The Robotics Institute
2016-2017

Master of Science in Robotics Technology

www.ri.cmu.edu/MS-RT
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Welcome!

On behalf of Carnegie Mellon’s Robotics Institute, it is our great pleasure to welcome you to the Master of Science in Robotics Technology (MS-RT) Program. This unique program strives to equip you with technical experiences in both countries and opportunities to develop a professional network of mentors, scholars, and peers that spans multiple continents and cultures.

This handbook serves as an introduction to the resources, protocols, and procedures surrounding the MS-RT program. You will receive ongoing information and resources to help you successfully navigate being a CMU MS-RT student. The primary source of additional guidance and communication will be the MS-RT advisement shell currently offered through the CMU Blackboard Platform.

We look forward to accompanying you on this journey toward your future success and your lifelong relationship as members of the global CMU robotics network.

Dr. Mel Siegel
Director, Master of Science in Robotics Technology
Associate Research Professor, RI

Ms. Rachel Burcin
Manager, Master of Science in Robotics Technology
Global Programs Manager, RI
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: [www.cmu.edu/academic-integrity](http://www.cmu.edu/academic-integrity)
- University Policies Website: [www.cmu.edu/policies/](http://www.cmu.edu/policies/)
- Graduate Education Website: [http://www.cmu.edu/graduate/policies/index.html](http://www.cmu.edu/graduate/policies/index.html)

Carnegie Mellon University Statement of Assurance

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

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

The Statement of Assurance can also be found on-line: [http://www.cmu.edu/policies/documents/SoA.html](http://www.cmu.edu/policies/documents/SoA.html)

The Carnegie Mellon Code

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

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

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

The discovery, advancement and communication of knowledge are not possible without a commitment to these standards. Creativity cannot exist without acknowledgment of the creativity of others. New knowledge cannot be developed without credit for prior knowledge. Without the ability to trust that these principles will be observed, an academic community cannot exist.
The commitment of its faculty, staff and students to these standards contributes to the high respect in which the Carnegie Mellon degree is held. Students must not destroy that respect by their failure to meet these standards. Students who cannot meet them should voluntarily withdraw from the university.

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


Safeguarding Educational Equity

Policy Against Sexual Harassment and Sexual Assault

Sexual harassment and sexual assault are prohibited by CMU, as is retaliation for having brought forward a concern or allegation in good faith. The policy can be viewed in its entirety at: http://www.cmu.edu/policies/documents/SA_SH.htm. If you believe you have been the victim of sexual harassment or sexual assault, you are encouraged to make contact with any of the following resources:

- Sexual Harassment Advisors, found in appendix A of the Policy Against Sexual Harassment and Sexual Assault;
- Survivor Support Network, found in appendix B of the Policy Against Sexual Harassment and Sexual Assault;
- Sexual Harassment Process and Title IX Coordinators, found in section II of the Policy Against Sexual Harassment and Sexual Assault;
- University Police, 412-268-2323
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

Maternity Accommodation Protocol

Students whose anticipated delivery date is during the course of the semester may consider taking time away from their coursework and/or research responsibilities. All female students who give birth to a child while engaged in coursework or research are eligible to take either a short-term absence or formal leave of absence. Students in coursework should consider either working with their course instructor to receive incomplete grades, or elect to drop to part-time status or to take a semester leave of absence. Students engaged in research must work with their faculty to develop plans for the research for the time they are away.

Students are encouraged to consult with relevant university faculty and staff as soon as possible as they begin making plans regarding time away. Students must contact the Office of the Dean of Student Affairs to register for Maternity Accommodations. Students will complete an
information form and meet with a member of the Dean’s Office staff to determine resources and procedures appropriate for the individual student. Planning for the student’s discussion with her academic contact(s) (advisor, associate dean, etc.) will be reviewed during this meeting.

The Maternity Accommodation Protocol can be found here:
https://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html.
1. Directory

A. Department Contacts

<table>
<thead>
<tr>
<th>Dr. Mel Siegel</th>
<th>Ms. Rachel Burcin</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-RT program director</td>
<td>MS-RT program manager</td>
</tr>
<tr>
<td>Associate Research Professor</td>
<td>Global Programs Manager</td>
</tr>
<tr>
<td><a href="mailto:mws@cmu.edu">mws@cmu.edu</a></td>
<td><a href="mailto:rachel@cmu.edu">rachel@cmu.edu</a></td>
</tr>
<tr>
<td>+1 412 983 2626 (cell)</td>
<td>+1 412 268 4272 (office)</td>
</tr>
<tr>
<td>Mailing address:</td>
<td>Mailing address:</td>
</tr>
<tr>
<td>The Robotics Institute</td>
<td></td>
</tr>
<tr>
<td>Carnegie Mellon University</td>
<td></td>
</tr>
<tr>
<td>A421 Newell Simon Hall</td>
<td></td>
</tr>
<tr>
<td>Pittsburgh, PA 15213</td>
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</tr>
</tbody>
</table>

B. Glossary

“MS-RT partner” or “partner university” or “partner”, etc.: refers to any of the universities or university-like institutions that host the MS-RT Year-One program. These universities are not CMU’s partners in any legal sense of the word; we use it in this handbook only as a shorthand to indicate that we have a collegial relationship with that institution’s or one of its department’s faculty as a whole in addition to the collegial relationship that we have with the individual faculty members who support the Year-One programs.

“Core course”: refers to one of the introductory courses designated core courses by the RI Curriculum Committee, or a corresponding MS-RT Year-One course delivered in part via distance education methods and identified as the EPCS courses, the Year-One Fundamentals of Robotics I, II, III, and IV courses, and the Year-Two courses pre-approved or individually approved by the MS-RT program director constitute the “core courses” that must be passed with grades of B- or better (unless designated as pass/fail courses) to graduate, and that count toward the minimum course unit count required for graduation.

“Elective course”: refers to one of the advanced – i.e., 600/700/800/900 – level courses – taken with the permission, advice, and consent of the MS-RT program director by Year-Two MS-RT students, and counted toward the total number of courses credits required for graduation from the MS-RT program. Generally in late Spring for the Year-Two fall semester and in November for the Year-Two spring semester, MS-RT students will meet with the MS-RT program director in a group, and as needed with individual students, successful registration – after the MS-RT program director’s permission has been given – still depends on how early the students tries to
register, limitations set by the university, school, department, instructor, and other factors beyond the MS-RT program director’s control.

“Course required for graduation”: refers to the four Year-One core courses – two per Year-One semester or equivalent – plus the four Year-Two elective courses -- two per Year-Two semester, plus the five semesters, and the summer semester between Year-One and Year-Two, plus other courses such as supplemental required activities such as the Global Robotics Dialogues that are identified as required for graduation from the MS-RT program and award of the MS-RT degree by CMU.

