Carnegie Mellon University

Academic Year 2024-2025

School of Computer Science

Software and Societal Systems

Master of Software Engineering Professional Programs Student Handbook

Degree Programs Covered by This Handbook:

MASTER OF SOFTWARE ENGINEERING

MASTER OF SCIENCE in SOFTWARE ENGINEERING ONLINE

MASTER OF BUSINESS ADMINISTRATION & MASTER OF SOFTWARE ENGINEERING

MASTER OF SOFTWARE ENGINEERING – SCALABLE SYSTEMS

MASTER OF SOFTWARE ENGINEERING – EMBEDDED SYSTEMS

INFORMATION SYSTEMS – MASTER OF SOFTWARE ENGINEERING – ACCELERATED MASTER'S PROGRAM

SOFTWARE ENGINEERING GRADUATE CERTIFICATES

DEDICATION

To the late Curtis M. Scott (MSE ‘92), who had a desire to help incoming students and took it upon himself to write *Uncle Rusty’s Guide to the Telesoft Environment*.

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SECTION 1: Welcome & Introduction

On behalf of the Master of Software Engineering (MSE) Professional Programs directorship, faculty, administration, and its extended community of students and alumni, we take this opportunity to welcome you to Carnegie Mellon! We are certain that you will flourish here in our academic community and enjoy all it has to offer you in the months to come.

Our programs are designed for professionals who are eager to expand their knowledge of the discipline. We strive to produce some of the world's best software engineers: those who don't just deliver the next revolutionary software product, but those who can begin to shape and guide the industry itself as lifelong Agents of Change.

Through its challenging curriculum, innovative courses, and technical emphasis, students learn and apply practices, tools, and techniques in a real-world project environment. Our academic standards are high, with an emphasis on state-of-the-art research and educational breadth in software engineering, computer science, robotics, embedded and distributed systems, human-computer interaction, and language and information technologies. While those admitted to our programs come to us technically strong, they leave with an even deeper understanding of process, development, architecture, methodology, best practices, and team dynamics.

As a newly admitted student, you should be optimistic about your future career prospects. We look forward to learning more about you — your plans and your dreams, your aspirations, and your reality. We are excited about working with you on a plan to attain those short- and longer-term goals.

While this handbook is specific to your academic experience in the department, there are several other resources and offices graduate students are encouraged to consult during their tenure at Carnegie Mellon University:

- **Your Program Handbook**
- **University-Wide Graduate Student Handbook (Office of Graduate & Postdoctoral Affairs)**
- **The Word Student Handbook**

SECTION 2: Program Mission

The goal of the MSE Professional Programs is to develop future leaders of industrial software engineering practice – chief engineers, lead architects, and principal technical officers. Graduates of the program are expected not only to understand but be able to apply the best of current practice, and to act as agents of change to improve the practice in this evolving discipline.

SECTION 3: Degrees Offered

The MSE Professional Programs includes five (5) degrees and several graduate certificate programs:

Master of Software Engineering (MSE)

- For software developers who have at least two years of experience and want to become technical and strategic leaders.
- 16-months, full-time, on campus, requires 195 degree-units.

Master of Science in Software Engineering (MSE Online)

- For experienced software professionals residing in the U.S. who have at least one year of experience and an aptitude for reflective practice. The flexibility of the online program allows you to apply coursework to your active, ongoing industrial experience.
- 24-months, part-time, distance, requires 108 degree-units.

Master of Business Administration / Master of Software Engineering (MBA/MSE)

- For engineering or science professionals who have at least two years of experience and who want to earn a dual degree.
- Offered jointly with Carnegie Mellon's Tepper School of Business
- 24-months plus internship, on campus, requires 195* degree-units.
  *for the MSE portion only; consult Tepper's handbook for the MBA requirements

Master of Software Engineering – Scalable Systems (MSE-SS)

- For recent graduates and junior software professionals who want to enhance their software development and leadership skills in large-scale, data-intensive and intelligent systems design and engineering.
- 16 months, full-time, internship required, on campus, requires 153 degree-units.
- **IS-MSE-AMP** students concentrating in Scalable Systems will graduate with this degree.

Master of Software Engineering – Embedded Systems (MSE-ES)

- For recent graduates and junior software professionals who want to enhance their software development and leadership skills in embedded, cyber-physical systems.
- 16 months, full-time, internship required, on campus, requires 153 degree-units.
- **IS-MSE-AMP** students concentrating in Embedded Systems will graduate with this degree.

MSE Graduate Certificates

- For professionals seeking to acquire specific software engineering skills without taking a full degree program, we offer graduate certificates.
- Certificates are generally 24 units and can be completed within one academic year. The MSE program offers certificates in the following practice areas:
    - Software Engineering Management
    - Software Architecture
    - Software Product Management
- Plans of study for each certificate can be found on the MSE Graduate Certificate Programs website.

Questions may be directed to the Programs Manager, Jennifer Britton.

Changing Degree Tracks

During the admissions process, some applicants may be moved from the degree program to which they applied to one that better suits their experience. This is determined by the admissions committee and cannot be appealed. For example, if an applicant with more than two years of professional experience applies to the MSE Scalable Systems program, they will be moved to the applicant pool for the MSE Professional program.

Under some circumstances, U.S.-based students admitted to the MSE Professional program may transfer to the MSE Online program prior to enrollment by alerting the MSE Admissions Manager. **Changing degree tracks in any program after enrollment is not possible.**

SECTION 4: Departmental Personnel

The MSE Professional Programs are a suite of programs within the Software and Societal Systems Department (S3D) and the School of Computer Science (SCS). We recommend that you become familiar with the leadership of both of these organizations as well as our own.

Below you will find information on all associated leadership and staff; including the possible ways in which you may interact with them. A campus map and guide to building abbreviations can be found here.

Name/Title	Office	Contact Info
Amy Burkert *Vice Provost for Education*	GSIA 354	ak11@andrew.cmu.edu
Angela Lusk *Director of Wellness & Meaning-Making Programs*	CUC 111E	alusk@andrew.cmu.edu
Maggie Sikora *Office of Postdoctoral and Graduate Affairs*	Cyert Hall	msikora1@andrew.cmu.edu

4.1: SCHOOL OF COMPUTER SCIENCE

Name/Title	Office	Contact Info
Martial Hebert *Dean*	NSH 4113	412-268-5704 mhebert@andrew.cmu.edu
Guy Blelloch *Associate Dean for Undergraduate Programs*	GHC 9211	412-268-6245 blelloch@cs.cmu.edu
Tom Cortina *Associate Dean for Undergraduate Programs*	GHC 4117	412-268-3514 tcortina@cs.cmu.edu
Catherine Copetas *Assistant Dean for Industrial Relations and Special Events*	GHC 6203	412-268-8525 copetas@cs.cmu.edu
Jodi Forlizzi *Associate Dean for Diversity, Equity and Inclusion*	NSH 3519	412-606-1702 forlizzi@cs.cmu.edu
David Garlan *Associate Dean for Master's Programs*	GHC 4218	412-268-5056 garlan@cs.cmu.edu
Srinivasan Seshan *Computer Science Department Head*	GHC 7019	412-268-8734 srini@cs.cmu.edu

4.2: SOFTWARE AND SOCIETAL SYSTEMS DEPARTMENT

Name/Title	Office	Contact Info
Nicolas Christian *Director, S3D (September 1)*	CIC 2108	268-4432 nicolasc@cmu.edu

4.3: MASTER OF SOFTWARE ENGINEERING

DIRECTOR AND ADMINISTRATIVE STAFF

Name/Title	Role/Interactions	Contact Info
Travis Breaux *Director, MSE Professional Programs*	Controls the vision of the program, provides high-level guidance to students and faculty, is involved in student evaluations and in resolving any program-level disputes.	TCS Hall 346 tdbreaux@andrew.cmu.edu Assistant: Grace Alexander gna@andrew.cmu.edu
Swarna Ashok *Associate Director, MSE Professional Programs*	Contributes to the vision of the program, provides high-level guidance to students and faculty, directs corporate relations, and is involved in student evaluations.	300 South Craig 273 swarnala@andrew.cmu.edu
Jennifer Britton *Programs Manager*	Oversees all aspects of MSE administration. Manages the MSE staff team, TA hiring, and course scheduling. You may speak to her about personal and professional conflicts, course and faculty concerns, program management, and direction.	300 South Craig 270 412-268-4359 jbritto2@andrew.cmu.edu
Grace Alexander *Programs Administrative Associate*	Coordinates MSE events, assists with scheduling, ordering, reimbursement, content editing, catering, technical logistical support, inter-departmental coordination, admissions, and general departmental needs.	300 South Craig 270 412-268-5009 gna@andrew.cmu.edu
Alexandra (Sasha) Balobeshkina *Alumni and Corporate Relations Manager*	Coordinates alumni outreach efforts, student relations, and job placement. Interacts directly with industry regarding project sponsorship and engagement with the program.	300 South Craig 278 268-7881 abwalker@andrew.cmu.edu
Marlana Ivey *Senior Admissions Officer*	Oversees the admission processes for all MSE Programs. First point-of-contact for prospective and newly admitted students. Plans orientation agenda and events.	300 South Craig 278 268-7881 mpawlak@andrew.cmu.edu
Lauren Martinko *Senior Graduate Academic Advisor*	Supports graduate student success through academic advising. Offers counseling for course planning, registration, career preparation, and commencement.	300 South Craig 272 268-6441 laurenma@cs.cmu.edu
Ethan Merritt *Marketing & Communications Manager*	Oversees program marketing and branding, external communications, and website content.	300 South Craig 272 268-3565 ethanmer@andrew.cmu.edu

