeld</td>
<td>Professor, Language Technologies Institute; Machine Learning</td>
<td>10-601 Machine Learning</td>
</tr>
<tr>
<td>Norman Sadeh-Konicpol</td>
<td>Professor, Institute for Software Research; Cylab</td>
<td>08-731 Information Security &amp; Privacy</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Office</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Mahadev Satyanarayanan</td>
<td>Carnegie Group Professor, Computer Science</td>
<td>18-843</td>
</tr>
<tr>
<td>Vyas Sekar</td>
<td>Assistant Professor, Electrical &amp; Computer Engineering; CyLab; Computer Science</td>
<td>18-731</td>
</tr>
<tr>
<td>Mel Siegel</td>
<td>Associate Research Professor, Robotics Institute</td>
<td>16-722</td>
</tr>
<tr>
<td>Daniel Siewiorek</td>
<td>Buhl University Professor, Human Computer Interaction Institute</td>
<td>18-843</td>
</tr>
<tr>
<td>Marvin Sirbu</td>
<td>Professor, Engineering &amp; Public Policy; Tepper School of Business</td>
<td>19-722</td>
</tr>
<tr>
<td>Red Whittaker</td>
<td>Fredkin University Research Professor, Robotics Institute</td>
<td>16-861</td>
</tr>
<tr>
<td>Yiming Yang</td>
<td>Professor, Language Technologies Institute</td>
<td>11-441</td>
</tr>
<tr>
<td>Michael Yu</td>
<td>Postdoctoral Fellow, Social &amp; Decision Sciences</td>
<td>88-602</td>
</tr>
</tbody>
</table>
### Academic Advisors

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Area of Concentration</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicolas Christin</td>
<td>Information Security</td>
<td>CIC 2108 412-268-4432</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td><a href="mailto:nicolasc@cmu.edu">nicolasc@cmu.edu</a></td>
</tr>
<tr>
<td>Anthony Lattanze</td>
<td>Data Analytics and Software</td>
<td>SCRG 278 412-268-4736</td>
</tr>
<tr>
<td>Associate Teaching Professor, Institute for Software Research</td>
<td></td>
<td><a href="mailto:lattanze@cs.cmu.edu">lattanze@cs.cmu.edu</a></td>
</tr>
<tr>
<td>Emily Half</td>
<td>Institute for Politics and Strategy</td>
<td>BH A55B 412-268-7082</td>
</tr>
<tr>
<td>Deputy Director</td>
<td></td>
<td><a href="mailto:ehalf@andrew.cmu.edu">ehalf@andrew.cmu.edu</a></td>
</tr>
</tbody>
</table>

### Administrative Staff

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Role/Interactions</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane Dixon Miller</td>
<td>Jane oversees all aspects of the program’s administration. You will likely speak to her regarding admissions follow up, personal and professional conflicts, performance review issues, course and faculty concerns, program management and direction.</td>
<td>SCRG 274 412-268-4359</td>
</tr>
<tr>
<td>Masters Program Manager, Associate Director for International Initiatives</td>
<td></td>
<td><a href="mailto:mil3@cs.cmu.edu">mil3@cs.cmu.edu</a></td>
</tr>
<tr>
<td>José López</td>
<td>José is the MITS point-of-contact for the program’s website and helps to coordinate several events associated with the Seminar through the Policy Forum in the Center for International Relations and Politics. Please contact him if you have suggestions for the website or if you have questions related to events for the Seminar</td>
<td>PH 100B 412-268-8818</td>
</tr>
<tr>
<td>Program Manager</td>
<td></td>
<td><a href="mailto:jmls@cmu.edu">jmls@cmu.edu</a></td>
</tr>
<tr>
<td>Mariana Pawlak</td>
<td>Mariana serves as the administrator for the MITS degree program. Among many other program-related issues, you will likely go to her regarding admission questions, registration, commencement, orientation and general program information.</td>
<td>SCRG 277 412-268-5067</td>
</tr>
<tr>
<td>Masters Program Administrator</td>
<td></td>
<td><a href="mailto:pawlak@cs.cmu.edu">pawlak@cs.cmu.edu</a></td>
</tr>
</tbody>
</table>
Facilities Staff

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Role/Interactions</th>
<th>Contact Information</th>
</tr>
</thead>
</table>
| Jim Skees  
Director of Building Facilities, School of Computer Science | You may contact Jim regarding any issue you may have with the building or furniture. Also, Jim should be contacted in the event of an accident on the property. | GHC 4103  
412-268-7653  
skees@cs.cmu.edu |
| Paul Stockhausen  
Assistant Facilities Manager, School of Computer Science | You may contact Paul regarding any issue you may have with the building, furniture, or phones | GHC 4103  
412-268-8223  
stocky@cs.cmu.edu |

Technical Staff

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Role/Interactions</th>
<th>Contact Information</th>
</tr>
</thead>
</table>
| Emanuel Bowes  
Systems Technician, ISR | Emanuel maintains servers and provides tech support for the MITS program | WEH 5301  
412-268-3369  
peb2+@cs.cmu.edu |
| Thomas W. Pope  
Systems Manager, ISR | Tom’s responsibilities include IT support, system administration, and website support | WEH 5301  
412-268-8615  
t pope@cmu.edu |

For a complete listing of CMU faculty and staff, please visit: www.cmu.edu/Directory

Graduate Student Ombudsman

To better serve Graduate Student interests in the event of conflict (academic or otherwise), the Graduate Student Department provides a Graduate Student Ombudsman. For more information on Suzie Laurich-McIntyre’s role as ombudsman for graduate students, please refer to the section on the Office of the Assistant Vice Provost for Graduate Education in the Additional Resources Manual.
Departmental Information

Reasonable Person Policy

In addition to the overarching university codes of conduct, the program abides by one of the best traditions of the School of Computer Science: the “Reasonable Person Policy.” This policy essentially says that we expect members of our community to act reasonably. As such, we attempt to keep formal, written rules to a relative minimum (the guidelines set forth in this handbook notwithstanding).