C. University Contacts

<table>
<thead>
<tr>
<th>Resource / Office</th>
<th>Contact Person</th>
<th>Areas of Support and Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Assistant Vice Provost for Graduate Education (AVPGE) <a href="http://www.cmu.edu/graduate/index.html">http://www.cmu.edu/graduate/index.html</a></td>
<td>Suzie Laurich-McIntyre</td>
<td>Graduate Student Academic Support/ Advocacy, Diversity Recruitment and Programming, Graduate Policy, Graduate Student Service Awards, Professional Development Seminars, Conference Funding, Small Internal Research Awards Diversity Programming, Graduate Women's Gatherings, General Graduate Student Support/ Advocacy</td>
</tr>
<tr>
<td>Division of Student Affairs <a href="http://www.cmu.edu/student-affairs/">http://www.cmu.edu/student-affairs/</a></td>
<td></td>
<td>General Graduate Student Support/ Advocacy, Emergency Intervention</td>
</tr>
<tr>
<td>Office of International Education (OIE) <a href="http://www.cmu.edu/oie">www.cmu.edu/oie</a></td>
<td>Carly Devenburgh</td>
<td>International Graduate Issues, Graduate Tax Workshop for International Students, Immigration Issues</td>
</tr>
<tr>
<td>Intercultural Communication Center (ICC) <a href="http://www.cmu.edu/icc">www.cmu.edu/icc</a></td>
<td></td>
<td>International TA Screening and Support, Language Skills Assessment and Placement, Cross-Cultural Adjustment, Academic Fluency</td>
</tr>
<tr>
<td>Global Communications Center <a href="http://www.cmu.edu/gcc">www.cmu.edu/gcc</a></td>
<td></td>
<td>free one-on-one communication tutoring, workshops, and classroom support</td>
</tr>
<tr>
<td>Graduate Student Assembly (GSA) <a href="http://www.cmu.edu/stugov/gsa/">http://www.cmu.edu/stugov/gsa/</a></td>
<td></td>
<td>Graduate Student Governance</td>
</tr>
<tr>
<td>Service</td>
<td>Website</td>
<td>Description</td>
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<td>--------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Enrollment Services - The HUB</strong></td>
<td><a href="http://www.cmu.edu/hub">www.cmu.edu/hub</a></td>
<td>Enrollment, Financial Assistance, Academic Calendars, Transcripts</td>
</tr>
<tr>
<td><strong>Career and Professional Development Center</strong></td>
<td><a href="http://www.cmu.edu/career">www.cmu.edu/career</a></td>
<td>Career Resources</td>
</tr>
<tr>
<td><strong>Health Services</strong></td>
<td><a href="http://www.cmu.edu/health-services">www.cmu.edu/health-services</a></td>
<td>Health-Wellness Issues</td>
</tr>
<tr>
<td><strong>Counseling and Psychological Services (CAPS)</strong></td>
<td><a href="http://www.cmu.edu/counseling">www.cmu.edu/counseling</a></td>
<td>Health-Wellness Issues</td>
</tr>
<tr>
<td><strong>University Police</strong></td>
<td><a href="http://www.cmu.edu/police/shuttleandescort/">http://www.cmu.edu/police/shuttleandescort/</a></td>
<td>Emergencies Transportation - Shuttle/ Escort</td>
</tr>
</tbody>
</table>
## D. Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIT</td>
<td>College of Engineering</td>
</tr>
<tr>
<td>CMU</td>
<td>Carnegie Mellon University</td>
</tr>
<tr>
<td>GHC</td>
<td>Gates Hillman Center</td>
</tr>
<tr>
<td>GCC</td>
<td>Global Communications Center</td>
</tr>
<tr>
<td>GPA</td>
<td>Grade Point Average</td>
</tr>
<tr>
<td>GSA</td>
<td>Graduate Student Assembly</td>
</tr>
<tr>
<td>ICC</td>
<td>Intercultural Communication Center</td>
</tr>
<tr>
<td>ITA</td>
<td>International Teaching Assistant</td>
</tr>
<tr>
<td>LOA</td>
<td>Leave of Absence</td>
</tr>
<tr>
<td>MS-RT</td>
<td>Master of Science in Robotics Technology</td>
</tr>
<tr>
<td>NUST</td>
<td>Nanjing University of Science and Technology</td>
</tr>
<tr>
<td>NSH</td>
<td>Newell Simon Hall</td>
</tr>
<tr>
<td>OIE</td>
<td>Office of International Education</td>
</tr>
<tr>
<td>PCHE</td>
<td>Pittsburgh Council on Higher Education</td>
</tr>
<tr>
<td>PU</td>
<td>Plymouth University</td>
</tr>
<tr>
<td>RI</td>
<td>Robotics Institute</td>
</tr>
<tr>
<td>SCS</td>
<td>School of Computer Science</td>
</tr>
<tr>
<td>SIO</td>
<td>Student Information Online</td>
</tr>
<tr>
<td>TA</td>
<td>Teaching Assistant/Assistantship</td>
</tr>
</tbody>
</table>
2. Departmental Policies and Resources

A. Department Directory
http://www.ri.cmu.edu/people_sub.html?menu_id=233 and
https://directory.andrew.cmu.edu/

A comprehensive listing of all Robotics Institute faculty, staff and students can be found on the People of RI website. General contact information for faculty, staff, and students affiliated with CMU can be found via directory search.

B. Bulletin Boards and Email Distribution Lists
Students are welcome to post flyers, advertisements, etc. to any unrestricted bulletin board in Newell Simon Hall (NSH) common spaces (i.e. outside of elevators). MS-RT students may use the e-mail distribution list to communicate messages to one another; a new list is created for each incoming class of students – see the MS-RT program manager for details. Students wishing to send e-mail messages to groups outside of the MS-RT program should ask the program manager for guidance in selecting the appropriate distribution list.

C. Computing Services and Help for Students
http://www.cmu.edu/computing/students/

The Computing Services office provides extensive services and help to students. For online resources, visit http://www.cmu.edu/computing/students/.

The computing Services Help Center is available Monday - Friday from 7am to 7pm. You may contact this office at: +1 412-268-HELP | it-help@cmu.edu | 119 Cyert Hall (9am - 5pm).

D. Computing Facilities
www.cmu.edu/computing
http://www.cmu.edu/computing/guideline/index.html and
http://www.cmu.edu/computing/clusters/facilities/index.html

Students should use the on-campus computing facilities offered by Computing Services. There are several Computer Clusters located around campus – a full list can be found online. Students should adhere to the Computing Policies and Guidelines as outlined by the University.

E. Work Space
MS-RT students should use the RI Commons, located in NSH 4th floor as a primary work space. Students will have access to the Robotics Student Lounge (Robo Lounge) located in NSH 1513.

F. Key and Card Access
In the fall of the Year-Two program, MS-RT students may receive a number of keys from the MS-RT program manager. It is up to the student to keep track of all keys and to return them to the MS-RT program manager prior to leaving Pittsburgh at the end of the program. Lost keys should be reported to the MS-RT program manager right away.
The CMU Andrew Student Identification Card can be swiped for access to School of Computer Science buildings and facilities. SCS Facilities will code student identification cards to activate access. Any access problems should be reported to the MS-RT program manager.

G. Locker Rental

RI students may elect to rent a locker on the 4th floor of NSH to store their belongings. Students who wish to rent a locker should see the MS-RT program manager. Students are required to complete a Locker Usage Agreement and to submit a $25.00 non-refundable usage fee and a $25.00 key deposit prior to obtaining a key. If the locker key is lost, the $25.00 deposit will not be returned. Students requesting additional keys for the locker will be required to submit a $25.00 deposit for each key. Upon return of the key, the student will be reimbursed the $25.00 deposit. The RI is not liable for materials stored in the lockers. Students may not store open liquid containers, perishables, flame producing objects or live animals in the lockers. Students will be liable for any damage caused to the lockers. The RI staff maintains keys to all lockers and has the right to open any locker at any time as deemed necessary.