4.4: FACULTY

Name/Title	Office	Contact Info
Travis Breaux *Director, MSE Professional Programs*	TCS 346	tdbreaux@andrew.cmu.edu 412-268-7334
Jonathan Aldrich *S3D Professor*	TCS 422	jonathan.aldrich@cs.cmu.edu
Swarna Ashok *MSE Core Faculty* *Associate Teaching Professor*	SCRG 273	swarnala@andrew.cmu.edu 412-268-7494
Andrew Begel *Associate Professor of Computer Science, S3D*	TCS 441	abegel@andrew.cmu.edu 412-268-8813
Len Bass *S3D Adjunct Faculty* *HCII Senior Technical Staff*	Remote	lenbass@cmu.edu
Jim Berardone *MSE Core Faculty* *Professor of Product Management*	SCRG 275	jberardone@cmu.edu
Nick Frollini *MSE Core Faculty* *Communications Instructor*	SCRG 274	dfx2@andrew.cmu.edu 412-268-5359
David Garlan *SCS Associate Dean for Master's Programs,* *S3D Professor of Computer Science*	TCS 420	garlan@cs.cmu.edu 412-268-5056
Jeff Gennari *S3D Adjunct Faculty* *SEI Senior Technical Staff*	SEI	jgennari@andrew.cmu.edu 412-268-1404
Daniel Justice *S3D Adjunct Faculty* *SEI Software Developer*	CIC 1121	djustice@andrew.cmu.edu 412-268 4898
Eunsuk Kang *S3D Assistant Professor*	TCS 322	eskang@cmu.edu 412-268-2843
Christian Kästner *Director, Software Engineering PhD Program* *S3D Associate Professor*	TCS 345	kaestner@cmu.edu 412-268-5254

Ashok Kumar *S3D Director of Digital Government, Executive Education*	SCRG 275	ashokks@cmu.edu
Eduardo Miranda *MSE Core Faculty* *Teaching Professor*	SCRG 268	mirandae@andrew.cmu.edu 412-268-8450
Scott Pavetti *MSE Core Faculty* *Assistant Teaching Professor*	SCRG 276	spavetti@andrew.cmu.edu
Michael Riley *S3D Adjunct Faculty* *SEI Senior Embedded Software Resiliency Engineer*	SEI 4202	mariley@sei.cmu.edu
Bradley Schmerl *S3D Principal Systems Scientist*	TCS 421	schmerl@andrew.cmu.edu
Chris Timperley *S3D Systems Scientist*	TCS 362	ctimperly@cmu.edu
Hasan Yasar *S3D Adjunct Faculty* *SEI Technical Manager*	SEI 3201	hyasar@andrew.cmu.edu 412-268-9219

4.5: S3D TECHNICAL STAFF

Name/Title	Role/Interactions	Contact Info
S3D Technical Support	Handles requests for technical support in student meeting rooms and for temporary equipment.	TCS Hall s3d-help@cs.cmu.edu
Emanuel Bowes *Assistant Systems Manager, S3D*	Maintains servers and provides tech support for the MSE programs.	TCS 220 412-268-3369 peb2@andrew.cmu.edu
Thomas Pope *Systems Manager, S3D*	Runs both the IT services teams.	TCS 316 412-268-8615 tpope@cmu.edu
James Tobin *Videography Team Manager, S3D*	Coordinates requests for video services.	WEH 4116 412-268-7695 jtobin@andrew.cmu.edu

4.6: SCS FACILITIES STAFF

Name/Title	Role/Interactions	Contact Info

SCS Building Facilities	Manages all initiatives and issues pertaining to the physical spaces occupied by the School of Computer Science, from facility, furniture, electrical issues and office/room access to space and maintenance resources.	building@cs.cmu.edu
Paul Stockhausen *Senior Manager, SCS Building Facilities*	Handles issues with the building or furniture and should be contacted in the event of an accident on the property.	GHC 4107 412-268-8223 stocky@cs.cmu.edu
Jamie Gregory *Associate Building Facilities Manager, SCS*	Handles issues with the building, furniture, or phones.	GHC 4107 412-268-2069 jamieg@cs.cmu.edu

SECTION 5: Departmental Resources

5.1: MAILING ADDRESS

Master of Software Engineering Professional Programs
Carnegie Mellon University
300 South Craig Street, 2nd floor
Pittsburgh, PA 15213, USA

Please note: Students do not have assigned mail boxes at 300 S. Craig. Staff may not be available to receive mail on student's behalf. It is better to have mailed items delivered to a student's home address.

5.2: WORK SPACES

KITCHENETTE

The MSE kitchenette is a shared space. Members of the HCII department may use the sink and microwaves, but should not partake of the coffee. It is everyone's responsibility to keep the kitchenette clean and free of clutter. To ensure a clean and pleasant environment for all, students should:

- Wipe up any spills, including coffee, water, sugar, etc.
- Remove all dishes after washing. Any dishes left in the area will be thrown out during regular cleaning sweeps.
- Report any malfunctioning equipment or fixtures to the Program Manager.

CUBICLE SPACES

There are six distinct cubicle spaces located in the cohort study area, also known as "The Cave." These cubicles are assigned to studio teams working on an industry project for their core working hours.

- Studio teams should not use student meeting rooms for their core working hours.
- If there are more cubicles than there are studio teams, the extra cubicles may be used as general study space, except in the fall semester, when they will be assigned to practicum teams for core working hours.

STUDENT CONFERENCE ROOMS

Student conference rooms are available for project teams to assemble and meet with their mentors and clients. The rooms may also be reserved by instructors as break out space during course time. Reservation permissions by semester are as follows:

Fall semester: All fourth semester students working on a Studio or Practicum team
Spring semester: All second semester MSE Professional students working on a Studio team
Summer semester: All third semester MSE Professional students working on a Studio team.

Please note the following restrictions:

- These meeting rooms may only be reserved for project team meetings. Reservations for individuals are not allowed.
- Project teams should not reserve the meeting rooms for their core working hours unless assigned one of these rooms by the Program Manager.
- Students without permission to reserve conference rooms may use the space if no reservation exists on the calendar. However, any student using the rooms without a reservation must give up the space to a team with a reservation.
- Each of these rooms is equipped with computer projection capabilities, bluetooth speakers, fans, and whiteboards.

Student Conference Rooms are available to Studio or Practicum project teams on a first-come, first-served basis and can be reserved via Google calendars. QR codes to access these calendars are available on the door to each room.

- Reservation Calendars: 261, 262, 263, 264, 281, 282

INTERVIEW BOOTHS

Two sound-reducing booths are located between the elevator and the kitchenette. Reservations permissions by semester are as follows:

Fall semester: All fourth semester students and all first semester Scalable Systems and Embedded Systems students
Spring semester: All second semester Scalable Systems and Embedded Systems students
Summer semester: All third semester students

Please note the following restrictions:

- Booths should only be reserved for job or internship interviews.
- Maximum reservation block is 2 hours.
- Students without permission to reserve booths may use them only if no reservation exists on the calendar. Any student using the booths without a reservation must give up the space to a student with a reservation. If students outside the MSE programs are using the booths, they may be asked to leave.
- These booths are reserved via Google Calendars on a first come, first-served basis.
- Reservation Calendars can be accessed via the QR codes posted on each door, or the following links: Booth 1 Booth 2

PROGRAM/DEPARTMENTAL LIBRARIES

The James E. Tomayko Memorial Library is located in the MSE Professional Programs space, 300 South Craig Street, room 266 . This collection is the generous donation of Dr. Jim "Coach" Tomayko, former director, faculty member, and SEI researcher. Program students may borrow books from his collection for their personal and professional use. The library space is not reservable by students, but may be used as an open study space. In the fall semester, the program may reserve the space for project teams' working hours. Students may also use the Engineering and Science Library (Wean Hall 4615).

5.3: SECURITY AND BUILDING FACILITIES

Students are provided with general access to the professional and study spaces on campus upon orientation. Please respect common areas and your fellow students by keeping these spaces safe and clean.

Security

KEYS

General access keys are distributed to each student at orientation. It is the responsibility of the student to return the keys upon leaving the program.

- Lost keys may be replaced. Please contact Grace Alexander.
- Each student is assigned a locker with a combination code for personal items at orientation.

SAFETY

For the security, safety, and privacy of your fellow MSE students, **please do not invite others into the MSE space**, including the Cave and student meeting rooms, on a regular basis. The University's on-campus emergency procedure can be reviewed online.

- In the event of an emergency, dial 911 or contact Campus Police at 412-268-2323
- The main entrance doors to the 300 South Craig building are locked at all times. A CMU ID is required for entry.
- Access to the building is made by swiping a valid and activated Carnegie Mellon student identification card at the front door access area.

- Student lockers located inside the MSE student space are lockable and remain the responsibility of the assigned student.
- In case of theft of property, either personal or University, please notify Paul Stockhausen, Campus Security, and MSE Programs Manager, Jennifer Britton.
- Emergency egress can be made by using any of the exit stairways. These can be found inside the MSE professional area, or in the 2nd floor main hallway.

Facilities

PARKING

On-campus parking is the student's responsibility. See the parking services website for more information.

REPAIRS

- For program-provided computing equipment: Notify the Program Manager.
- For print/copy equipment: Notify SCS Computing services.
- For furniture, lighting, heating, cooling, etc. in need of repair, contact SCS Building Facilities.
- For assistance with personal Computers: contact the Andrew help desk or the S3D technical support staff.