The governing principles of the Reasonable Person Policy are:

- Everyone will be reasonable.
- Everyone expects everyone else to be reasonable.
- No one is special.
- Do not be offended if someone suggests you are not being reasonable.

On a day-to-day basis, we simply ask that as a member of our community you treat others as you wish to be treated. Be honest. Show consideration for others when using facilities, resources, and supplies. Practice grace and humility when receiving feedback. Demonstrate tact and diplomacy when offering feedback to others.

Mailing Address for Master of Information Technology Strategy Program

Master of Information Technology Strategy Program
Carnegie Mellon University
300 South Craig Street, 2nd floor
Pittsburgh, PA 15213 USA

Program Resources

Office Spaces and Building Facilities

All students are provided with a working area. Provisions can be made for handicapped students. It is the responsibility of the student to notify the department of any special physical needs.

Keys

- Keys to lockable student storage space and a general access key are distributed to each student at Orientation.
- It is the responsibility of the student to return the keys upon leaving the program.
- Lost keys can be replaced at the cost of $20 each.

Security

- In the event of an emergency, contact Campus Police at: 412-268-2323
- The door leading from South Craig Street will be kept locked at all times.
• Access to the building is made by swiping a valid and activated Carnegie Mellon student identification card at the front door access area.
• Elevator and 2nd floor access is made by swiping the student ID card in both locations.
• Doors at the top of the 2nd floor stairway must remain locked at all times.
• Student cabinets located inside the MITS student space are lockable and remain the responsibility of the assigned student.
• Please do not invite friends into the MITS professional areas on a regular basis.
• In case of theft of property, either personal or university, please notify Mr. Jim Skees, Campus Security, and an MITS programs administrator.
• Emergency egress can be made by using any of the exit stairways. These can be found inside the MITS professional area, or in the 2nd floor main hallway.
• The university’s on-campus emergency procedure can be reviewed here: www.cmu.edu/student-affairs/theword//comm_standards/emergencies.html

Conference Rooms
• Six student meeting rooms are available for student teams to assemble collectively or with project clients.
• These rooms are scheduled each semester by the Studio Manager, and are available upon request on a first-come, first-reserved basis.

Media Rooms
• All 300 S. Craig Street student meeting rooms are equipped with overhead projectors and computer projections capabilities.
• All conference rooms are equipped with floor-to-ceiling white boards.
• High-end telecommunications systems are installed in the faculty conference room and two of the student breakout rooms.

Program and Departmental Libraries
The James E. Tomayko Memorial Library is located in the Master’s Programs in Software Engineering professional space, 300 South Craig Street, 2nd floor. This collection is the generous donation of Dr. Jim ‘Coach’ Tomayko, former director, faculty member, and SEI researcher. Program students may sign out books from his collection for their personal and professional use.

Students may also use the Engineering and Science Library (Wean Hall 4615) and the Software Engineering Institute Library (SEI 1st Floor).

Parking
Parking on campus for students and for their clients is their responsibility. See parking services website at: www.cmu.edu/parking/
**Repairs**

- **Computing equipment:**
  - Notify an ISR IT technical support staff member

- **Furniture:**
  - Notify Jim Skees (skees@cs.cmu.edu) or Paul Stockhausen (stocky@cs.cmu.edu).

- **Services:**
  - For furniture, lighting, heating, cooling, etc., contact Jim Skees or Paul Stockhausen.
  - For computers, contact the SCS help desk (Ext. 4231) or the ISR Systems Mgr. (Ext. 7138).

**Accidents on CMU Property**

Please report all accidents to Jim Skees (skees@cs.cmu.edu) and the MITS Office. You will be asked to complete an accident report.

**Mail and Correspondence**

**Mailboxes**

Mail slots (arranged in alphabetical order) are located inside the master program’s professional space on the 2nd floor, 300 South Craig Street. All mail is delivered to this location. Please check your mail slot regularly. Mail that is left for an extended period of time may be discarded.

**Express Mail/UPS/FedEx**

Students may send materials to project clients using these services. Program administrators can supply the packing materials.

Deliveries can be sent to you at the program address. Please check your student mailbox regularly to retrieve mail/packages.

**Fax**

There is a fax machine in the program’s location. Please see the program administrator for the access code. Incoming faxes may be received without charge in the fax room at Craig Street (412-268-5413).

**Copy Machines**

There are two copy machines located on the 2nd floor of the Master’s Programs professional facility at 300 South Craig Street. One is located in the corridor outside of SCRG 277. The other is located in SCRG 283.

**Department Computer Clusters**

There are a large number of computer clusters located throughout the CMU campus. For locations, see: www.cmu.edu/computing/clusters/
Office Supplies and Equipment

Supplies

- A small quantity of supplies is kept in the student public area.
- When taking supplies from the program stock, please remember the “Reasonable Person” policy. Inform a program administrator when the supply runs low.
- Empty 3-ring binders are often available from administrators. When the 3-ring binder is no longer needed, please empty it and return it to this stock for use by other students.
- The department will not provide special supplies.
- Shared office supplies, such as heavy-duty stapler, 3-hole punch, etc., are in the public copy/printing area on the 2nd floor. Students are asked to use the supplies in the designated areas.

Conference Phones

- Conference phones are available for business use. Students may use program conference phones to conduct business with project clients, potential employers, or to complete work essential to their plan of study or project work.
- It is recommended that the outside party initiate the conference call. Direct-dial phone numbers for each room are readily available and can be shared with the outside party.
- To make calls internal to the university, it is necessary to dial “8” followed by the last 4 digits of the university office or individual contact number.
- To make calls outside of the university, dial 122 + 13925472 + 9 + (1) + the 7-digit phone number.
- To telephone outside of the US, it is necessary to dial 122 + 13925472 + 9 + 011 + the 7-digit phone number.