H. Security, Repairs and Services

www.cmu.edu/police

Students should inform the MS-RT program manager of any non-emergency issues related to building security or repairs. If a student feels like he/she is in immediate danger Campus Police should be called at 412-268-2323.

I. Graduate Student Organizations

http://www.cmu.edu/stugov/gsa/
https://lists.andrew.cmu.edu/mailman/listinfo/gsa-happenings
http://women.cs.cmu.edu/
http://dec5.org/index.html
https://www.cs.cmu.edu/~roboorg/index.shtml

The RI encourages graduate students to become active in the CMU community. An excellent way to get started is by joining student organizations at CMU.

The University sponsors the Graduate Student Assembly (GSA). The GSA is the branch of student government that represents all graduate students at CMU. In addition to working with other members of student government, university administration, and external advocacy groups, GSA is responsible for planning a variety of social events throughout the year. GSA maintains an e-mail distribution list that students can subscribe to called GSA-Happenings.

The SCS is pleased to sponsor Women@SCS and Dec\5. Women@SCS aims to create, encourage, and support academic, social, and professional opportunities for women in computer science and to promote the breadth of the field and its diverse community. Dec\5 is a social organization that encourages interaction between different departments and industry partners within SCS.

RoboOrg is the graduate student organization of the RI. It organizes social events, trips, maintains the Robo Lounge, and is also involved in the strategic long-term planning of the RI. MS-RT students are encouraged to volunteer 1-2 representatives to work with RoboOrg in an active role.
J. New Policies
When policies are changed it is because the department believes the new rules offer an improvement; currently enrolled students whose degree program is affected by a change in policy may choose to be governed by the old policy that was in place at the time of their matriculation or the new policy. In case degree requirements are changed and certain courses are no longer offered, the department will try to find some compromise that allows those students to satisfy the original requirements.

In cases where a new policy emerges to comply with federal, state, or local laws, the MS-RT program director and manager will communicate the change and discuss impact on current students. Exceptions and paths will be reviewed on a case-by-case basis.

K. Reasonable Personal Principle
- 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.

Reasonable people think about their needs, and the needs of others, and adjust their behavior to meet the goals of a common good for the community, i.e., expressing what you want to say, but accepting and accommodating the needs of others. Professor Mary Shaw's explanation:

The Reasonable Person Principle is part of the unwritten culture of CMU’s School of Computer Science. It holds that reasonable people strike a suitable balance between their own immediate desires and the good of the community at large.

As applied to social networks and the like, this would include things like observing the explicit or implicit ground rules about subject matter or tone. These vary from one bulletin board to another but usually include sticking to the expected subject matter and refraining from personal attacks. Not all people share the same model of reasonableness, so disagreements inevitably occur. Under the reasonable person principle, the first thing to do is work it out privately (perhaps in person, since e-mail is known to amplify feelings). Indeed, many people would find it unreasonable to bring in third parties before trying personal discussion.

More generally, the reasonable person principle favors local, unofficial actions over formal administrative ones. It assumes that people will be responsive when reminded of a conflict or asked to re-examine their behavior. It encourages requesting rather than demanding. And it leaves some room for difference of opinion.

L. Community Spirit
Our sense of community is well-known as a distinguishing aspect of studying robotics at CMU. It is one of the reasons many students choose to come here. The RI is proud of our strong community spirit, which we foster through close working relationships between students and advisors, among faculty, among staff and among students. Many working relationships turn into friendships for life. Our community works hard and enjoys the experience. People volunteer their time, energy, intellect, talent, and other skills to do many of the things that keep our environment running smoothly. These efforts include organizing seminars, serving on
departmental committees, being a guide during the National Robotics Week tours, planning and running social activities, and giving tours. MS-RT students are encouraged to get involved in the RI community!
3. Academic Policies

A. Statute of Limitations
http://www.cmu.edu/policies/documents/MastersStudentStatuteLimitations.html

Per University Policy, students will complete all requirements for the Master’s degree within a maximum of seven years from original matriculation as a Master’s student. Once this time-to-degree limit has lapsed, the person 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 extenuating circumstances, such as leave of absence, military or public service, family/parental leave, or temporary disability, a college/school 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.

This university policy notwithstanding, the MS-RT program is normally completed in two semesters with the partner university, two semesters at CMU Pittsburgh campus, and the summer in between without gaps. Exceptions are unusual and will be arranged on a case-by-case basis.

B. Full-time Status

The MS-RT program is designed as a full-time program to be completed within five academic semesters counting the summer between the Year-One and Year-Two programs as one semester. To maintain full-time status in the Year-Two program, students must register for a minimum of 36 units per semester. Students with fewer than 36 units are considered part-time and will be assessed tuition on a per unit basis.

Graduate students who are registered as full-time students in residence at CMU for the Year-Two Program as of the 10th day of classes are expected to remain full-time for the duration of the semester. Permission to drop below the 36 unit minimum must be granted by the MS-RT program director. Students who are registered part-time are subject to the same deadlines as full time students to drop or withdraw from a course. The MS-RT program director will normally interpret the 36 unit requirement to be satisfied by two approved 600 or above level classroom courses and the Extended Project Course Sequence each semester. MS-RT students also receive a small amount of academic credit for participation in Career Development and Global Robotics Development seminars. Participation in these is not optional, nor is participation in the weekly Robotics Institute Seminars optional: to satisfactorily complete the MS-RT program all students are expected to participate in these activities in addition to passing the “regular” courses carrying the 36 credits mentioned.

C. Department Registration Process and Procedures
https://s3.as.cmu.edu/sio/index.html

MS-RT students are responsible for managing their registration via Student Information Online (SIO).
- EPCS: The MS-RT program manager will register students for EPCS fall and spring semesters of the Year-One and Year-Two programs.
- Elective Courses: Students should manage their own registration for Electives consistent with permission to take specific courses granted by the MS-RT program director.

- Course Selection and Registration Process:

Year-One students will be automatically registered by the PM for Fundamentals of Robotics I & II and EPCS and GRD during their Year-One first semester and for Fundamentals of Robotics III & IV and EPCS and GRD during their Year-One second semester, In addition they will be registered by the partner university hosting their MS-RT Year-One program for additional courses required by the partner.

In approximately April of Year-One all Year-One students will meet with the PD and the PM, generally by teleconference but potentially during a visit by the PD and/or the PM to the partner university, to select and register for their Year-Two Fall Semester courses. Generally sometime in advance of this meeting the PD will distribute a list of pre-approved course for which any student may register without additional permission; sometimes there will be some constraints that must be followed, e.g., “you can take course-A or course-B, not both, and if you take course-A your second course can be course-C but not course-D”. The purpose of these rules is to provide the student with a balance of depth into and breadth across the entire field of robotics. A student who wants to take a non-pre-approved course must petition the PD, explaining in his petition why he wants to take his requested non-pre-approved course, and what it is in his background that makes it superfluous for him to take the pre-approved course that he wants to replace with the petitioned-for non-pre-approved course. Details will be provided shortly before the scheduled meeting date.

In approximately November of Year-Two all Year-Two students will meet with the PD and the PM, generally face-to-face during an EPCS seminar meeting, to select and register for their Year-Two Spring Semester courses. The process is essentially the same as is described above for the approximately April of Year-One meeting to select and register for Year-Two Fall Semester courses.