ACCIDENTS ON CMU PROPERTY

Please report all accidents to Paul Stockhausen and the MSE Program Manager. You will be asked to complete an accident report.

PRINTER/COPY MACHINES

There is one SCS public printer/copier on the 2nd floor of the MSE Professional Programs' facility at 300 South Craig Street located between the elevator and the kitchenette. All students are allotted a semester print quota, which is subtracted when you release a print job at any campus printer with your CMU ID card.

COMPUTER LABS

There are a number of computer labs located throughout the CMU campus. A list of locations is available online.

Office Supplies And Equipment

INDIVIDUAL SUPPLIES

There is a small supply station in the Cave with the following basic office supplies: dry-erase markers, paper clips, magnets, push pins, pens and post-it notes. Wastebaskets and recycling baskets are located throughout the Cave and MSE space. If additional office

supplies are needed, please contact MSE Administrative Associate, Grace Alexander.

SHARED SUPPLIES

When taking replacement supplies from the MSE stock, be respectful and reasonable. Inform the MSE Program Administrative Associate when the supply runs low.

Shared office supplies, such as a 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.

A coffee maker is located in the kitchenette, along with several varieties of coffee and condiments. Coffee is provided by the S3D. Do not invite students outside of the S3D to use the coffee machine. Students are advised to bring their own mugs or cups and keep them in their lockers. A basic first aid kit is located in the kitchenette, hung on the side of the upper left cabinets.

COMPUTER EQUIPMENT

Any adaptors needed for students to connect their personal computers to program-provided computers are the student's individual responsibility.

- MSE Professional students participating in a year-long Studio project are provided with a computer monitor, mouse and keyboard. These items should remain in the MSE student space at 300 S. Craig St.
- MSE SS/ES students participating in a semester-long practicum project will be provided with some computer monitors to be shared amongst teams. Any monitors provided should remain in the MSE student space at 300 S. Craig St.

Financial And Social Resources And Policies

EXPENSES

Any expenses incurred on behalf of the program or student projects **must be pre-approved** by the Programs Manager in order to be reimbursed. Expenses requiring the signature of a contract must be pre-approved by the University Contracts Office. No one, save a designated UCO officer, is authorized to sign a contract on CMU's behalf, and this includes software Click-Through Agreements (CTAs).

Receipts that verify student purchases and/or expenses must be presented to MSE Administrative Associate, Grace Alexander, within 30 days of the purchase in order to qualify for reimbursement. Receipts must display date, payment method, and confirmation purchase (i.e. an invoice showing zero balance due or a bank/credit card statement).

SOCIAL COMMITTEE/ ACTIVITIES

With each academic year, a call is made for interested students to serve in social and leadership positions as a part of the MSE Leadership Initiative (MSELi). This student-led

organization strives to address the professional and collegial interests of all students in the MSE programs. Initiatives include hosting guest lecturers, coordination of technical and soft skills workshops, and group knowledge-sharing sessions. Funding for MSELi events and initiatives is provided by the Graduate Student Assembly (GSA).

In addition, the MSELi is charged with discussing and organizing social activities that include recreation, entertainment, socializing, sport and leisure. The MSE programs may partially-support reasonable and pre-approved expenses associated with these periodic (generally one per semester) outings. Ideas and a proposed budget should be given to the Programs Manager, Jennifer Britton, for approval.

PURCHASING POLICIES AND PROCEDURES

Students may petition the program for the purchase of supplies in support of professional or social activities that benefit a sizable portion of the program community. Examples of supplies may include food and non-alcoholic drinks for a visiting lecturer or student-organized professional development event, and materials or supplies used in support of projects. **In every instance, approval from the Programs Manager is needed prior to the purchase being made**. Once approved, MSE Administrative Associate, Grace Alexander, can finalize the transaction.

PRESS AND MEDIA RELATIONS

The MSE Marketing and Communications Manager, Ethan Merritt, is the point of contact between news media and the MSE 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 the Marketing and Communications 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 MSE Professional Programs should contact the Marketing and Communications Manager.

UNIVERSITY/COLLEGE/DEPARTMENT/PROGRAM BRAND AND LOGOS

The MSE Professional Programs adheres to the University's established guidelines regarding brand identity and logo usage. Any use of the CMU logos or visual identity markers on merchandise must be approved by the university Trademark office. 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 website.

Please contact the Programs Manager before using the MSE logo.

SECTION 6: Advising

6.1: ROLE OF AN ADVISOR AND ADVISOR ASSIGNMENTS

The Graduate Academic Advisor, Lauren Martinko, advises all students in MSE programs to establish a consistent and coherent course of study across programs. An open line of respectful and confidential communication is encouraged, as is the timely follow up and response to inquiries and requests for meeting times. Advising sessions are key in addressing conflicts and seeking guidance when needed. The Graduate Academic Advisor's role is to:

- Offer advice on appropriate elective 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 arrange for tutoring, if needed;
- Recommend disciplinary action to the Program Director, if needed;
- Meet at the conclusion of each semester to discuss student progress and to provide progress documentation to the student;
- Approve schedule variations such as elective courses, audits and in rare circumstances overloads.

6.2: ADVISOR/ADVISEE COLLABORATION

Initial advising is done in late Spring and early Fall at the MSE Orientation. **Students are responsible for making subsequent appointments with the Graduate Academic Advisor**. Periodic check-ins with your advisor are encouraged in order to discuss personal and professional career goals and a Plan of Study that targets those objectives. Recommended instances for advising sessions include:

- Pre-registration to review elective course options
- Consideration of Independent Study opportunities
- Any academic challenges faced by the student
- Feedback on matters of academic integrity/conflict
- Evaluation of professional job prospects.

In addition to the Graduate Academic Advisor, MSE faculty and mentors may advise on a number of curricular activities, including coursework, Studio (MSE) and Practicum (MSE-SS and MSE-ES) projects, and thesis completion (MSE Online).

6.3: REVIEW/REDRESS OF ACADEMIC CONFLICTS

Students who have an academic concern or conflict should discuss this with the instructor of the course and/or their assigned mentors. If a resolution cannot be found, students can discuss the issue with their Graduate Academic Advisor who will consult program leadership to reach a solution. Grade disputes should follow CMU Grading policy. Students have the right to appeal any academic action taken by the program or department. Refer to the Summary of Graduate Student Appeal and Grievance Procedures.

SECTION 7: Master's Degree Requirements

7.1: RESIDENCY REQUIREMENTS

All MSE students in full-time, on-campus programs (MSE Professional, SS, ES) are expected to reside in Pittsburgh, PA except when the curriculum requires some time off-campus (e.g. in the case of off-campus internships for MSE-SS and MSE-ES students).

MSE Online students are required to be U.S. residents while enrolled in the program but are not required to reside in Pittsburgh, PA as they are completing a part-time, fully remote program.

7.2: REGISTRATION PROCESS

Registration Policy

For on-campus students, the unit limits per semester are:

Semester	MSE Professional	SS/ES
1st Fall	51	51
Spring	51	51
Summer	48	3 Internship
2nd Fall	48	48

Although students may be able to register for up to 60 units, the total unit load at the end of the add period should be **no greater than their unit limits.**

By the final deadline, students must complete a Registration Approval form for all semesters that include an elective requirement as well as for any teaching or research assistantships in which they are involved.

- The Graduate Academic Advisor must approve each student's Registration Approval form according to the guidelines outlined in the form.
- Registration for a coursload greater than 51 or 48 units (depending on semester) requires the advance permission and approval/signature of the Graduate Academic Advisor. Permission for overloads is rarely approved.

MSE Online students are in a part-time program and may take as many units as their course of study and schedule allow in any given semester.

Registration Procedures

Course registrations are completed by the student online. It is the responsibility of each student to register for courses. This can be done at any time between the pre-registration period and the final add deadline. These dates can be found on the official academic calendar.

The MSE programs (and the University) reserve the right to withdraw any announced course if the enrollment is too low. The MSE programs also reserve the right to make changes in the schedule of hours, units, or to instructional staff.

Students must register for each course, whether they are taking the course for credit or as an audit. Any student whose name is not on the roster for a particular course on the first day of classes may be denied admission to the course.

Courses With Restricted Enrollment

MSE students have priority in MSE-originated courses on a first-come, first-served basis. If a course has multiple sections, seats will be reserved for MSE students, however, if MSE students fill a section, an MSE student still seeking to register should select the section with open seats. Individual sections will not be overloaded because of student preferences or conflicts with electives.

The MSE programs cannot lobby other departments on behalf of its students in order to secure seats in their courses. All departments reserve seats for their specific students. Any open seats remaining are generally assigned on a first-come, first-served basis. Students can contact the assigned course instructor to plead their case for admission to the course. Admission may be granted at the discretion of the instructor. The policy of the department offering the course(s) should always be followed.

7.3: REQUIRED UNITS FOR DEGREE ATTAINMENT

The chart below shows a break down of the required units for each MSE degree program

PROGRAM	**TOTAL UNITS**	CORE UNITS	ELECTIVE UNITS	COMMUNICATIONS UNITS	CAPSTONE	OTHER REQUIRED UNITS
MSE	**195**	60	45	6	84 Studio Project	
MSE ONLINE	**108**	72	24	6	6 Thesis	
MSE-SS	**153**	84	24	6	36 Practicum	3 Internship
MSE-ES	**153**	84	24	6	36 Practicum	3 Internship
MSE/MBA	**195***	60	45	6	84 Studio Project	
IS-MSE-AMP	**153****	84	24	6	36 Practicum	3 Internship

*MSE/MBA students must complete 195 units for the MSE degree. During the MBA portion of the program, students must abide by all the rules and regulations of the Tepper School of Business MBA program.