Financial and Social Resources/Policies

Expenses

- Any expenses incurred on behalf of the program and approved in advance by the Program Manager may be reimbursed.
- Expenses associated with projects that have been pre-approved by the Program Manager or Director may be reimbursed by the program.
- Receipts that verify purchases and/or expenses should be presented to the program administrator for reimbursement.

Program Approach to Press and Media Relations

The Program Manager is the point-of-contact between news media and the MITS community, including faculty, students, administrators and staff.

If any student, staff or faculty member of the Program is contacted by a media representative, they are
encouraged to immediately inform either the Program Director or Program Manager. Persons are not required to answer any questions from journalists without first seeking counsel from program leadership.

Persons interested in publicizing a program, project, event, or other activity affiliated with the MITS Program should contact the Program Manager, Jane Dixon Miller, or the Program Director, Dr. David Garlan.

Program, Department, College, and University Brands and Logos

The MITS program adheres to the University’s established guidelines regarding brand identity and logo usage. For more information on the use of university logos and suggested brand identity markers (color scheme, typeface, etc.), please consult the Office of Marketing Communications: www.cmu.edu/marcom/brand-guidelines/index.html

If you would like to use the MITS logo, please contact the Program Manager, Jane Dixon Miller, regarding its usage first.
Degree Attainment

Course of Study and Graduation

Duration of the Program

MITS full-time campus degree program: Designed to be completed in 3 consecutive semesters, with the option of an additional semester which allows the student to deepen their knowledge in a particular concentration area.

Study is split between College of Engineering, Dietrich College of Humanities and Social Sciences, and School of Computer Science.

Definition of Full-Time Status
The MITS Program defines full-time enrollment as no less than 36 units in a given semester.

Deferment of Start of Program
Applicants admitted to the MITS program may enter only in the year of acceptance. If a student does not attend in the year they are accepted, the student must re-apply to the program.

Course of Study
To receive the Master of Information Technology Strategy (MITS) degree, students must successfully complete the appropriate courses with an overall quality point average (QPA) of 3.0. If a grade lower than “B-” (B minus) is received in any core, concentration, project or Seminar course, that course must be repeated regardless of the QPA. A “B-” (B minus) or less in any course may jeopardize the student’s good standing in the program.

The MITS program’s minimum requirements include 120 units, divided as follows:

- Core Course Requirements – 48 units
- Area of Concentration – 24 units
- Free Elective – 12 units
- Project – 30 units
- Seminar – 6 units

All core and concentration requirements must be completed in the first two semesters of the program. Core courses may be used to fulfill concentration requirements. Due to changing class availability, alternatives to core and concentration area will be considered on a case-by-case basis.

For more specific information, see the following: [www.cmu.edu/mits/curriculum/core/index.html](http://www.cmu.edu/mits/curriculum/core/index.html)

*Note 1: Course units are listed as a convenience for those who wish to know this information. Three CMU units are roughly equivalent to one credit hour. Therefore, a 12-unit course is equivalent to a 4-credit course.*

*Note 2: generally, the recommended number of units per semester is 48 units. Maximum registration in
any given semester is 51 units. Registration for greater than 51 units requires the advance permission and approval/signature of the Program Director.

Core Courses
Core courses establish the necessary background and a common competence level in each of the four areas relevant to Information Technology Strategy: Big Data and Analytics, Politics and Strategy, Information Security, Software and Networked Systems. For a list of core courses, see the following: www.cmu.edu/mits/curriculum/core/index.html

Area of Concentration
Students will choose an area of concentration (2 courses/24 units) from one of the four relevant areas: Big Data and Analytics, Politics and Strategy, Information Security, Software and Networked Systems. The area of concentration builds upon the core and allows students to develop expertise in a particular area. For a list of courses, arranged by area of concentration, see the following: www.cmu.edu/mits/curriculum/concentration/index.html

Free Electives
Students may explore their area of concentration further, or pursue topics outside their area of concentration, through free electives. At least one course (12 units) must be taken outside of their area of concentration.

Project
Offered during the summer semester, the Project provides students with the opportunity to engage in a mentored team project, to delve deeply into a problem, and to create a solution relevant to information technology strategy.

Seminar
The Seminar brings the cohort of students together to explore topics of particular interest. Special military and civilian leaders will be invited as guest presenters in the speaker series. Throughout the first fall and spring semesters, students are required to attend weekly seminars offered by various departments from across the university. Seminar participants are required to write and submit a summary of each seminar that they attend as supporting documentation of their learning and engagement.

Consideration of Courses within Degree Requirements
Courses will first be considered as a core course requirement. If not applicable as a core course, it may then be considered to fulfill a concentration requirement or as a free elective or supplemental course.

Students are encouraged to meet with their general and concentration academic advisors to discuss specific course selections and their applicability toward degree completion requirements.

Course Materials
All course materials are available as announced by the instructor. Books may be purchased at the Carnegie Mellon Bookstore or from the student’s favorite online bookseller.
On Participating in Campus Commencement

Graduates of the 12- and 16-month MITS program participate in the May commencement ceremony in the year following the completion of their degree requirements.

Schedules

University Schedules

The university issues schedules of courses for each semester. These are generally available in mid-April for the summer session, late-April for the fall semester, and mid-November for the spring semester.

The most current course schedule can be found on The Hub website:

enr-apps.as.cmu.edu/open/SOC/SOCServlet

The schedule lists the course number, title, instructor, section, days, hours and room, and the prerequisites, if any. Course schedules may change due to unexpected circumstances; such as non-availability of faculty, low class size, and unexpectedly high enrollment.

It is the responsibility of the student to refer to the latest course schedules.

Examination Schedules

- The University’s official final examination period begins on the Monday immediately following the last day of classes and continues through the last day of scheduled final examinations, with the exception of reading day(s).
- Scheduled final examinations are those scheduled by Enrollment Services: www.cmu.edu/hub/courses/exams.html
- An instructor may choose not to set a schedule for the final examination, rather allowing each student to choose his/her examination time. Such exams are called self-scheduled examinations.

Make Up Exams

Make-up exams remain the discretion of the individual course instructors and will be scheduled as appropriate.