D. Residency Requirements
Due to the collaborative nature and intentional design of the MS-RT Program, students are required to complete the degree requirements of the Year-Two Program at the Carnegie Mellon University - Pittsburgh campus. Residency requirements for the Year-One program are communicated by the MS-RT partner university.

E. Double Degree Requirements
Students in the MS-RT program may be enrolled in a double degree option with the partner university. Degree requirements for the degree offered by the partner university will be communicated by the partner university.

F. Courses Outside of the Curriculum
The MS-RT program curriculum is designed to occupy a student’s full-time effort. Students who wish to enroll for additional courses outside of the curriculum will be charged for the extra courses on a per unit basis (see section 5H). Due to the intensive and collaborative nature of the program, the MS-RT Program Office cautions students against enrolling in extra coursework. All Year-Two registration must be approved by the MS-RT program director.
G. Incomplete Grades
MS-RT students are expected to complete all courses during the academic semester in which the course is taken. However, if the instructor agrees, a grade of “I” (incomplete) may be given when a student, for reasons beyond his or her control, is unable to complete the coursework, but the work completed to date is of passing quality and the grade of incomplete provides no undue advantage to that student over other students.

In awarding an “I” grade, an instructor must specify the requirements for completing the work and designate a default letter grade that will be assigned if no further work is submitted. Students must complete the required coursework no later than the end of the following academic semester or sooner if required by prior agreement. The instructor must record the permanent grade by the last day of the examination period of that following semester. Failure to do so will result in Enrollment Services administratively assigning the default grade.

H. Withdrawing/Dropping Courses
http://www.cmu.edu/hub/calendar.html

While in residence at CMU Pittsburgh campus for the Year-Two Program, students at CMU may drop a course through SIO on or before the drop deadline as published in the official university academic calendar. When a course is dropped by the designated deadline, the course is removed and does not appear on the academic record. After the deadline to drop, students may withdraw from a course by accessing SIO on or before the last day of class, prior to the beginning of final examinations. After the deadline to drop, a “W” (withdrawal) grade is assigned and appears on the student's academic record.

Due to the structured curriculum for the MS-RT program students are discouraged from dropping or withdrawing from courses. Prior to dropping/withdrawing from a course the student must consult with the MS-RT program director and program manager to confirm that this is the best option. This is especially critical for international students whose visas usually require a minimum enrollment of 36 units. International students considering dropping or withdrawing from the course should consult OIE for a case specific review. Students will be required to make-up the dropped course or an approved alternative at a later date in order to be eligible for graduation. Students must seek approval for all registration items – including adding and/or dropping a course. Courses should be reviewed with and approved by the MS-RT director in advance of registration.

I. Waiver Policy
At the discretion of the MS-RT program director, a student may be permitted to waive a core course requirement. Should a student obtain a waiver for a core course, he/she will still be responsible for completing 140 units. Essentially, the student would be permitted to take an approved alternative in place of the core course.

Waivers will be considered if (1) the student provides sufficiently detailed descriptions of the previously taken course (syllabus, etc.), (2) the student would be willing to take and successfully pass a commensurate final exam in the offered MS-RT course, as given by the course instructor, and (3) the student would be willing to successfully pass a verbal and interactive discussion/review/test on the various subjects taught in a particular course, as administered by the respective faculty instructor.
Students should operate on the assumption that these waivers will not be approved, and that such consideration will only be given at the sole discretion of the MS-RT program director. Due to the focus of the MS-RT program, the variety of course content, university teaching levels and foreign/national standard differences, the chances of obtaining a waiver are extremely limited.

J. Transfer Courses
Due to the variety of course content, university teaching levels and foreign/national standard differences, the MS-RT program will not allow students to transfer previously taken, uncounted courses to meet the core courses or elective course requirements. The MS-RT courses are tailored to a specific content not typically available in other programs making it difficult to allow the transfer of previous coursework.

K. PCHE
http://www.cmu.edu/hub/registration/graduates/cross.html

CMU offers students the opportunity to take courses for credit through the Pittsburgh Council on Higher Education (PCHE) cross-registration program. The CMU transcript will include information on such courses taken through PCHE and grades will be recorded on the transcript to be factored into the GPA. University policy stipulates that students are not permitted to participate in the PCHE program during their final semester at CMU. With the approval of the program director, MS-RT students are permitted to enroll in up to one relevant elective course during the Year-Two program through the PCHE program.

L. Grading Policy
http://www.cmu.edu/policies

The CMU grading policy is outlined on the University Grading Policy website. Students must earn a grade of "B-" or better in all letter-graded courses required for graduation and all satisfactory / unsatisfactory courses required for graduation from the MS-RT program. Students must maintain a GPA of 3.0 or higher to retain good standing in the program. Students must have a minimum GPA of a 3.0 to graduate. Courses other than the courses required for graduation are not subject to these minimum grade requirements but do contribute towards the minimum GPA requirement. Students dropping below a 3.0 will be required to meet with the MS-RT program director to develop a plan for improvement. Students failing to rise above a 3.0 in the subsequent semester may be terminated from the MS-RT program. Cases where a student drops below the 3.0 will be monitored for improvement on a case-by-case basis.

Should a student receive a grade that is less than satisfactory (i.e. below a "B-") in a core class he/she will be required to retake the course or an approved alternative at a later date. Students failing to obtain a grade of "B-" or better on the second attempt may be terminated from the MS-RT program.

M. Process for, Definition of, and Communication of Probation, Suspension, and Dismissal

Definitions:
"CMU" means Carnegie Mellon University;
"SCS" means CMU's School of Computer Science;
"RI" means SCS's Robotics Institute;
"MS-RT" means RI's Master of Science in Robotics Technology program;
"Program" means the MS-RT Program;
"Student" means a student in the Program;
"Year-One Student" means a student in the Year-One phase of the MS-RT program in residence at one of the Program's partner institutions;
"Year-Two Student" means a student in the Year-Two phase of the MS-RT program in residence at a CMU campus (currently only the Pittsburgh campus);
"PM" means the person designated program manager;
"PD" means the person designated program director;
"he" or "she" may refer to "she" or "he" in the subjective case, and correspondingly for the objective and possessive cases of the personal pronouns, and in other grammatical forms, and by extension to other gender designations including but not limited to gender-neutral designations such as ze; furthermore although as a matter of principle and logic we disapprove of the "singular they", "they", "their", and other plural forms of the personal pronouns may be used and understood to be in the singular when to use a strictly singular personal pronoun would be awkward, or when they occur by the author's or authors' oversight;
"we" may refer to the PD, the PM, students, faculty, staff, and/or administrators, or generically to CMU, SCS, RI, or subgroups thereof who in some way participate in or have responsibility for the Program, as determined by a Reasonable Person's interpretation of the context;
"Reasonable Person" means a person acting in accord with the "Reasonable Person Principle" as articulated by SCS in http://www.cs.cmu.edu/~weigand/staff/;
"verbally" means via a face-to-face voice-to-voice interaction;
"face-to-face voice-to-voice" means either physically present in the same place at the same time or in immediate two-way voice-to-voice communication, e.g., via telephone or another sound-based electronic communication channel;
"in writing" means via a text-based medium of which there is a dated-and-time-stamped archival record addressed to the recipient, including but not limited to a letter or memorandum, an email message, an SMS message, or a chat-box message.