**IS-MSE-AMP students must complete a total of 153 units as described in the MSE-ES & MSE-SS requirements sections. A maximum of 48 units may be double-counted as long as the final grades earned are a B- or above. The plan of study on the Undergraduate Course Requirements Form provided during admissions should be followed. Therefore, IS-MSE-AMP students may complete their master's degree in only one year rather than 18 months.

7.4 DEFINITION OF FULL-TIME AND PART-TIME STATUS

The MSE Professional Programs define full-time enrollment as no less than 36 units per semester, and part-time enrollment as less than 36 units (typically 6-18 units) per semester. **Please note that immigration restrictions do not allow Carnegie Mellon to issue F-1 Visa documents to part-time students. As such, international students are not eligible for part-time status.** The chart below details full- and part-time status for each program.

PROGRAM	FULL- OR PART-TIME	ON-CAMPUS OR REMOTE	NUMBER OF SEMESTERS TO COMPLETE
MSE	Full	On-Campus	4 Consecutive
MSE Online	Part	Remote	6-9

MBA/MSE	Full	On-Campus	7 Consecutive*
MSE-SS	Full	On-Campus	4 Consecutive
MSE-ES	Full	On-Campus	4 Consecutive
IS-MSE-AMP	Full	On-Campus	4-5 Consecutive**

*Study for the MBA/MSE program is divided between Tepper School of Business and the MSE Program, three semesters towards the MBA and four semesters towards the MSE.

**Study for the IS-MSE-AMP is divided between the undergraduate senior year and one year of graduate study as follows: two semesters during the undergraduate senior year and two as a dedicated graduate student. A summer internship may be required between senior year and Masters-level study if one that satisfies the MSE internship requirement was not completed in the undergraduate semesters. All IS-MSE-AMP students will take a concentration track of either the MSE-SS or MSE-ES program.

7.5 CURRICULAR REQUIREMENTS

To receive any of the MSE Professional Programs degrees, 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 earned in any core, required or project course, the course must be repeated regardless of the QPA. Receiving a “B-” or less in any course can jeopardize the student’s academic standing in the program.

Courses in the first year are divided into 7-week mini-semesters to allow students to concurrently study a wider range of topics while building a foundation to succeed in more advanced courses later in the program.

The following chart shows how each 7-week mini-semester (noted as A1-A6) fits within the regular 14-week semester schedule.

Full Semesters: 9 to 12-unit* courses	**Fall (FA)**		**Spring (SP)**		**Summer (SU)**	
Mini Semesters: 6-unit courses	A1 On-campus D1 Online	A2 On-campus D2 Online	A3 On-campus D3 Online	A4 On-campus D4 Online	A5 On-campus D5 Online	A6 On-campus D6 Online

*One unit is approximately 1 hour of study/work time, though this varies based on the course.

7.6 PLAN OF STUDY

Master of Software Engineering (MSE) Requirements

The MSE Professional (MSE) is a 16-month program consisting of four semesters. The program begins in August and concludes the following year in December. Project work begins in the spring semester. The summer and subsequent fall sessions are devoted primarily to Studio projects. MSE Students must complete 60 units of core courses, 6 units of communications, 84 units of Studio project, and 45 units of electives. The sample course of study is also available online.

FALL 2024

Semester	Course Number	Course Title	Units
A1	17-611	Statistics for Decision Making	6
A1	17-612	Business and Marketing Strategy	6
A1	17-614	Formal Methods	6
A2	17-622	Agile Methods	6
A2	17-623	Quality Assurance	6
A2	17-626 or 17-627	Requirements Course	6
FA	17-603	Communications for Software Leaders I	3
FA	Variable	Elective Course(s)	12

SPRING 2025

Semester	Course Number	Course Title	Units
A3	17-632	Software Project Management	6
A4	17-643	Quality Management	6
SP	17-633	Software Architectures	12
SP	17-604	Communications for Software Leaders II	3
SP	17-671	Studio Project I	12
SP	Variable	Elective Course(s)	12

SUMMER 2025			
Semester	**Course Number**	**Course Title**	**Units**
SU	17-672	Studio Project II	36
SU	Variable	Elective Course(s)	12

FALL 2025			
Semester	**Course Number**	**Course Title**	**Units**
FA	17-673	Studio Project III	36
FA	Variable	Elective Course(s)	12

If desired, MSE Professional students may tailor their coursework to their professional goals by choosing one of two systems tracks. Each systems track has one mandatory requirements course taught in mini semester A2, and one optional systems course taught in mini semester A4. Students who wish to take the optional systems course should plan to use 6 elective units in the spring for either 17-647 or 17-748.

Scalable Systems: this track emphasizes the design and construction of systems that process large datasets and/or manage large numbers of requests, or that are composed of multiple systems moving at different rates. The following courses are offered within this track, in addition to the internship and project experience that offer additional scalable systems emphasis.

Scalable Systems Track				
Semester	**Course Number**	**Course Title**	**Units**	**Notes**
A2	17-626	Requirements for Information Systems	6	Required
A4	17-647	Engineering Data Intensive and Scalable Systems	6	Elective

Embedded Systems: this track emphasizes the design and construction of systems where software is used to improve control in physical systems and where it must operate in resource-constrained environments. This includes Internet-of-Things and cyber-physical systems, and industrial control systems. The following courses are offered within this track, in addition to the internship and project experience that offer additional embedded systems emphasis.

Embedded Systems Track				
Semester	**Course Number**	**Course Title**	**Units**	**Notes**
A2	17-627	Requirements for Embedded Systems	6	Required
A4	17-648	Sensor Based Systems	6	Elective

Master Of Science In Software Engineering (MSE Online) Requirements

MSE Online is a part-time, distance learning, 24-month variation of the full MSE program. Targeted at experienced software professionals with an aptitude for reflective practice, MSE Online allows students to apply coursework to their active, ongoing industrial experience. The program consists of 6 to 9 semesters depending on course load. The first 5 to 7 semesters include both synchronous and asynchronous lectures and assignments, additional time dedicated to synchronous faculty meetings, and recitations. The final semester is usually dedicated to writing the term paper.

Courses are divided into 7-week mini-semesters that allow students to concurrently study a wide range of topics while building a foundation for advanced topics later in the program. An MSE course planning matrix is available to assist you in course planning and is updated every semester

Note the sample plan of study is flexible. The plan of study for individual students will vary depending on semester of entry, availability of courses, number of courses taken per semester, etc.

Sample Semester 1			
Semester	**Course Number**	**Course Title**	**Units**
D1	17-612	Business and Marketing Strategy	6
D1	17-614	Formal Methods	6
D2	17-623	Quality Assurance	6
FA	17-603	Communications for Software Leaders I	3

Sample Semester 2

Semester	Course Number	Course Title	Units
D3	17-635	Software Architectures	6
D3	17-643	Quality Management	6
SP	17-604	Communications for Software Leaders II	3
Variable	Variable	Elective Course(s)	12

Sample Semester 3

Semester	Course Number	Course Title	Units
SU	17-636	DevOps: Engineering for Secure Development and Deployment	12
Variable	Variable	Elective Course(s)	6

Sample Semester 4

Semester	Course Number	Course Title	Units
D1	17-611	Statistics for Decision Making	6
D2	17-622	Agile Methods	6
D2	17-626 or 17-627	Requirements for Information Systems* or Requirements for Embedded Systems*	6

*Students must take either 17-626 or 17-627 to fulfill core requirements. Depending on their preferred concentration. The other course may be taken as an elective.

Sample Semester 5

Semester	Course Number	Course Title	Units
D3	17-632	Software Project Management	6
D4	17-642	Software Management Theory	6

Variable	Variable	Elective Course	6

Sample Semester 6			
Semester	**Course Number**	**Course Title**	**Units**
SU or FA	17-679	Thesis Writing for Industrial Software Research**	6**
Variable	17-697	Directed Study**	6-12**

** Further details can be found in **Required Thesis (MSE Online)**.

More information on the content and format of the term paper can be found on the MSE website. Students should submit a Proposal Form in the semester prior to enrolling in 17-679 or 17-697.

Master Of Business Administration & Software Engineering (MBA/MSE) Requirements

The MBA/MSE is a seven-semester dual-degree program. The program begins yearly in fall, is suitable for candidates with strong technical skills, and integrates the disciplines of business and economics into coursework. The plan of study can be found online.

Semesters 1, 2 and 3 are taken at the Tepper School of Business. Students begin the on-campus Software Engineering portion of the dual-degree program in their subsequent fall term. During the MBA portion of the program, students must abide by all the rules and regulations of the Tepper School of Business MBA program. The MSE Portion of the plan is as shown in the above listed **MSE Requirements section**.

Master Of Software Engineering In Scalable Systems (MSE-SS) Requirements

MSE Scalable Systems is a 16-month program and consists of three semesters plus one summer internship semester. The program begins in August and concludes the following year in December. The summer semester is reserved exclusively for the required internship and the final fall semester is dedicated to an intensive practicum project.

Courses in the first year are divided into 7-week mini-semesters to allow a wider range of learning and build a foundation for more advanced topics later in the program.