Enrollment

Registration Procedure

- Course registrations are completed by the student online at: www.cmu.edu/hub/sio
- The MITS program (and the university) reserves the right to withdraw any announced course if the enrollment is too low. The program also reserves the right to make changes in the schedule of hours, units, or in instructional staff.
- It is the responsibility of each student to register for courses. This can be done at any time, beginning with the pre-registration period and ending during the add/drop period. Dates can be found on the official academic calendar.
• Each student must register for each course, whether it is for credit or audit. Any student whose name is not on the roster for a particular course on the first day of class may be denied admission to the course.

**Drop/Add Procedures**

For policies and procedures regarding the implications of adding and dropping courses, please refer to: www.cmu.edu/policies/ (carefully review the “Drop/Withdrawal Grades” subsection).

Please consult the Official Academic Calendar for official add/drop dates: www.cmu.edu/hub/calendar.html

**Courses with Restricted Enrollment**

A faculty member may set a limit on the number of students permitted to enroll in a course he or she is teaching. If the number of pre-registered students for a course exceeds the class size, as specified by the instructor of the course, all other students will be put on a waiting list.

**Grades and Evaluations**

All courses offered through the program are graded on the 4.3 grading standard www.cmu.edu/policies/documents/Grades.html

• MITS students must maintain a “B or better” overall average. “B” is equivalent to a 3.0 QPA.
• “R” = Failure. This grade is not acceptable for any graduate student.
• CMU policy specifies that a student who receives an “R” grade in any core course must retake the course and potentially assume supplemental tuition costs for the same. The program adheres to this and all CMU policies.
• If a grade lower than “B-” (B minus) is received in any core, concentration or project course, those courses must be repeated, regardless of QPA.
• The successful completion (with a passing grade of ‘B- or better’) of two semesters of Seminar is required.

**Grade Reports**

Grades can be located at the student’s Student Information Online (SIO) site: www.cmu.edu/hub/sio

**Policy on Grades for Transfer Courses**

University Policy

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
Program Policy on Acceptance of Transfer Courses/Grades

Students who have taken and successfully completed graduate-level courses in related areas may petition for these credits to apply toward their elective credit requirements, as long as the following conditions are met:

1. No course credit will be given for courses that were already used to obtain a graduate degree.
2. The petitioned course must be in an area/discipline closely aligned with the student’s intended area of graduate study.
3. Students must obtain and present a transcript with the final earned grade from the institution where the course was taken, as well as supporting artifacts specific to the course at the time it was taken (i.e., course description, syllabus, learning/educational outcomes, student work product such as project, report, analysis, etc.).
4. Final earned grade in petitioned courses must be ‘B- or better’.
5. All petitioned courses must be graduate level, or equivalent to a CMU 500-series (or higher) course.

Each transfer request is evaluated on a case-by-case basis. A decision will be made on the course’s transferability by the program director only after the applicant has been notified of his/her acceptance to the program. A maximum of (1) course may be accepted in transfer and applied toward degree completion elective requirements. All remaining core, concentration, and project courses must be completed through Carnegie Mellon. Course approved for transfer will appear on the student transcript as ‘transfer credits’.

Student Review

The MITS faculty conducts academic progress reviews each mid- and end-semester period in the fall, spring, and summer terms in order to monitor individual student and project team performance. All core and associated faculty, mentors and directors are invited to contribute input regarding student performance.

In assessing a student’s performance, faculty, mentors, and directors look to academic achievement, personal responsibility, teamwork, and overall progress. Should a student’s effort fall below the acceptable level of academic performance and/or fail to meet standards established by Carnegie Mellon and the MITS program, the student will be appropriately notified, presented with a suggested plan for improvement, and notified of the risks associated with failure to improve.

Procedure for Written Notification of “Inadequate Progress Toward a Degree”

Following the posting of mid-term grades, students are notified orally and/or in writing of less-than-acceptable progress in their course(s) of study. Recommendations for a plan of action will be offered and expectations set for the student to demonstrate improvement.
**Academic Probation**

Student progress will be monitored each semester. Should a student’s overall QPA drop below 3.0 during any semester, he/she may be placed on departmental probation for the following semester and required to improve his/her performance to the acceptable 3.0 QPA during that period. Failure to improve a QPA to 3.0 or better within the following semester may result in termination from the program.

**Change of Grades and Missing Grades**

Final grades will be changed only in exceptional circumstances and only with the approval of the instructor and the program.

- A graduate student who believes that the final grade assigned for a course is incorrect should:
  1. Discuss the matter informally with the course instructor responsible for the course in which the student believes an inappropriate grade has been awarded;
  2. Provide evidence that the grade issued was not the grade earned.
  3. If the instructor agrees, the student should contact the program administrator to process a Change of Grade Form in order to correct the grade that was issued in error.

- If the instructor and the graduate student do not agree, and the student is not satisfied with the instructor’s grade decision, the student may appeal to the department head within fourteen (14) days of the final grade award. This is done with a formal, written letter and provision of the appropriate documentation. For university policy on grade appeals, see:

  - [www.cmu.edu/hub/registration/graduates/grading.html](http://www.cmu.edu/hub/registration/graduates/grading.html)
  - [www.cmu.edu/policies/documents/Grades.html](http://www.cmu.edu/policies/documents/Grades.html)

- If a grade has not been assigned, please notify the course instructor to complete a Missing Grade Form.

**Program Policy on Pass/Fail Courses**

All courses to be used toward degree completion requirements must be letter-bearing. Students may take elective courses for their educational enrichment on a pass/fail basis, with the understanding that they will not fulfill degree requirements.

**Program Policy/Process for “W” From a Course**

Any student wishing to withdraw from a course so as not to negatively affect his or her QPA must do so in advance of the posted Course Drop deadline. This date is listed on the university academic calendar:

[www.cmu.edu/hub/calendar.html](http://www.cmu.edu/hub/calendar.html)
Program Policy on Grades for Retaking a Course

Any student who fails a course will have the failure reviewed by the faculty committee during the end-semester academic review. Under advisement from the committee, the Program Director may require the student to repeat the course in order to complete the degree completion requirements.