Probation

Preamble: To the extent that any element of this section is not superseded by RI, SCS, or CMU rules, the following definition of Probation, the process via which a Student enters and leaves Probation, and the requirements for communication and acknowledgement that a Student is On/Off Probation are stated in this section.
Definition of Probation: A Student who has been informed by the PD that he is On Probation is On Probation. The PD may place a Student On Probation at his discretion for reasons related to the student's unsatisfactory academic progress or achievement, for the student's failure to meet the program's standards for academic integrity or community responsibility, or for comparable reasons that are impractical to fully anticipate and articulate.

Process for Being Put On Probation: A Student is On Probation immediately upon being notified by the PD that he is On Probation.

Process for Communicating On Probation Status: A Student may be notified that he is On Probation either verbally or in writing. However if he has been placed On Probation verbally and the PD does not subsequently notify him in writing within 72 hours his Probation expires automatically.

Acknowledgement of Being On Probation: A Student who has been placed On Probation must acknowledge in writing his understanding and acceptance of his Probationary status within 72 hours of having received written notification. Failure to comply with this requirement may result in Suspension as discussed below.

Process for Leaving On Probation: Within 72 hour of receiving a Student's acknowledgement of being On Probation, the PD must notify the student in writing what he must do to be released from Probation. If the PD does not provide said notice within 72 hours the Probation will expire automatically. Otherwise it will be removed by notice of the PD when the student has demonstrated compliance with all the requirements specified in the written notice. A student who has been removed from Probation is again In Good Standing.

Student's Right-of-Appeal of Probation: A Student who has been placed On Probation and notified of the requirements for release from Probation who feels that the requirements are unreasonable may file in writing to the PD a detailed well-reasoned appeal for relief. If the PD does not respond to the appeal within two weeks the relief requested in the appeal will be granted automatically. If the student is dissatisfied with the PD's response he may appeal to CMU's Assistant Vice Provost for Graduate Education / Graduate Student Ombudsman who on a case-by-case basis will establish and carry out a process for evaluation and possible relief of the Probation.

In the Absence or Unavailability of the PD: If the PD is absent or otherwise unavailable to carry out the functions mentioned in this section, the PM may act in his stead. If the PM is absent or otherwise unavailable to carry out these functions, the Chairman of the RI Curriculum Committee may act in her stead. If the Chairman of the RI Curriculum Committee is absent or otherwise unable to carry out these functions, authority and responsibility for them will pass up CMU's chain-of-command to the RI Department Chair, the SCS Dean, and the CMU Provost consecutively. A student who has been placed On Probation by someone other than the PD may be removed from Probation by the PD, or, in the absence or unavailability of the PD, by the first available person in this chain-of-command.

Suspension

Preamble: To the extent that any element of this section is not superseded by RI, SCS, or CMU rules, the following definition of Suspension, the process via which a Student enters and leaves Suspension, and the requirements for communication and acknowledgement that a Student is On/Off Suspension are stated in this section.
Definition of Suspension: A Student who has been informed by the PD that he is Suspended is On Suspension. The PD may Suspend a Student at his discretion for reasons related to the student’s unsatisfactory academic progress or achievement, for the student's failure to meet the program's standards for academic integrity or community responsibility, or for comparable reasons that are impractical to fully anticipate and articulate.

Process for Being Suspended: A Student is Suspended immediately upon being notified by the PD that he is Suspended.

Process for Communicating Suspension: A Student may be notified that he is Suspended either verbally or in writing. However if he has been Suspended verbally and the PD does not subsequently notify him in writing within 72 hours his Suspension automatically reverts to Probation, but this Probation does not automatically expire.

Acknowledgement of Being Suspended: A Student who has been Suspended must acknowledge in writing his understanding and acceptance of his Suspended status within 72 hours of having received written notification. Failure to comply with this requirement may result in Dismissal as discussed below.

Process for Leaving Suspension: Within 72 hour of receiving a Student's acknowledgement of Suspension, the PD must notify the student in writing what he must do to be released from Suspension. If the PD does not provide said notice within 72 hours the Suspension will expire automatically. Otherwise Suspension will be removed by notice of the PD when the student has demonstrated compliance with all the requirements specified in the written notice. A student who has been removed from Suspension may be again In Good Standing, but more generally will be On Probation, whichever and as specified by the PD in the notice of release from Suspension.

Student's Right-of-Appeal of Suspension: A Student who has been Suspended and notified of the requirements for release from Suspension who feels that the requirements are unreasonable may file in writing to the PD a detailed well-reasoned appeal for relief. If the PD does not respond to the appeal by the end of the current semester, or if between semesters then by the end of the immediately following semester, the relief requested in the appeal will be granted automatically. If the student is dissatisfied with the PD's response he may appeal to CMU's Assistant Vice Provost for Graduate Education / Graduate Student Ombudsman who on a case-by-case basis will establish and carry out a process for evaluation and possible relief of the Suspension. At the discretion of the PD, upon termination of Suspension the Student will generally return to the Program On Probation,

In the Absence or Unavailability of the PD: The item corresponding to this one in the Probation section applies identically to Suspension.

Dismissal

Preamble: To the extent that any element of this section is not superseded by RI, SCS, or CMU rules, the following definition of Dismissal, the process via which a Student is Dismissed from the Program, and the requirements for communication and acknowledgement that a Student is Dismissed are stated in this section.
Definition of Dismissal: A Student who has been informed by the PD that he is Dismissed from the Program is Dismissed. The PD may Dismiss a Student at his discretion for reasons related to the student's unsatisfactory academic progress or achievement, for the student's failure to meet the program's standards for academic integrity or community responsibility, or for comparable reasons that are impractical to fully anticipate and articulate.

Process for Being Dismissed: A Student who is notified by the PD that he is Dismissed from the Program is Dismissed. However considering the severity and finality of Dismissal, a student who is Dismissed from the Program for the first time and who has never previously been Dismissed from another CMU program will automatically have his Dismissal deferred pending any appeal the Student may choose to put into motion consistent with the processes specified below. A Student whose Dismissal is deferred is automatically Suspended, but this Suspension does not automatically revert to Probation.

Process for Communicating Dismissal: A Student may be notified that he is Dismissed either verbally or in writing. However if he has been Dismissed verbally and the PD does not subsequently notify him in writing within 72 hours his Dismissal automatically reverts to Suspension, but this Suspension does not automatically revert to Probation.

Acknowledgement of Being Dismissed: A Student who has been Dismissed must acknowledge in writing his understanding and acceptance of his Dismissed status within 72 hours of having received written notification. Failure to comply with this requirement will result in the forfeiture of the Student's right to appeal his Dismissal as described below.

Process for Reinstatement After Dismissal: Dismissal is permanent except as described above with respect to automatic deferral of Dismissal on the occasion of a first-time Dismissal. A Student who is Dismissed for the first time may be reinstated by the appeal process described below. A Dismissed Student who is reinstated will generally return On Probation, though this requirement may be relaxed at the discretion of the PD

Student's Right-of-Appeal of Dismissed Status: A Student who has been Dismissed for the first time who feels his Dismissal is unreasonable may file in writing to the PD a detailed well-reasoned appeal for reinstatement to the Program. If the PD does not respond to the appeal within one month prior to the first day of classes of the subsequent CMU Academic Year then reinstatement will be granted automatically. If the Student is dissatisfied with the PD's response he may appeal to CMU's Assistant Vice Provost for Graduate Education / Graduate Student Ombudsman who on a case-by-case basis will establish and carry out a process for evaluation and possible relief of the Dismissal. A Year-One student who is Dismissed and reinstated may, at the PD's discretion, resume the Year-One Program with the subsequent Year-One cohort, and a Year-Two student who is Dismissed and reinstated may, at the PD's discretion, resume the Year-Two program with the subsequent Year-Two cohort.