MSE-SS students must complete 84 units of core courses, 6 units of communications, 3 units of internship, 36 units of project, and 24 units of electives. Students should register for in-person courses (IPE modality) to fulfill all MSE core

requirements. The Graduate Academic Advisor may approve remote courses to fulfill elective requirements on a case-by-case basis.

FALL 2024

Semester	Course Number	Course Title	Units
A1	17-611	Statistics for Decision Making	6
A1	17-612	Business and Marketing Strategy	6
A1	17-614	Formal Methods	6
A1	17-695	Design Patterns	6
A2	17-622	Agile Methods	6
A2	17-623	Quality Assurance	6
A2	17-625 or 17-624	API Design or Advanced Formal Methods	6
A2	17-626	Requirements for Information Systems	6
FA	17-603	Communications for Software Leaders I	3

SPRING 2025

Semester	Course Number	Course Title	Units
A3	17-632	Software Project Management	6
A3	17-635	Software Architectures	6
A4	17-643	Quality Management	6
A4	17-647	Engineering Data Intensive and Scalable Systems	6
SP	17-604	Communications for Software Leaders II	3
SP	17-636	DevOps: Engineering for Secure Development and Deployment	12
SP	Variable	Elective Course(s)	12

SUMMER 2025

Semester	Course Number	Course Title	Units
SU	17-667	Internship for Software Engineers	3

FALL 2025

Semester	Course Number	Course Title	Units

FA	17-675	Software Engineering Practicum	36
FA	Variable	Elective Course(s)	12

Master Of Software Engineering In Embedded Systems (MSE-ES) Requirements

MSE Embedded Systems is a 16-month program and consists of three semesters plus one summer internship semester. The program begins in August and concludes the following year in December. The summer semester is reserved exclusively for the required internship and the final fall semester is dedicated to an intensive practicum project.

Courses in the first year are divided into 7-week mini-semesters to allow a wider range of learning and build a foundation for more advanced topics later in the program.

MSE-ES Students must complete 84 units of core courses, 6 units of communications, 3 units of internship, 36 units of project, and 24 units of elective. Students should register for in-person courses to fulfill all MSE core requirements. The Graduate Academic Advisor may approve remote courses to fulfill elective requirements on a case-by-case basis.

FALL 2024

Semester	Course Number	Course Title	Units
A1	17-611	Statistics for Decision Making	6
A1	17-612	Business and Marketing Strategy	6
A1	17-614	Formal Methods	6
A1	17-638	Engineering Embedded Systems	6
A2	17-622	Agile Methods	6
A2	17-623	Quality Assurance	6
A2	17-625	API Design	6
A2	17-627	Requirements for Embedded Systems	6
FA	17-603	Communications for Software Leaders I	3

SPRING 2025

Semester	Course Number	Course Title	Units

A3	17-632	Software Project Management	6
A3	17-635	Software Architectures	6
A4	17-643	Quality Management	6
A4	17-648	Sensor Based Systems	6
SP	17-604	Communications for Software Leaders II	3
SP	17-636	DevOps: Engineering for Secure Development and Deployment	12
SP	Variable	Elective Course(s)	12

SUMMER 2025			
Semester	**Course Number**	**Course Title**	**Units**
SU	17-667	Internship for Software Engineers	3

FALL 2025			
Semester	**Course Number**	**Course Title**	**Units**
FA	17-675	Software Engineering Practicum	36
FA	Variable	Elective Course(s)	12

Information Systems - Master Of Software Engineering - Accelerated Master Program (IS-MSE-AMP) Requirements

The IS-MSE-AMP is a 5th year master's program for undergraduate Information Systems majors in the Dietrich College of Humanities and Social Sciences. It is a full-time, on-campus program which begins in the undergraduate senior year and continues into one year of dedicated graduate school within the Software and Societal Systems Department (S3D).

Courses are divided into 7-week mini-semesters to allow a wider range of learning and build a foundation for more advanced topics later in the program. The IS-MSE-AMP Program includes a required internship during the summer between the student's undergraduate completion and the beginning of their 5th year unless an equivalent internship has been completed and subsequently approved by MSE Corporate Relations Manager. IS-MSE-AMP students may choose to pursue a degree in one of two

concentrations: Scalable Systems (MSE-SS), or Embedded Systems (MSE-ES). Details for both may be found online.

IS-MSE-AMP students must complete a total of 153 units as described in the MSE-ES & MSE-SS requirements sections. Up to 48 units of classes completed as an undergraduate IS major may be counted towards the required 153 total graduate-level units. Therefore, IS-MSE-AMP students may complete their master's degree in only one year rather than 18 months. Course selections and semester allocations will depend on the chosen concentration.

PREREQUISITE COURSEWORK: Prerequisite courses in programming, data structures, and the foundations of software engineering must be successfully completed prior to enrolling in the program. Students must complete prerequisites with "B" grades or higher in order to enroll in MSE AMP.

The following is a sample plan for the IS-MSE-AMP with the Scalable Systems Concentration:

Undergrad. Senior Year FALL

Semester	Course Number	Course Title	Units
A1	17-611	Statistics for Decision Making	6
A2	17-626	Requirements for Information Systems	6
A2	17-623	Quality Assurance	6
FA	95-422	Managing Digital Transformation	9
FA	Variable	Concentration Research	12
FA	Variable	General Education Requirement	9

Undergrad. Senior Year SPRING

Semester	Course Number	Course Title	Units
A3	17-635	Software Architectures	6
A3	17-632	Software Project Management	6
A4	17-643	Quality Management	6
SP	Variable	Innovation & Entrepreneurship Requirement	12

SP	17-514	Principles of Software Construction	12
A4	17-647	Engineering Data Intensive and Scalable Systems	6

SUMMER after Undergrad. Senior Year			
Semester	**Course Number**	**Course Title**	**Units**
SU	17-667	Internship for Software Engineers	3

Graduate 5th Year FALL			
Semester	**Course Number**	**Course Title**	Units
A1	17-614	Formal Methods	6
A2	17-622	Agile Methods	6
FA	17-603	Communications for Software Leaders I	3
FA	17-675	Software Engineering Practicum	36

Graduate 5th Year SPRING			
Semester	**Course Number**	**Course Title**	**Units**
A3	17-612	Business and Marketing Strategy	6
SP	17-604	Communications for Software Leaders II	3
SP	17-636	DevOps: Engineering for Secure Development and Deployment	12
SP	Variable	Software Engineering Free Elective	12
SP	Variable	Software Engineering Free Elective	12

7.7: CORE COURSES

Students can find all required courses by semester for their program in the plans of study above or on their respective Plan of Study webpages. Course descriptions may be found on the MSE Course Offerings webpage.

7.8: ELECTIVES

An elective is a course taken in addition to the core, project, pre-requisite and required courses, is in an area of interest to the student, and is applicable to their software engineering degree. MSE-SS and MSE-ES students should plan to select technical courses as their electives, although some exceptions to this rule will be considered.

All MSE Online, MSE-SS and MSE-ES students are required to successfully complete 24 units of elective coursework. MSE Professional and MSE/MBA students are required to successfully complete 45 units of electives. Units associated with elective courses vary. All students are advised to discuss their choice of electives with their Graduate Academic Advisor and must receive approval before the add deadline. Only electives approved by the Graduate Academic Advisor will be accepted towards degree completion requirements.

What Courses Count As Electives?

Generally, electives are chosen from Software and Societal Systems Department (S3D), but they can come from any school or department within Carnegie Mellon as long as:

- The student has not already taken the course;
- The course has been approved by the student's Graduate Academic Advisor.

Although elective courses may be taken on a pass/fail basis, be advised that **only elective courses with letter grades** (A, B, C, D) can be used toward degree completion requirements.

7.9: DEPARTMENT POLICY ON DOUBLE COUNTING COURSES

Courses counted toward an MSE degree (with the exception of IS-MSE-AMP) may not be double counted with any other degree program.

7.10: DEPARTMENT POLICY FOR COURSES OUTSIDE THE DEPARTMENT/COLLEGE

Students are strongly encouraged to take electives offered by S3D — courses numbered 17-XXX. They may, however, consult with their Graduate Academic Advisor to register for elective courses outside the S3D. Generally, these are courses offered by (but not limited to) SCS, Tepper, Robotics, Heinz College, and ECE. Only those approved by the Graduate Academic Advisor will be counted toward the completion of elective requirements. When in doubt, talk to your Advisor.

For MSE-SS and MSE-ES students, a maximum of 24 elective units may be taken outside of S3D unless they are numbered 17-xxx. For MSE Professional students, a maximum of 45 units of electives may be taken outside of S3D. All grades must comply with Carnegie Mellon's grading policy.

7.11: COURSE EXEMPTIONS

Undergraduate Courses

Only one undergraduate course (numbered as XX-300 level or higher) may apply toward the degree's elective requirement.

Transfer of Graduate-Level Credit

Students who have taken and successfully completed graduate-level courses in software engineering and related areas such as computer science, information technology or management, 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 and student work products such as projects, reports, analysis, etc.)
4. The final earned grade in petitioned courses must be equivalent to a "B-" or higher.
5. All petitioned courses must be graduate level, or equivalent to a course numbered XX-500 or higher at CMU.

Transfer requests are evaluated on a case-by-case basis. A decision will be made on the course's transferability

7.12: PROTOCOL FOR EVALUATION OF TRANSFER CREDIT

Each transfer request is evaluated on a case-by-case basis. A decision will be made on the course's transferability by the Graduate Academic Advisor only after the applicant has been notified of their acceptance to the program. A maximum of (2) courses may be

accepted in transfer and applied toward degree completion elective or pre-requisite requirements. All remaining elective courses, and all core curriculum and project courses, must be completed through Carnegie Mellon Master of Software Engineering program. Courses approved for transfer will appear on the student transcript as “transfer credits”.