Incomplete Grades

- Carnegie Mellon students are expected to complete a course during the academic semester in which the course was taken. However, if the instructor agrees, a grade of “I” (incomplete) may be given when a student has been unable to complete the work of a course. However, the work completed up to that date must be of passing quality and the grade of incomplete provides no undue advantage to that student over other students.
- In awarding an “I” grade, an instructor must specify the requirements for the completion of the work and designate a default letter grade in the event that the student fails to complete the remaining work.
- Students must complete the required course work by no later than the end of the following academic semester or sooner if required by the instructor.
- The instructor must record the permanent course grade by the last day of the examination period of the following semester, or the default grade will be automatically assigned by the Registrar.

Incomplete Grades Delaying Graduation

If an Incomplete grade is earned during the semester in which the student expects to graduate, the student may choose to:

- accept the grade of “I” (Incomplete), thus delaying graduation until the successful completion of the course
  
  OR

- accept a grade of “C”, be certified to graduate, successfully complete the required course work, and request a change of grade to reflect the completion of assignments.

Qualifying Examinations and Procedures (Or Equivalent)

None required

Thesis/Dissertation

None required

Other Public Presentations/Examinations (Or Equivalent)

There are numerous opportunities for students to make public presentations. Such presentations include:

- various group presentations throughout the program duration.
- end-of-semester presentation (FPP).
- as required by individual courses
Graduate Certification and Degree Title
Upon successful completion of all coursework students will be certified for graduation by the program administrator.

Degree Title appears on the degree as follows:

Master of Information Technology Strategy

Process for Taking and Returning from Leave of Absence
Students who are in good standing may apply for a leave of absence from the Program. Such a leave of absence is usually granted for a maximum of no more than one year and must be formalized by a written request. After that time, the student must contact the department for possible re-entry into the Program.

The Program reserves the right to set entry conditions that must be met when a student returns from a Leave of Absence. A student will be granted only one leave of absence from the MITS Program.

Refer to the university’s policy on Leave of Absence and Return from Leave:
www.cmu.edu/hub/registration/leave.html

Process for Withdrawing from the Program
Students who have no intention of returning to the MITS program are required to complete the withdrawal form and submit it to the University Registrar’s Office:
www.cmu.edu/hub/registration/leave.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: www.cmu.edu/hub/records/verifications/index.html

Graduation and Degree Completion Specifications and Summary Requirements
None required.

Teaching Requirements
None required.

Language Proficiency Requirements
In order to be successful academically and professionally, students should be able to express themselves clearly via spoken and written English, as well as through presentations.

Residence Requirements
None required.
Department Expectations Regarding Plagiarism and Cheating

The MITS program has the highest expectations of academic integrity. As such, the program will not tolerate any instance of cheating or academic misconduct.

Cheating includes but is not necessarily limited to:

1. Plagiarism, explained below.
2. Submission of work that is not the student's own for papers, assignments or exams.
3. Submission or use of falsified data.
4. Theft of or unauthorized access to an exam.
5. Use of an alternate, stand-in or proxy during an examination.
6. Use of unauthorized material including textbooks, notes or computer programs in the preparation of an assignment or during an examination.
7. Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.
8. Collaboration in the preparation of an assignment. Unless specifically permitted or required by the instructor, collaboration is 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.
9. 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:

1. A phrase, written or musical.
2. A graphic element.
3. A proof.
4. Specific language.
5. An idea derived from the work, published or unpublished, of another person.

The university has a very clear and specific protocol for responding to alleged violations of academic integrity. Accordingly, the MITS program adheres closely to this policy. Carnegie Mellon's policy on Academic Disciplinary Actions Overview for Graduate Students describes procedures for disciplinary actions against graduate students in cases of alleged violations of academic regulations and the appeal process.

You may review the policy here: [www.cmu.edu/academic-integrity/documents/academic-disciplinary-actions-overview-for-graduate-students.2013.pdf](http://www.cmu.edu/academic-integrity/documents/academic-disciplinary-actions-overview-for-graduate-students.2013.pdf)
Program Academic Integrity Policy/Procedures

The majority of students in our programs don't cheat. Cheating is a choice. If a student chooses to cheat and is caught doing so, he/she can expect that the following things will happen:

- Student will be penalized on the assignment in question and placed on probation. The student will remain on academic probation for the duration of the program.
- If the student is already on probation for any reason when the cheating incident is reported, he/she may be dismissed from the program.
- A second incident of the cheating offense is justification for dismissal.
- Students found guilty of cheating are not eligible for leadership positions and may not serve as a Teaching Assistant.

All students should review and familiarize themselves with the University's Academic Integrity Policy. The policy can be found at:

[www.cmu.edu/academic-integrity/documents/academic-disciplinary-actions-overview-for-graduate-students.2013.pdf](http://www.cmu.edu/academic-integrity/documents/academic-disciplinary-actions-overview-for-graduate-students.2013.pdf)

Form of Review/Redress for Academic Conflicts

Students should discuss any issue associated with academic matters with the Program Director. The MITS Executive Committee will address unresolved conflicts. If not resolved, the student may appeal to the College Council.

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, slaurichmcintyre@cmu.edu, on issues of process or other concerns as they navigate conflicts: [www.cmu.edu/graduate/policies/appeal-grievance-procedures.html](http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html).

The professional graduate software engineering programs adhere at Carnegie Mellon’s policy regarding student rights: [www.cmu.edu/policies/documents/StRights.html](http://www.cmu.edu/policies/documents/StRights.html)
Additional Department Policies/Protocols

Advising

Role of the Advisor
An advisor will be assigned to each student at the start of the program. The advisor’s role is to:

- offer advice on appropriate courses to meet individual career goals;
- monitor student progress throughout the program;
- evaluate student performance as related to English language proficiency and suggest appropriate intervention, as needed;
- recommend and help arrange for tutoring, if needed;
- recommend disciplinary action to the Executive Committee, if needed;
- meet at the conclusion of each semester to discuss student progress and to provide progress documentation to the student.