In the Absence or Unavailability of the PD: The item corresponding to this one in the Probation section applies identically in the case of Dismissal.

N. Academic Integrity
http://www.cmu.edu/policies/documents/Academic%20Integrity.htm
http://www.cmu.edu/academic-integrity/
http://www.cmu.edu/academic-integrity/understanding/index.html
http://www.cmu.edu/academic-integrity/responding/index.html
CMU, The Robotics Institute, and the MS-RT program take a serious approach to academic integrity. The MS-RT program adheres to the academic integrity policies set forth by CMU. Students should review and familiarize themselves with the University’s policy and expectations for Academic Integrity.

Each course may have additional rules and regulations that relate to the standards of academic integrity. Students should carefully review all course materials at the beginning of the semester and seek any necessary clarification from the instructor of record.

The consequences of an academic integrity violation vary depending on the severity of the incident. However, there are several outcomes that impact students during their time on campus that are common to all cases regardless of the particular details of the offense. Consequences for Academic Integrity violations are outlined here.

Students accused of violating the academic integrity policy should review the Responding to Violations webpage to identify the best way to move forward. International students in particular are often surprised and even unbelieving about how seriously academic integrity is taken in US universities, and in particular at CMU, and in particular within the School of Computer Science. It is not unusual for an international student to think he is doing something that is completely reasonable and allowed, only to find that his course instructor takes his behavior to be a serious violation of academic integrity worthy of severe penalty, up to and including expulsion from the university. MS-RT students are cautioned that by default they should assume that any assignment is to be completed, and any quiz or exam is to be taken, beginning on a blank sheet of paper (or its electronic equivalent) with no access to any source of knowledge whatsoever beyond what is already in his head at the instant when he first sees the assignment, quiz, or exam. Never assume that your instructor is less strict than this: if you think he might be less strict then you should visit him during his office hours and confirm that you understand his rules. Many CMU instructors are absolutely unforgiving even on the first infraction of their rules, and there is little or nothing that the PD or PM can do to rescue you if you get into trouble with one of them.

O. Teaching Assistantships

http://www.cmu.edu/policies/documents/EngFluency.html

Graduate students are required to have a certain level of fluency in English before they can instruct in Pennsylvania, as required by the English Fluency in Higher Education Act of 1990. Through this Act, all institutions of higher education in the state are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns. Prior to working in the classroom non-native English speakers are required to complete the International Teaching Assistant (ITA) exam via the Intercultural Communication Center (ICC).

Due to the intensive nature of the MS-RT program, students are usually prohibited from seeking any outside employment. This includes teaching assistantships. Any questions and requests for an exception in this policy should be directed to the MS-RT program director.

P. Switching Programs

MS-RT students are free to apply for other RI degree programs at any point in their academic career. Students are reminded that the MS-RT program is a terminal Master’s degree, intended to provide a strong foundation for entrepreneurial work in robotics and intelligent systems. The
MS-RT program should not be viewed as a preparatory or stepping-stone degree program for the RI PhD program, but rather as a stand-alone degree program for those primarily interested in a professional career track.

Admission to the MS-RT program does not in any way signify admission to other RI degree program. Each of the RI's graduate programs (MS, MS-RT, MRSD, MSCV, PhD) are separate and have their own application steps, admission criteria, selection processes and admission decisions.

Agreements with some partners provide for the second degree program to be one of that partner's PhD program; participation in one of these MS-RT programs with intent to pursue a post-PhD career in entrepreneurial work in robotics and intelligent systems preferably at home, is not inconsistent with the MS-RT program philosophy.

Q. Leave of Absence

http://www.cmu.edu/policies/documents/StLeave.html
http://www.cmu.edu/hub/registration/docs/loa.pdf
http://www.cmu.edu/hub/tuition/adjustment.html
shinsure@andrew.cmu.edu
http://www.cmu.edu/policies/documents/StReturns.html
http://www.cmu.edu/hub/registration/docs/return-loa.pdf

Students must sometimes interrupt their studies for a variety of reasons. CMU defines a Leave of Absence (LOA) as leaving the University temporarily with the firm and stated intention of returning (see Student Leave Policy). Students who wish to take a LOA must state their intentions in writing to the MS-RT program director and program manager. Upon receiving the written request the MS-RT Program Office will contact the student to discuss their plans while on leave and to work out any conditions that may be necessary for a smooth return to CMU. Once all parties are in agreement that LOA is the best way to move forward the student will be required to complete a Leave of Absence (.pdf) form. The form must include all necessary signatures or the process will not be completed.

Students taking a LOA in the Year-Two program before completing 60% of the semester will be charged tuition based on the number of days completed within the semester (see Tuition Adjustments). There is no adjustment of the media fee, transportation fee, technology fee or student activities fee. Students needing an adjustment to the health assessment fee must contact Student Health Services.

Students wishing to return from LOA to resume their studies should follow the Return from Leave Policy and complete a Return from Leave of Absence (.pdf) form.

Please note that all degree requirements must be completed before the Statute of Limitations for MS students (see section 3A).

R. Withdrawing from a Degree Program

http://www.cmu.edu/policies/documents/StLeave.html
http://www.cmu.edu/hub/registration/docs/withdrawal.pdf
http://www.cmu.edu/hub/tuition/adjustment.html
shinsure@andrew.cmu.edu
CMU defines a withdrawal as leaving the University with no intention of returning (see Student Leave Policy). Students who wish to withdraw from the CMU MS-RT program must state their intentions in writing to the MS-RT program director and program manager. The student is then required to complete the Withdrawal (.pdf) form. The form must include all necessary signatures or the process will not be completed.

Students who withdraw in the Year-Two program before completing 60% of the semester will be charged tuition based on the number of days completed within the semester (see Tuition Adjustments). There is no adjustment of the media fee, transportation fee, technology fee or student activities fee. Students needing an adjustment to the health assessment fee must contact Student Health Services.

S. Advising
The MS-RT program director serves as the advisor-of-record for all MS-RT students. General student progress is overseen by the MS-RT program director and program manager. Due to the professional focus of the MS-RT program students are not assigned an additional faculty advisor. In consultation with the MS-RT program director, students are welcome and encouraged to seek out students and faculty for specific technical guidance if required.

T. Vacations and Time-Off
http://www.cmu.edu/hub/calendar.html

Students should consult the academic calendar, and MS-RT program director, and MS-RT program manager to determine vacation time.

U. Protocol for Review of Academic Conflicts
http://www.cmu.edu/graduate/policies/Summary%20of%20Graduate%20Student%20Appeal%20and%20Grievance%20Procedures.html

Graduate students should refer to the Graduate Student Appeal and Grievance Procedures for a summary of processes available to graduate students who seek review of academic and non-academic issues. Graduate students are expected to seek informal resolution of all concerns within the MS-RT program, department, school, and then university.