7.13: TEACHING REQUIREMENTS/OPPORTUNITIES

As required by the English Fluency in Higher Education Act of 1990, graduate students must have a certain level of fluency in English before they can enter the program. Through this Act, the English fluency of all instructional personnel, including teaching assistants and interns, also must be evaluated and certified. The full university policy can be found online.

Students working as Teaching Assistants (TA) in the MSE programs should meet with their course instructor to discuss their role in the course. A TA may be tasked with grading assignments, providing feedback to students, leading recitations, coordinating with other TAs, and other duties as assigned.

The Eberly Center for Teaching Excellence is a recommended resource for TA and instructor training.

The fluency of all instructional personnel will be rated by Language Support in the Student Academic Success Center to determine at what level of responsibility the student can TA. In addition to administering the International Teaching Assistant (ITA) Test (a mandatory screening test for any non-native speaker of English), Language Support in the Student Academic Success Center helps teaching assistants who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon.

Visit the Student Academic Success Center website for additional information.

7.14: RESEARCH REQUIREMENTS/OPPORTUNITIES

Research is not a requirement of MSE Programs. Students wishing to conduct research as part of their experience on campus may find opportunities to work as a research assistant on campus. Listings can be found on Handshake.

MSE Online students who choose the Supervised Research Thesis option will conduct research as part of their thesis requirement. Information on this research-based thesis can be found on the MSE website.

7.15: INTERNSHIP/CO-OP REQUIREMENTS AND OPPORTUNITIES

The MSE-SS and MSE-ES programs* require students to fulfill a summer internship as part of their program curriculum. Internships must be approved by the Corporate and Alumni Relations Manager. The internship is an integral part of these programs and works to prepare students for their practicum project coursework in the fourth semester.

*IS-MSE-AMP students may need to complete an internship over the summer semester following senior year if one meeting MSE requirements has not already been completed.

Upon arrival in their first semester, students are responsible for identifying prospective employers, preparing their resumes, improving their interviewing skills, and obtaining and accepting an offer from an employer to perform a summer internship.

Guidance and resources are available from the Carnegie Mellon Career and Professional Development Center (CPDC) and specifically from the two CPDC Career Advisors designated to support School of Computer Science students. For CPDC information and updates, visit their website. For details on on-campus job fairs, visit CMU's Handshake Events page. Students who are unable to obtain an internship may be able to find a summer research assistant position or other on-campus position that can satisfy the learning objectives of the internship. Campus positions may be paid or unpaid depending on the work and placement details.

All MSE-SS, MSE-ES, and IS-MSE-AMP students must obtain approval for their internship from the program in order to receive credit toward degree completion. Internships should be at least 10 weeks in duration, including any orientation and off-boarding, and take place within the dates of the university summer internship calendar. In addition, international students must obtain approval from the Office of International Education (OIE) to ensure University compliance with Federal immigration and employment laws. Students who do not receive approval before starting their internship will not receive credit for their degree.

To prepare students for the summer internship, program staff will advise students on preparation, provide guidance for internship applications, and help students vet internship offer letters. The internship must be completed satisfactorily to remain in good standing within the program. Students participating in internships should adhere to the ethical standards of the program.

Students who successfully obtain internships will enroll in a 3-unit internship course 17-667 Internship for Software Engineers in their summer semester. They will complete an internship entrance survey at the beginning of the summer term and an exit survey in the subsequent fall semester. During the internship, students must participate in a supplemental canvas course to track progress and submit a final report and/or presentation upon their return in order to receive a grade in the internship course.

7.16: CAPSTONE REQUIREMENT

Required Studio And Practicum Projects (MSE On-Campus)

Teamwork is an essential part of participating in the MSE programs. MSE Professional, MSE Scalable Systems and MSE Embedded Systems students are expected to work in teams. While a member of a studio, practicum, or other team, students are expected to conduct themselves ethically in all interactions with team members, mentors, and clients.

This includes:

- Scheduling and participating in team meetings;
- Maintaining communication with all stakeholders;
- Working on shared group projects;
- Collaborating with their team for the duration of the program;
- Collaborating to create End-of-semester presentations (required at the end of spring, summer, and the final fall semester);
- Collaborating to create internship presentations at the conclusion of the summer semester; generally in the first week of September;
- Collaborating as required by individual courses, which may require mid-semester presentations.

PROJECT SELECTION

Project sponsors will present the details of their projects to students at the opening "kick-off" meeting for the project period. Students will be able to express preferences for teams, team members, and other factors, but are ultimately assigned to a team by the instructor of record for the project course.

PROJECT PRESENTATIONS

MSE Professional Studio teams will present their progress at the end of their spring, summer and second fall semesters. Presentation dates usually fall on the last day of classes or the first day of final exams, depending on the semester and schedule.

MSE Scalable Systems and Embedded Systems Practicum teams will present their progress three times in their final fall semester via two milestone presentations and one final end of semester presentation. The general schedule of presentations is outlined in the chart below, but may vary due to the academic calendar.

Tentative dates for all project presentations will be provided at MSE program orientation.

Practicum Milestone #1	6 weeks after Practicum Orientation
Practicum Milestone #2	4 or 5 weeks after Practicum Milestone #1 (will vary depending on academic calendar and fall break)
End of Semester Presentation	1 month after Practicum Milestone #2

Both Studio and Practicum presentations are critiqued and evaluated by MSE faculty and project mentors.

Required Thesis (MSE Online)

Students in the MSE Online program are required to demonstrate an aptitude for reflective practice. By completing a research thesis or term paper, students will demonstrate depth of knowledge in one of six key practice areas.

To complete the requirement, students have two options:

(A) Complete the full-semester course **17-679 Thesis Writing for Industrial Software Research**, writing their term paper within the structure of the course; or

(B) Work with an advisor to identify a research topic, conduct supervised research, and write a thesis while enrolled in one or more full semester independent study courses (e.g., **17-697 Directed Study**)

Ideally, students should complete all core degree requirements before declaring either option. Please consult your Graduate Student Advisor to determine the best time to complete your thesis requirement.

THESIS DOCUMENT

Whether students choose Option A or Option B, the faculty advisor will work with the student to scope the document so that the work is manageable within the timeline provided. The thesis document or term paper should generally include the following sections:

- **Problem Statement** — a concise description of the problem and its significance.
- **Background** — a detailed technical description of the history and state of the art in software engineering related to the problem and approach. The background section is typically the result of a preliminary literature review.
- **Approach** — a draft description of the proposed research approach or study design.
- **Evaluation and Results** — a description of the observed outcomes, including the evaluation.
- **Discussion** — the interpretation of the outcomes from the author's viewpoint.
- **Conclusion** — a summary of the term paper work and any future work it entails.

More information on thesis options and documents can be found on the MSE website.

7.17: Requirements for Application/Consideration for Entry into PhD Program

Although completion of an MSE Professional Programs degree may enhance a student's application to doctoral programs, it does not guarantee admission into any doctoral degree program at Carnegie Mellon.

If the MSE requirements have not been completed when a student leaves to pursue another academic program, the master's degree will not be awarded.

SECTION 8: Department Policies & Protocols

8.1: PETITION PROCEDURES

Students should discuss with their Graduate Academic Advisor if seeking an exception to program requirements. Exceptions or substitutions to the curriculum will be evaluated by program leadership on a case-by-case basis.

8.2: DEPARTMENT POLICY FOR WITHDRAWING FROM A COURSE

The School of Computer Science does not grant "W," or "withdrawal" grades.

Therefore, any student wishing to withdraw from a course without negatively affecting their QPA must do so in advance of the posted Course Drop deadline. This date is listed on the University's academic calendar.

8.3: REQUIREMENTS FOR THOSE WITHOUT A BACHELOR'S DEGREE IN DISCIPLINE

All students admitted to the MSE programs are assessed on the same criteria. Admitted students usually have a Bachelor's degree in Computer Science, Engineering or another related field. Students with non-traditional academic backgrounds or degrees who are admitted to the program will not be asked to complete additional coursework or exams. Students without the requisite years of experience for a given program may be moved to the applicant pool for a program that requires less industry experience.

8.4: NEW POLICIES / "GRANDFATHER" POLICY

When policies change, it is because the department recognizes that the newly-adopted rule is an improvement. Students enrolled in any degree program 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.

8.5: TIME AWAY FROM ACADEMIC RESPONSIBILITIES

In addition to any student breaks indicated on the CMU academic calendar, the university observes eleven official holidays wherein classes will be canceled and the university will be closed. Students should consult their faculty about coverage for projects if needed.

8.6: OTHER POLICIES AND PROTOCOLS / INCLUSION OF ANY VARIATIONS TO UNIVERSITY POLICIES AND PROTOCOLS

Academic Calendar

The Academic Calendar provides information on deadlines including registration dates, class start/end dates, add/drop deadlines, exam dates, student breaks, and more.

University Schedules

The University issues a course schedule for each semester. These are generally available in

- Mid-April for the summer semester
- Late-April for the fall semester
- Mid-November for the subsequent spring semester.

Course schedules list course number, title, instructor and section, date/time, location, and necessary prerequisites. Course schedules may change given such circumstances as low class size, unexpectedly high enrollment, or faculty availability.

It is the responsibility of the student to refer to the latest course schedule, which is available on The Hub website through the SIO portal.