Role of the Student
Initial advising is done at the MITS Orientation. Students are then responsible for making subsequent appointments with their program-assigned advisors. Periodic check-ins with advisors are encouraged in order to discuss personal and professional career goals and a Plan of Study that targets those objectives. Recommended times for advising sessions include the week prior to registration to review elective course options, consideration of Independent Study opportunities, discussion of academic challenges, feedback on matters of academic integrity/conflict, and evaluation of professional job prospects.

How to Change Advisors
If a student experiences difficulty working with his/her assigned advisor, the relationship and associated circumstances should be discussed first with the assigned advisor. In the event that no resolution is forthcoming, the student should discuss the situation(s) with the MITS Program Director and offer suggestions for an alternate advisor. The Director will act as arbiter regarding advising change requests.

Orientation
The MITS program offers a mandatory orientation to new students during the week prior to the beginning of fall classes. This orientation may also be attended by continuing students and may be followed shortly thereafter with a “refresher” of procedures.

On Intellectual Property as it Applies to Student/Instructor Collaboration
The professional graduate software engineering programs adhere to Carnegie Mellon’s policy: www.cmu.edu/policies/documents/IntellProp.html
Student Rights

The MITS program adheres to Carnegie Mellon’s policy regarding student rights: www.cmu.edu/policies/documents/StRights.html

“Grandfather” Policy

When policies change, it is because the department recognizes that the newly-adopted rule is an improvement. Students enrolled in a degree program that is affected by a change in policy may, in some cases, choose to be governed by the policy in effect at the time of their matriculation.
Tuition and Financial Aid

Associated Fees

The MITS program does not include additional associated student fees. The associated fees for students in the School of Computer Science can be reviewed at: [www.cmu.edu/hub/tuition/graduate/scs.html](http://www.cmu.edu/hub/tuition/graduate/scs.html)

Should a student choose to travel to a conference for professional development, the Graduate Student Assembly (GSA) and the Provost’s Office offer funding opportunities. For more information on this funding and the application process, please visit: [http://www.cmu.edu/stugov/gsa/funding/index.html](http://www.cmu.edu/stugov/gsa/funding/index.html).

University Financial Aid

Graduate students should consult the graduate student financial aid information found on The HUB website: [www.cmu.edu/finaid/graduate/index.html](http://www.cmu.edu/finaid/graduate/index.html). 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 situations should contact the Office of the Dean of Student Affairs, [www.cmu.edu/student-affairs/index.html](http://www.cmu.edu/student-affairs/index.html), to inquire about an Emergency Student Loan.

Tuition Payments

To understand your invoice, payment options, etc., visit: [www.cmu.edu/hub/billing/index.html](http://www.cmu.edu/hub/billing/index.html)

The student must handle tuition problems by directly contacting the HUB.

Tuition Payment for Summer Courses/Full-Time and Part-Time Students

Students enrolled in the full-time campus programs are charged the per-semester tuition based upon the rate at the time of their matriculation.

Tuition Refund Policy for Full-Time and Part-Time Students

The MITS program adheres to the university policy pertaining to tuition refunds. See: [www.cmu.edu/hub/billing/refunds.html](http://www.cmu.edu/hub/billing/refunds.html)

Sponsored Students

A sponsored student is one who has another party (such as an embassy or sponsor company) under agreement to pay the student’s tuition. See: [www.cmu.edu/hub/billing/sponsor/index.html](http://www.cmu.edu/hub/billing/sponsor/index.html)

Carnegie Mellon Employees Reimbursement Procedure

Contact the Benefits Office (268-2049) for specific information on tuition benefits. You must complete a Tuition Remission form each semester in order to receive these benefits. To receive a Tuition Remission form, visit the Human Resources website at: [www.cmu.edu/hr](http://www.cmu.edu/hr)

Note: Because tuition remission is a taxable benefit, employees of Carnegie Mellon University assume the payment of taxes for any graduate courses taken.
**Full-Time/Part-Time Status Requirements**

- To be considered a full-time student, a student must be registered for a minimum of 36 units in every semester.
- All international students are required by federal law to maintain full-time status. Failure to maintain full-time status will result in loss of a student visa (and, therefore, “permit of stay”).
- All students who have a Stafford Loan cannot drop below part-time status.

**Financial Support from the MITS Program**

- The MITS program does not provide financial support.
- Carnegie Mellon University, SCS, CIT, H&SS and the MITS program do not grant tuition waivers.

**External Fellowships**

- The MITS program accepts students with external fellowships.
- For information on external fellowships: [www.cmu.edu/finaid/graduate/options.html](http://www.cmu.edu/finaid/graduate/options.html)

**Policy on Outside Employment**

Full-time graduate students are ordinarily expected to devote their full attention and energy to their educational endeavors. Classwork and project assignments are deliberately planned so as to occupy full-time students, thus effectively precluding outside employment and consulting.

All full-time students are advised to decline such work and concentrate on their graduate studies.

**Availability of Summer Employment**

The MITS Program does not provide summer employment opportunities. Further, as the programs require a full-time course load during the summer semester, it is highly unadvisable to seek internal or external summer employment.
Appendix

Appendix A: MITS Course of Study

To receive the Master of Information Technology Strategy (MITS) degree, students must successfully complete the appropriate courses with an overall quality point average (QPA) of 3.0. If a grade lower than “B-” (B minus) is received in any core, concentration, project or Seminar course, that course must be repeated regardless of the QPA. A “B-” (B minus) or less in any course may jeopardize the student’s good standing in the program.

The MITS program’s minimum requirements include 120 units, divided as follows:

- Core Course Requirements – 48 units
- Area of Concentration – 24 units
- Free Elective – 12 units
- Project – 30 units
- Seminar – 6 units

All core and concentration requirements must be completed in the first two semesters of the program. Core courses may be used to fulfill concentration requirements. Due to changing class availability, alternatives to core and concentration area will be considered on a case by case basis.