When an informal resolution cannot be reached, a graduate student who seeks further review of the matter is to follow the formal procedures as outlined. The 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 university graduate student ombudsman, Suzie Laurich-McIntyre, slaurichmcintyre@cmu.edu, on issues of process or other concerns as they navigate conflicts. Suzie Laurich-McIntyre is the Assistant Vice Provost for Graduate Education.
4. Academic Requirements

A. Course Requirements
The degree requirements for students in the MS-RT program consist of core courses, project courses, robotics seminars and activities, elective courses, and are supplemented by career-support, entrepreneurship, and other relevant seminars and activities that credit-carrying or not, are considered integral parts of the program in which active participation is required. To be eligible for degree certification students must complete a minimum number of units of MS-RT coursework. Students will complete 52 units in the MS-RT Year-One Program. Students will complete 78 units in the MS-RT Year-Two Program. The curriculum is comprised of five semesters over two years, counting the summer between Year-One and Year-Two as a semester.

Total number of units required for degree attainment is 130 units.

The matrix of courses and deliverables (exams, presentations, demonstrations, etc.) are as shown in the figure below. The matrix is subject to continuous improvement as program components and their effectiveness are evaluated, and as such should be viewed at any particular time as a guide. Note that the number of units listed for each course is meant to provide a guideline of the number of hours spent on each course in a given week; however, this number is meant purely as a guide. Many times students have spent far more time on researching the background materials, meeting in team-settings, doing homework and/or lab work, depending on their background and complexity and breadth/depth of the project or solution being implemented. The RI Program Committee has approved equivalencies for the Fundamentals of Robotics I, II, III, and IV at Plymouth University’s established graduate robotics program. Plymouth University will deliver their equivalencies in a face-to-face format, generally not using the MS-RT program’s Year-One distance education materials.
## Master of Science in Robotics Technology Curriculum Matrix

### Year-One (At Partner Site)

<table>
<thead>
<tr>
<th>Timing</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Hands-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or1 (1 week)</td>
<td>Partner Site Incoming Student Orientation (delivered by partner university and CMU)</td>
<td>Fundamentals of Robotics I (delivered by partner faculty using RI Courseware &amp; examined by CMU*) 12 CMU Units</td>
<td>Extended Project Course Sequence (EPCS1: Prepare) (delivered by partner faculty with guidance by CMU) 0-3 CMU Units</td>
</tr>
<tr>
<td>Y1F.1 (1 sem.)</td>
<td>Fundamentals of Robotics I (delivered by partner faculty using RI Courseware &amp; examined by CMU*) 12 CMU Units</td>
<td>Fundamentals of Robotics II (delivered by partner faculty using RI Courseware &amp; examined by CMU*) 12 CMU Units</td>
<td>MS-RT Global Robotics Dialogue (GRD1) (delivered by CMU with participation at all sites) 0-3 CMU Units</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MS-RT Professional Development Webinars (PD1) (delivered by CMU) 0-3 CMU Units</td>
</tr>
<tr>
<td>Y1F.2 (1 sem.)</td>
<td>Partner Site Electives and Core Courses (delivered by partner university)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1F.3 (3 days)</td>
<td>Oral Examination, Progress Presentation, and Extended Project Status Review &amp; Pre-Proposal (delivered by CMU)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Year-Two (At Carnegie Mellon)

<table>
<thead>
<tr>
<th>Timing</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Hands-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or2 (2 Weeks)</td>
<td>CMU / SCS / RI / MS-RT Incoming Student Orientation (delivered by CMU)</td>
<td>RI Course I 12 CMU Units (delivered by CMU)</td>
<td>Extended Project Course Sequence (EPCS4: Analyze) 15 CMU Units (delivered by CMU)</td>
</tr>
<tr>
<td>Y2F.1 (1 sem.)</td>
<td>RI Course I 12 CMU Units (delivered by CMU)</td>
<td>RI Course II 12 CMU Units (delivered by CMU)</td>
<td>MS-RT Global Robotics Dialogue (GRD3) (delivered by CMU with participation at all sites) 0-3 CMU Units</td>
</tr>
</tbody>
</table>

*Note: CMU stands for Carnegie Mellon University.*
B. MS-RT Advisement and Resource Shell
The MS-RT Office maintains an online advisement and resource shell that serves as a central vehicle for communication, provides additional resources and guides, and uploading of select MS-RT assignments. The current platform for this shell is CMU Blackboard.

C. Core Courses
Students may refer to the glossary section of this handbook for a discussion of core courses.

D. Elective Courses
MS-RT students are required to take and pass, according to the grading policy, at least four electives. Students may refer to the glossary section of this handbook for a discussion of elective courses. For an “elective” to be counted toward graduation it must be either a course that is pre-approved by the PD or that is approved by the PD subsequent to petition by the student to substitute a non-pre-approved course for one of the pre-approved courses. Pre-approved "electives" will generally be announced during the aforementioned registration periods, and petitions to take non-pre-approved courses will be entertained by the PD during this same period.

The MS-RT program cannot guarantee the regularity in which electives will be offered – students should consult the Schedule of Classes to obtain this information.

E. EPCS
The Extended Project Course Sequence (EPCS) consists of five components – prepare, plan, execute, analyze, and present – corresponding to the five semester duration of the MS-RT program. Year-One: partner university; Summer: project mentor (industry or university lab with

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y2F.2</td>
<td>Extended Project Progress Review and Feedback (delivered by CMU)</td>
<td></td>
</tr>
<tr>
<td>Y2S.3</td>
<td>RI Course III 12 CMU Units (delivered by CMU)</td>
<td>12</td>
</tr>
<tr>
<td>Y2S.3</td>
<td>RI Course IV 12 CMU Units (delivered by CMU)</td>
<td>12</td>
</tr>
<tr>
<td>Y2S.4</td>
<td>Final MS-RT Extended Project Presentation and Report (Writing and Speaking Qualifiers) (delivered by CMU)</td>
<td>15</td>
</tr>
<tr>
<td>Y2S.5</td>
<td>CMU SCS Graduation</td>
<td></td>
</tr>
<tr>
<td>Y2S.6</td>
<td>Partner Site Graduation (Where Applicable)</td>
<td></td>
</tr>
</tbody>
</table>
MS-RT program director’s approval); Year-Two: CMU Pittsburgh campus. Guidance for the EPCS will be provided directly from the partner university in the Year-One Program. Additional information is available on the MS-RT advisement shell.

F. Progress Review
At the end of each semester the MS-RT program director and program manager will review student progress and grades to determine if program standards are being met. Students dropping below a 3.0 will be required to meet with the MS-RT program director and program manager to develop a plan for improvement. Students are responsible for completing the plan for improvement and providing weekly updates on progress to the MS-RT program director and program manager.

The student progress review reflects the collaborative nature of the MS-RT program design. In the Year-One program, partner faculty and administrators provide feedback and analysis of student progress, challenges, and opportunities. Year-One students are required to do a Year-One mid-term and year end progress presentation that summarizes coursework and EPCS progress.

G. Degree Certification
https://s3.as.cmu.edu/sio/index.html

Upon satisfactory completion of all degree requirements, the MS degree will be certified by the MS-RT program manager with final approval by the MS-RT program director.

Prior to degree certification students should review their unofficial academic records on SIO for missing or incomplete grades. Students should also check SIO to make sure there is not a student account balance. Any balance greater than zero will cause diplomas, degree verifications and transcripts to be financially held until the account is paid in full.

Graduating students’ names will be announced by the MS-RT program director or his/her representative during the SCS degree-awarding ceremony. Students are required to timely assure that the person who will make this announcement is aware of the form of the student’s name that the student prefers, and if necessary has been instructed in its pronunciation.