Examination Schedules

- The University's official final examination period begins on the Monday immediately following the last day of classes as indicated in the academic calendar.
- Final examinations are scheduled by Enrollment Services.
- An instructor may choose not to set a schedule for the final examination, preferring to allow students to choose their desired examination time. Such exams are called self-scheduled examinations.
- Students are expected to attend their assigned final examination time as assigned. It is the responsibility of the student to make sure their travel arrangements do not conflict with exam time.

SECTION 9: Grading & Evaluation

9.1: GRADING SCALE/SYSTEM

All courses offered through the program are graded on the 4.33 grading standard.

- MSE students must maintain a "B" or higher overall average. "B" is equivalent to a 3.0 QPA.
- Failure is an "R" grade. This grade is not acceptable for any graduate student.
- MSE program policy specifies that a student who earns an "R" grade in any core course must retake the course and assume supplemental tuition costs for the retaken course.
- If a grade lower than "B-" (B minus) is earned in any core, communications, required, or project course, those courses must be repeated regardless of QPA.

9.2: DEPARTMENT POLICY ON GRADES FOR RETAKING A COURSE

Any student who does not successfully complete a course (a B- grade or above in MSE core courses, and a D grade or above in elective courses) will be discussed in the academic progress review meeting. Students will need to repeat the course and earn a passing grade in order to complete degree requirements. This may require additional semesters and impact a student's timeline toward degree completion.

9.3: DEPARTMENT POLICY ON PASS/FAIL, SATISFACTORY/UNSATISFACTORY

All courses to be counted toward degree completion must be letter-bearing. Students may take elective courses for their educational enrichment on a pass/fail basis, if approved by their Graduate Academic Advisor, with the understanding that these courses will not count towards degree requirements.

9.4: DEPARTMENT POLICY FOR INCOMPLETES

Incomplete Grades

Carnegie Mellon students are expected to complete courses within the course's allotted academic semester. However, if the instructor agrees, a grade of "I" or "Incomplete" may be given if a student is unable to complete the work of a course before the end of the semester. Moreover, the work completed up to that date must be of passing quality and the extra time provided by the Incomplete grade must not provide undue advantage to that student over other students.

In awarding an "I" grade, an instructor must specify their 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 subsequent 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 subsequent semester, or the default grade will be automatically assigned by the Registrar.

Incomplete Grades Delaying Graduation

If an Incomplete grade is earned in an elective course 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 the default grade assigned by the instructor. Certification and eligibility for graduation will be determined by final grades including the default grade, and the resulting final cumulative QPA must meet the minimum 3.0 program requirement.

This option *is not* available for MSE core, required, communications and project courses where a grade of "B-" or above is required. For these courses, students must discuss how to complete the course with a "B-" or above with their Graduate Academic Advisor. Accept the grade of "I" (Incomplete), thus delaying graduation until the successful completion of the coursework with a grade of B- or above.

9.5: INDEPENDENT STUDY/DIRECTED READING

Independent Study Courses

An Independent Study (IS) course is one that is:

- Designed by the student for further study in a particular area of interest, and
- Is used as a substitution if there is no formal course available in a given subject area.

Independent study courses may be 6, 9 or 12 units as determined by the student's faculty advisor. A maximum of 24 units of Independent Study are permitted toward elective degree completion requirements.

Each Independent Study course must be approved by at least one faculty member as well as the Graduate Academic Advisor. Faculty agreement to supervise an Independent Study course is completely voluntary. It is the duty of the student, therefore, to negotiate the terms and conditions of the Independent Study with the pertinent faculty member(s) or members of the S3D staff who will be supervising the study. These individuals are referred to as "Independent Study Supervisors".

Once the student identifies the individual who will supervise, they are required to:

1. Enter into an agreement with the supervisor that clearly defines learning expectations, schedules and timelines, and IS deliverables;

2. Complete an Independent Study Contract Form in its entirety;
3. Develop a detailed IS proposal that includes the plan of work, deliverables, and agreed-upon expectations as defined by the approved IS supervisor;
4. Electronically submit the form, signed by the student and their supervisor, to the Graduate Academic Advisor for review.

Revisions may be necessary to acquire the approval of the Graduate Academic Advisor, after which the IS form will be processed.

The Independent Study Proposal Form must be submitted **at least 2 weeks before the start of the semester** in which the proposed independent study will take place.

Directed Study Course

17-697 Directed Study is reserved for MSE Online students completing a supervised-research thesis option. Students opting for a research-based thesis should seek a faculty advisor for the project and submit an Independent Study Contract Form to their Graduate Academic Advisor before enrollment in the course.

9.6: GPA REQUIREMENTS AND QPA REQUIREMENTS FOR GRADUATION

To receive any of the MSE Program degrees, 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 earned in any core, required or project course, the course must be repeated regardless of the student's overall QPA. Receiving a "B-" or less in any course may jeopardize the student's academic standing in the Program.

9.7: SATISFACTORY ACADEMIC STANDING

Academic Integrity, Cheating And Plagiarism

The MSE Program has an extremely high expectation of academic integrity. As such, any instance of cheating or academic misconduct will not be tolerated.
Cheating includes but is not necessarily limited to:

- Plagiarism, or any failure to indicate (via quotation, citation, or footnote) work that is not the student's own, such as
    - A phrase, written or musical

    - A graphic element
    - A proof
    - Specific or paraphrased language
    - Any idea derived from the work, published or unpublished, of another person.
- Submission of any work that is not the student's own for papers, assignments, or exams;
- Submission or use of falsified data;
- Theft of or unauthorized access to an exam;
- Use of an alternate, stand-in, or proxy during an examination;
- Use of unauthorized material including textbooks, notes, or computer programs in the preparation of an assignment or during an examination;
- Supplying or communicating any unauthorized information to another student for the preparation of an assignment or during an examination;
- Collaboration in the preparation of an assignment;
    - Unless specifically permitted or required by the instructor, collaboration will usually be viewed by the University as cheating. Students are responsible for familiarizing themselves with the departmental policies of their courses in order to determine the amount of collaboration that is permitted.
- Submission of the same work for credit in two or more courses without obtaining instructor permission beforehand;

Any instance of cheating or academic misconduct will result in an Academic Integrity Violation and can jeopardize the student's academic standing in the program.

Academic Integrity Violations

MSE Program students are required to keep informed of and abide by all University policies. Should a student choose to cheat or otherwise misrepresent their work and is caught doing so, they may expect the following:

- The student will receive course-level consequences determined by the course instructor(s). These may range from penalization on the relevant assignment to course failure.
- The Academic Integrity Violation (AIV) will be reported to CMU's Office of Community Standards and Integrity (OCSI). This report will become part of the Student Conduct Record, and program leadership and advisors will be informed. An OCSI representative will contact and arrange a counseling meeting with the student, after which the student will have the opportunity to submit an appeal.

- A severe violation or second incident will result in a Second Level Review as conducted by the OCSI. A Second Level Review may result in university-level consequences such as disciplinary probation, suspension, or dismissal from the university.
- Students with an Academic Integrity Violation are ineligible for MSE program privileges such as leadership positions, teaching and research assistant positions, and competitive funding opportunities.

The MSE Program does not tolerate misrepresentation of the extent of individual work in a group project, falsification of records, or any behavior that is disruptive to the safety and equality of our community.

All students should familiarize themselves with the University's Academic Integrity Policy, which may be found on the Office of Community Standards and Integrity website.

9.8 ETHICAL STANDARDS

Program Privilege Eligibility

MSE students are afforded privileges and opportunities based on the expectation of adherence to university and program ethical standards. In pursuing these opportunities, students indicate that they are willing to take on the responsibility of acting as a representative for the MSE Programs and CMU as a whole. Therefore, MSE requires an unbroken commitment to academic excellence and ethical integrity from any student who would seek to receive program privileges, including but not limited to:

- Competitive scholarships and fellowships, such as the James E. Tomayko Scholarship;
- Internal student employment, such as Teaching and Research Assistantships;
- Invitations to participate in small-group meetings with alumni and industry;
- Conference or professional engagement funding.

To be eligible for the above, students must maintain good academic standing and a stellar Student Conduct Record. Students who violate ethical standards, acquire Academic Integrity Violations (AIVs), or are unable to maintain satisfactory academic performance will have these benefits revoked and will be ineligible for future privileges.

University-wide expectations for academic and professional integrity can be found in the Carnegie Mellon Code.

Professional Integrity

MSE Program graduates enter the workforce prepared to succeed in positions of responsibility and leadership. As such, the MSE Program holds its students, faculty, and staff to the highest professional and ethical standards.

Professional integrity is a commitment to strong moral principles and ethics. In the MSE Professional Programs, we adhere to the following moral principles:

- **Honesty**. Be clear and correct in your communication and actions. Do not misrepresent your skills, qualifications, or accomplishments.
- **Reliability.** Plan well in advance to keep your promises and commitments.
- **Fairness.** Be a strong contributor, never take advantage of others for your personal gain, and avoid blaming others.
- **Respect.** Learn and understand the culture and customs of others. Be kind.
- **Citizenship.** Know, understand, and follow all laws, policies, and procedures.

It is a requirement of the MSE Professional Programs that all students adhere to these principles. In addition, students may wish to become members of the Association for Computing Machinery, which has its own Code of Ethics. Students who fail to abide by the program's moral principles in their coursework, project activities, and meetings with faculty, staff, mentors, team members or other students, may be placed on academic probation.