For more specific information, see the following: [www.cmu.edu/mits/curriculum/core/index.html](http://www.cmu.edu/mits/curriculum/core/index.html)

Note 1: Course units are listed as a convenience for those who wish to know this information. Three CMU units are roughly equivalent to one credit hour. Therefore, a 12-unit course is equivalent to a 4-credit course.

Note 2: As a general rule, the recommended number of units per semester is 48 units. Maximum registration in any given semester is 51 units. Registration for greater than 51 units requires the advance permission and approval/signature of the Program Director.

Core Courses

Core courses establish the necessary background and a common competence level in each of the four areas relevant to Information Technology Strategy: Big Data and Analytics, Politics and Strategy, Information Security, Software and Networked Systems. For a list of core courses, see the following: [www.cmu.edu/mits/curriculum/core/index.html](http://www.cmu.edu/mits/curriculum/core/index.html)

Area of Concentration

Students will choose an area of concentration (2 courses/24 units) from one of the four relevant areas: Big Data and Analytics, Politics and Strategy, Information Security, Software and Networked Systems. The area of concentration builds upon the core and allows students to develop expertise in a particular area. For a list of courses, arranged by area of concentration, see the following: [www.cmu.edu/mits/curriculum/concentration/index.html](http://www.cmu.edu/mits/curriculum/concentration/index.html)
Free Electives

Students may explore their area of concentration further, or pursue topics outside their area of concentration, through free electives. At least one course (12 units) must be taken outside of their area of concentration.

Project

Offered during the summer semester, the Project provides students with the opportunity to engage in a mentored team project, to delve deeply into a problem, and to create a solution relevant to information technology strategy.

Seminar

The Seminar brings the cohort of students together to explore topics of particular interest. Special military and civilian leaders will be invited as guest presenters in the speaker series.

Throughout the first fall and spring semesters, students are required to attend weekly seminars offered by various departments from across the university. Seminar participants are required to write and submit a summary of each seminar that they attend as supporting documentation of their learning and engagement.

Consideration of Courses Within Degree Requirements

Courses will first be considered as a core course requirement. If not applicable as a core course, it may then be considered to fulfill a concentration requirement or as a free elective or supplemental course.

Students are encouraged to meet with their general and concentration academic advisors to discuss specific course selections and their applicability toward degree completion requirements.

4th Semester Option

An optional 1-semester extension allows students to deepen his or her knowledge in a particular concentration area. Students are expected to complete their core and concentration requirements in their first 3 semesters. 4th semester option students will need 156 units total to graduate.

* Carnegie Mellon assigns "units" of weight for each course. For the average student, one unit represents one work-hour of time per week. Three units are the equivalent of one traditional semester credit.
Appendix B: MITS Curriculum

The MITS program is a three semester, full-time on-campus program. The curriculum consists of five distinct components: core coursework, an area of concentration, free electives, Project, and Seminar. There is a fourth semester option.

The core coursework establishes the necessary background and common competency level. The area of concentration builds upon the core courses, allowing the student to develop expertise in a given academic area. Elective slots enable the students to explore their area of concentration in greater depth, or to pursue topics outside the concentration. The Seminar provides an avenue by which enrolled students can explore topics of particular interest. The Project is the mechanism whereby students, as members of a team, delve deeply into a problem in an effort to create a solution that is relevant to information technology strategy.

The MITS program minimum requirements include 120 units*, divided as follows:

- Core Course Requirements - 48 units
- Area of Concentration - 24 units
- Free Elective - 12 units
- Project - 30 units
- Seminar - 6 units

All Core and Concentration requirements must be completed in the first two semesters of the program. Core courses may be used to fulfill concentration requirements. Due to changing class availability alternatives to core and concentration area will be considered on a case by case basis.

Typical plan of study:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Core</th>
<th>Concentration</th>
<th>Free Elective</th>
<th>Seminar</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>24 Units</td>
<td>12 Units</td>
<td>12 Units Maximum</td>
<td>3 Units</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>24 Units</td>
<td>12 Units</td>
<td>12 Units Maximum</td>
<td>3 Units</td>
<td>6 Units</td>
</tr>
<tr>
<td>Summer</td>
<td></td>
<td></td>
<td>24 Units Maximum</td>
<td></td>
<td>24 Units</td>
</tr>
</tbody>
</table>

4th Semester Option

An optional 1-semester extension allows students to deepen his or her knowledge in a particular concentration area. Students are expected to complete their core and concentration requirements in their first 3 semesters. 4th semester option students will need 156 units total to graduate.
* Carnegie Mellon assigns "units" of weight for each course. For the average student, one unit represents one work-hour of time per week. Three units are the equivalent of one traditional semester credit.

**Core Courses**

Core courses establish the necessary background and a common competence level in each of the four thematic areas. Students must take at least one core course from each of the Concentration areas below for a total of 48 units minimum.

### Data and Analytics
- 05-834 Machine Learning in Practice (fall/spring)
  - *(Note: Students in the Data and Analytics Concentration may not take 05-834)*
- 08-640 Dynamic Network Analysis
- 10-601/10-701 Machine Learning (fall)
  - *(Note: Students may not take both 05-834 and 10-601/701)*

### Politics and Strategy
- 84-605 The Future of Warfare (fall)
- 84-687 Technology and Policy of Cyber War (spring)

### Information Security
- 17-631 Information and Security Policy (fall)
  - *(Note: Students in the Security Concentration may not take 08-631)*
- 18-487 Introduction to Computer Security & Applied Cryptography
  - *(Note: This course has a prerequisite of 15-213/513 which may be taken in the summer prior to arriving at CMU.)*
- 18-631 Introduction to Information Security (fall)
  - *(Note: Students may only take one of the courses 08-731, 18-487 or 18-631.)*