Students are invited to attend the CMU and SCS commencement ceremony in May – the MS-RT program manager will provide information about commencement to graduates via the advisement portal.

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

A. Departmental Financial Support
The RI does not offer financial support to MS-RT students. Accepted students are expected to be fully self-supported, including tuition, fees, health insurance and any additional costs for books, supplies, room and board.

B. Student Fees & Health Insurance
Students are responsible for paying all fees in a timely manner. Failure to pay fees will result in the inability to register for subsequent semester and/or a hold on the student diploma. When in residence at Carnegie Mellon, students are required to maintain health insurance and are responsible for enrolling and paying the balance each year.

C. Small Funds and Grants (GuSH Research Funding, Travel & Conference Funding)
http://www.cmu.edu/graduate

MS-RT does not provide funds for travel and/or conferences. Students may obtain funding for such activities via an application process sponsored by GSA and the Provost’s Office. The process is managed by the Office of the Assistant Vice Provost for Graduate Education. Students can find more information about the application process and deadlines here.

GuSH Research Funding is a source of small research grant funds provided by GSA and the Provost’s Office and managed by the Office of the Assistant Vice Provost for Graduate Education. Students can find more information about the application process and deadlines at: www.cmu.edu/graduate.

D. Scholarship & Fellowship Opportunities
http://www.cmu.edu/fso/

While the RI is not able to provide financial assistance, students are encouraged to identify scholarship and/or fellowship opportunities from external agencies. In particular, we encourage students to explore scholarship opportunities offered by their home countries.

Students may also review the on-line information provided by the CMU Fellowship and Scholarship Office. This website is an excellent resource for locating an abundance of information regarding available funding for students. The primary focus of this site is US-based funding sources.

E. Outside Employment
Due to the time consuming curriculum of the MS-RT students are strongly advised not to accept employment while enrolled in the program. International students must contact the Office of International Education regarding legal eligibility to hold employment. The MS-RT program director must be consulted before any employment commences. Students who accept employment contrary to this advice must inform the MS-RT program director and program manager via a written statement acknowledging that they are doing so contrary to our advice and our warning that their academic progress is likely to suffer.

F. University Financial Aid
http://www.cmu.edu/finaid/graduate/index.html
http://www.cmu.edu/hub/billing/emergency_loans.html
http://www.cmu.edu/finaid/payment/

Graduate students should consult the graduate student financial aid information found here. Students will find the Graduate Financial Aid Guide, information about funding options and 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 to inquire about a short-term Emergency Student Loan for supplies, medication, food or other unexpected circumstances. The emergency-based loan is an interest-free loan repayable within 30 days. Students seeking to make payments to their student account in intervals should consult the CMU Payment Plan website.

G. Per Unit Tuition Rate for Additional Courses
www.cmu.edu/hub

The MS-RT curriculum is designed to occupy full-time effort and the tuition is based on the standard curriculum (see section 3F). Students who nevertheless choose to enroll in courses beyond the curriculum will be required to pay for the extra courses. The per unit rates can be found at www.cmu.edu/hub.
6. Key Offices for Graduate Student Support

A. Office of the Assistant Vice Provost for Graduate Education

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

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

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

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

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

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

B. Office of the Dean Student Affairs

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

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

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

C. Assistance for Individuals with Disabilities

Assistance for Individuals with Disabilities (Text is required to be in all handbooks to be compliant with Equal Opportunity Services requirements.)

The Office of Disability Resources at Carnegie Mellon University has a continued mission to provide physical and programmatic campus access to all events and information within the Carnegie Mellon community. We work to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Sections 503 and 504 of the Rehabilitation Act of 1973. Students who would like to receive accommodations must submit a Voluntary Disclosure of Disability Form to access@andrew.cmu.edu to begin the interactive accommodation process.

For more information please see http://www.cmu.edu/hr/eos/disability/index.html. Students with disabilities are encouraged to self-identify with Equal Opportunity Services by contacting Larry Powell, 412-268-2013, lpowell@andrew.cmu.edu to access the services available at the university and initiate a request for accommodations.

D. Eberly Center for Teaching Excellence & Educational Innovation

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

Support for graduate students who are or will be teaching is provided in many departments and centrally by the Eberly Center for Teaching Excellence & Educational Innovation. The Eberly Center offers activities for current and prospective teaching assistants as well as any graduate students who wish to prepare for the teaching component of an academic career. The Center also assists departments in creating and conducting programs to meet the specific needs of students in their programs. Specific information about Eberly Center support for graduate students can be found at: www.cmu.edu/teaching/graduatestudentsupport/index.html.
E. Carnegie Mellon Ethics Hotline
The health, safety and well-being of the university community are top priorities at Carnegie Mellon University. CMU provides a hotline that all members of the university community should use to confidentially report suspected unethical activity relating to financial matters, academic and student life, human relations, health and campus safety or research.

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

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

F. Graduate Student Assembly
www.cmu.edu/stugov/gsa/index.html
www.cmu.edu/stugov/gsa/resources/index.html

The Carnegie Mellon Student Government consists of an Executive Branch and a Legislative Branch. This is the core of traditional student government, as governed by the Student Body Constitution. The Executive Branch serves the entire student body, graduate and undergraduate, and consists of one president and four vice-presidents. The Legislative Branch for graduate students, The Graduate Student Assembly (GSA) passes legislation, allocates student activities funding, and otherwise acts on behalf of all graduate student interests. GSA also plans various social opportunities for graduate students and maintains a website of graduate student resources on and off-campus, www.cmu.edu/stugov/gsa/resources/index.html. Each department has representation on GSA and the department rep(s) is the main avenue of graduate student representation of and information back to the graduate students in the department.

G. Veterans and Military Community http://www.cmu.edu/veterans/
Military veterans are a vital part of the Carnegie Mellon University community. Graduate students can find information on applying 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 resource 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.

H. Intercultural Communication Center (ICC)
www.cmu.edu/icc/

The Intercultural Communication Center (ICC) is a support service offering both credit and non-credit classes, workshops, and individual appointments designed to equip nonnative English speakers (international students as well as international students who attended high school in the U.S.) with the skills needed to succeed in academic programs at Carnegie Mellon. In addition to developing academic literacy skills such as speaking, reading and writing, students can learn more about the culture and customs of the U.S. classroom. The ICC also helps international teaching assistants (ITAs) who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon and provides ITA testing.
I. Office of International Education (OIE)
www.studentaffairs.cmu.edu/oie/

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

M. Global Communications Center (GCC)
www.cmu.edu/gcc

The GCC provides support for written, oral, and visual communication to CMU students. The Global Communication Center (GCC) prepares CMU students to communicate in an interconnected world by providing free one-on-one tutoring, workshops, and classroom support.
7. Key Offices for Academic & Research Support

A. Computing & Information Resources
   www.cmu.edu/computing
   www.cmu.edu/computing/guideline/index.html

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

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

B. Research at CMU
   www.cmu.edu/research/index.shtml

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

C. Office of Research Integrity & Compliance
   www.cmu.edu/research-compliance/index.html

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

A. Counseling & Psychological Services
www.studentaffairs.cmu.edu/counseling

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

B. Health Services
www.cmu.edu/HealthServices/

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

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

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

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

D. The WORD
http://www.cmu.edu/student-affairs/theword/

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