### Software and Networked Systems
- 17-638 Software Architectures for Managers (spring 2nd half mini)
  - Paired with:
    - 17-610 Risk Management for Software Intensive Projects (fall 1st half mini, spring 2nd half mini)
    - OR
    - 95-884 Network Security (spring 2nd half mini)
      - *(Note: Students in the Software and Network Concentration may not use 17-638, 17-610, and 95-884 for their core requirement. 17-610 and 95-884 may be used toward concentration requirements.)*
  - 17-655 Software Architecture (spring)
    - *(Note: Students may not take both 17-638 and 17-655.)*
  - 15-640 Distributed Systems (fall/spring limited slots)
Area of Concentration

The area of concentration provides an opportunity to build upon core course knowledge, and to develop expertise in a specific area. Students choose a focus area (2 courses, or 24 units) from amongst the following concentration areas:

- Data Analytics
- Politics and Strategy
- Information Security
- Software and Networked Systems

Students can further explore their area of concentration, or pursue topics outside of it, through free electives. At least one course (12 units) must be taken from outside the student’s focus area.

Students may choose courses for their area of concentration and free electives from amongst the following:

**Data Analytics**

To be successful, tomorrow’s leaders in Information Dominance must be proficient in extracting knowledge from large data systems. Such extraction requires mastery in techniques such as machine learning, social network analysis, and large-scale data reduction and filtering.

- 08-722 Data Structures for Application Programmers
- 08-741 Data Science
- 10-605 Machine Learning Large Data Sets
- 10-703 Deep Reinforcement Learning and Control
- 10-708 Probabilistic Graphics Models
- 11-641 Machine Learning for Text Mining
- 11-642 Search Engines
- 11-676 Big Data Analytics
- 11-785 Introduction to Deep Learning
- 15-688 Practical Data Science
- 16-824 Visual Learning and Recognition

**Politics and Strategy**

The ability to demonstrate sound reasoning about policy and strategy is an invaluable skill for individuals who will shape the future of IT strategy.

- 84-619 U.S. Foreign Policy and Interventions in World Affairs (spring)
- 84-622 Nonviolent Conflict and Revolution (spring)
- 84-662 Diplomacy and Statecraft (fall)
- 84-669 Decision Science for International Relations (fall)
- 84-670 Global Nuclear Politics (fall)
- 84-680 Grand Strategy in the United States (fall)
- 84-686 The Privatization of Force (fall)
• 84-688 Concepts of War and Cyber War (fall, 6 unit mini)
• 84-689 Terrorism and Insurgency (spring)
• 84-690 Social Media, Technology, and Conflict (spring)
• 84-720 International Security Graduate Seminar (spring)
• 84-736 Analytical Social Science and National Security: Emerging Challenges in National Security (fall, 6 unit mini)
• 88-602 Behavioral Decision Making (spring)
• 88-605 Risk Perception and Communication (spring)
• 88-635 Decision Science & Policy (spring)
• 19-701 Intro to the Theory & Practice of Policy (fall)
• 19-711 Global Competitiveness: Firms, Nations, and Technological Change (fall)
• 19-713 Policies of Wireless Systems & the Internet (fall)
• 19-722 Telecommunications, Technology Policy & Management (spring)

**Information Security**

An understanding of cyber threats and the mitigation of their impact ensures that program graduates are equipped to address the dangers of cyber attacks.

- 05-836/08-734 Usable Privacy and Security (spring)
- 17-631 Information Security, Privacy and Policy (fall)
- 18-730 (ECE) Introduction to Computer Security (fall prerequisite 15-214)
- 18-731 Network Security (spring, prerequisite 18-730)
- 18-732 Secure Software Systems (spring, prerequisite 18-730)
- 18-733 Applied Cryptography (spring, prerequisite 18-730)
- 18-734 Foundation of Privacy (fall)
- 14-735 Secure coding (spring)
- 14-761 Applied Information Assurance (spring)

**Software and Networked Systems**

An understanding of system and software architecture is essential for the management of safe, secure, and reliable information infrastructures.

- 14-740 Fundamentals of Telecommunication Networks (spring)
- 15-619 Cloud Computing (fall/spring)
- 16-720 Computer Vision (fall/spring)
- 16-722 Sensing and Sensors (fall)
- 16-761 Mobile Robot Design (spring)
- 17-610 Risk Management for Software Intensive Systems (fall/spring)
- 17-611 DevOps: Engineering for Deployment and Operations (summer)
- 17-640 IoT, Big Data, and Machine Learning: A Hands on Approach (summer)
- 17-643 Hardware for Software Engineers (fall)
- 17-646 Business for Engineers (spring)
- 17-648 Engineering Data Intensive Scalable Systems (summer)
• 17-651 Models of Software Systems (fall)
• 17-652 Methods: Deciding what to Design (fall)
• 17-653 Managing Software Development (fall)
• 17-654 Analysis of Software Artifacts (spring)
• 18-349 Intro to Embedded Real Time Systems (spring)
• 18-756 Packet Switching & Computer Networks (fall)
• 18-843 Mobile and Pervasive Computing (fall)

Note: The courses listed on this page are not an exhaustive list. Additional courses may be appropriate. MITS students are encouraged to discuss their course selections with their faculty advisor and petition to take other courses.

Elective Coursework
Students are required to complete 12 units of elective coursework. The 12-unit course must be taken outside of the chosen concentration area.
Appendix C: Seminar & Project

Seminar

The Seminar brings the cohort of students together to explore topics of particular interest. Special military and civilian leaders will be invited as guest presenters in the speaker's series.

Additionally, throughout the first fall and spring semesters, students are required to attend weekly seminars offered by various departments from across the university. Seminar participants are required to write and submit a summary of each seminar that they attend as supporting documentation of their learning and engagement.

Units: 6

Schedule: first fall and spring semesters, with each semester counting as 3 earned units.

Project

The Project, offered during the spring and summer semester, provides students with the opportunity to engage in a mentored team project, to delve deeply into a problem, and to create a solution relevant to information technology strategy.

Units: 30 (6+24)

Schedule: Summer semester