Academic Probation

If a student fails to satisfy any of their program requirements or their overall QPA drops below 3.0 during a given semester, the student may be placed on academic probation and required to improve their performance. Failure to improve one's performance, including maintaining a QPA of 3.0 (or higher) within the subsequent semester of academic probation can result in dismissal from the program.

Appeal For Academic Actions

Students should discuss any issue related to academic matters with their Graduate Academic Advisor. Appeals should then be made to the Office of Community Standards and Integrity. If the issue persists, the student may appeal by following the University's Summary of Graduate Student Appeal and Grievance Procedures.

9.8: REGULAR REVIEWS AND EVALUATIONS BY DEPARTMENT

Academic Performance Reviews

The MSE faculty conducts academic performance reviews twice each fall and spring semester to evaluate individual student and project team performances. All core and associated faculty, program director, and project mentors, as well as the MSE Programs Manager and Graduate Academic Advisor are invited to contribute input regarding student performance.

Measures of student performance include academic achievement, leadership, teamwork, personal responsibility in meeting ethical standards, and overall progress. Should a student's performance fail to meet the standards established by Carnegie Mellon or the MSE programs, the student will be appropriately notified, presented with a plan for improvement, and informed of the consequent risks should they fail to improve.

Written Notification Of Unsatisfactory Progress Toward A Degree

Following the posting of mid-semester and end-of-semester grades, students are notified in writing of any unsatisfactory progress in their plan of study. Recommendations for a plan of action will be offered and expectations set for the student to demonstrate a return to satisfactory progress. Failure to meet stated expectations can lead to dismissal from the program.

SECTION 10: Funding & Financial Support

10.1: STATEMENT OF DEPARTMENT FINANCIAL SUPPORT

Carnegie Mellon, SCS and the MSE Programs do not grant tuition waivers. The MSE Programs do not provide financial support. It is up to the student to procure their own funding prior to starting the program. However, students are offered competitive funding opportunities for exceptional performance as detailed below.

IS-MSE-AMP students will maintain their undergraduate financial aid in their senior year. However, once certified for their IS degree, IS-MSE-AMP students must re-apply for financial aid and will be charged the full MSE Program tuition rate for their 5th year.

For further aid options after receiving their bachelor's degree and beginning 5th Year Summer, students may see the graduate student financial aid information online.

MSE Fellowship

The MSE programs offer a one-year fellowship to outstanding students who have completed their studies yet wish to remain engaged with the program via research. Fellowship candidates are nominated by program advisors and/or faculty and must be unanimously approved by relevant faculty. If you are interested in this fellowship, please notify the Program Manager.

James E. Tomayko Scholarship

The James E. Tomayko Scholarship is awarded to one or more *full-time* students who demonstrate exceptional academic achievement, leadership potential, communication skills, personal initiative, and financial need. Students may apply for this scholarship at the end of the spring semester. Prospective awardees are generally identified upon the completion of at least two full semesters in the program, with recipients chosen by a faculty committee at the end of the summer term. The award is applied to the final semester's (Fall) tuition.

Director's List

The Director's List recognizes the top 5-10% of the class who demonstrate exceptional academic achievement, leadership potential, communication skills, and personal initiative. Unlike the James E. Tomayko Scholarship, financial need is not a factor in this award. *Full-time students only* may apply for this scholarship near the end of the spring semester. Prospective awardees are generally identified upon the completion of two full semesters in the program, with recipients chosen by a committee at the end of the summer term.

10.3: DEPARTMENT FEES

All required course materials will be announced by the course instructor at the beginning of each semester. Books may be purchased at the Carnegie Mellon Bookstore or from the student's preferred bookseller.

Any applicable fees for students enrolled in School of Computer Science programs can be found online. In addition to university fees, some courses may require a fee for access to software or business cases/case studies.

10.4: TRAVEL/CONFERENCE AND RESEARCH FUNDING

CMU Professional Engagement and Conference Funding

Should a student choose to travel to a conference for professional development, the Graduate Education Office offers Professional Engagement Funding. Please note that any student travel resulting in absence from class or project time is responsible for consulting their faculty, project mentors and team members, and the Graduate Academic Advisor beforehand.

School of Computer Science Diversity, Equity and Inclusion Conference Funding

Each year, the DEI Office offers SCS student sponsorships to attend diversity-centered conferences within the United States. This sponsorship covers the cost of conference registration, travel, lodging, and a daily per diem for meals during travel. Students attending conferences may be expected to staff a booth for the DEI Office.

Details regarding the application process can be found online. Students are encouraged to apply for sponsorship each spring semester.

10.6: ADDITIONAL SOURCES OF INTERNAL & EXTERNAL FINANCIAL SUPPORT

External Fellowships

The MSE Programs accepts students with external fellowships. A working list of outside fellowships and scholarships for which MSE students may be eligible can be found online.

Any receipt of outside funding sources will not adversely affect the student's eligibility for MSE scholarships. However, because financial need is a factor in the James E. Tomayko Scholarship award, it may impact the student's eligibility for that scholarship.

Emergency Funding

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

Campus Employment

Employment opportunities on campus can be found via Handshake. Students in good standing with the program are eligible to work as teaching or research assistants or perform other campus work. Employment as a TA on campus is highly discouraged in the first semester. Teaching assistant positions within the MSE programs will be circulated internally in the semester prior to the position start.

10.7: AVAILABILITY OF SUMMER EMPLOYMENT

The MSE programs do not provide summer employment opportunities. International students must contact the Office of International Education regarding their ability to hold employment. Because MSE on-campus programs require a full-time course load or internship during the summer semester, it is not recommended that students seek summer employment.

10.8: DEPARTMENT POLICY ON OUTSIDE EMPLOYMENT

Full-time graduate students within the MSE Professional Programs are expected to devote full attention and energy to their academic endeavors. Classwork and project assignments are deliberately planned to accommodate the program timeline, the rigor of which precludes outside employment and consulting.

All full-time students are advised to decline such work and concentrate on their graduate studies, with exception of a summer internship that is required as part of a program plan of study.

10.9: DEPARTMENT EXPECTATIONS REGARDING EMPLOYMENT SEARCH

Although academic performance remains our priority, the MSE Program aims to support each student's professional development. Students may not miss classes or coursework in order to attend career fairs or interviews. Students should conduct employment searches in a manner that does not impede their academic progress.

Furthermore, students are expected to exhibit ethical behavior when pursuing employment, such as arriving punctually to interviews, being truthful about their qualifications, and honoring any agreements made with recruiters when applying for jobs.

Once a student has accepted an offer of employment, they may not continue searching for, applying to, or interviewing for other positions. Accepting an employment offer after having previously accepted another employer's offer is defined as 'reneging' and

carries serious implications. If a student reneges on an offer that they have previously accepted, that student will permanently lose access to career services provided by the MSE Program and CMU.

The Career and Professional Development Center (CPDC) reserves the right to limit access to Handshake for any users that do not follow the ethical job and internship search policy.

SECTION 11: ADDITIONAL DEPARTMENTAL INFORMATION

11.1: TUITION PAYMENTS

Students are responsible for ensuring that tuition payments are made on time. More information can be found online at Invoice & Student Accounts. The HUB can offer guidance regarding invoice clarity, payment options, and disputes. Students are advised to handle all tuition matters directly with the HUB. The MSE Program staff is unable to resolve tuition problems on behalf of students.

Tuition Payment For Summer Courses/Full- And Part-Time Students

Students enrolled in the full-time campus programs* are charged the per-semester tuition based on the rate effective for that particular semester.

***Please note:** MSE-SS and MSE-ES students completing the required 3-unit summer course 17-667 Internship for Software Engineers are not charged tuition for the summer term.

TUITION REFUND POLICY FOR FULL-TIME AND PART-TIME STUDENTS

The MSE programs adhere to the University policy pertaining to tuition refunds.

SPONSORED STUDENTS

A sponsored student is one who has another party (such as an embassy or sponsor company) who has agreed to pay the student's tuition. Students are responsible for ensuring that tuition payments are made on time.

CARNEGIE MELLON EMPLOYEE REIMBURSEMENT PROCEDURE

Contact the Benefits Office for specific information on tuition benefits.*

***Please note**: Because tuition remission is a taxable benefit, employees of Carnegie Mellon are responsible for the payment of taxes on any graduate courses taken.

11.2: FULL-TIME/PART-TIME STATUS REQUIREMENTS

To be considered a full-time student, a minimum of 36 units each semester is required.

- International students in F-1 or J-1 status are required by federal law to maintain full-time student status. Failure to maintain full-time status will result in loss of a student visa and, therefore, "permit of stay" as per the Office of International Education (OIE)'s Maintaining Legal Status page.
- All students who have a Stafford Loan may not drop below full-time status.

11.3: LANGUAGE PROFICIENCY REQUIREMENTS

In order to succeed academically and professionally, students must be able to express themselves clearly via spoken and written English, including instances of public speaking. English language proficiency is demonstrated and verified as a part of the admissions process. In addition, the MSE Programs require the successful completion of a two-part Communications course series, 17-603 & 17-604 Communications for Software Leaders I & II.

11.4: PROGRAM ORIENTATION

The MSE programs have a mandatory orientation for new students one week prior to the start of fall classes. This orientation may also be attended by the previous year's cohort as well.

11.5: DEFERMENT OF START OF PROGRAM

Any applicant who is accepted into an MSE program is encouraged to enter the program within the year of acceptance. However, accepted students may request a one-year deferment, which will be considered on a case-by-case basis. A written deferment request must be received by the Admissions Manager. Once reviewed and approved, the deferment allows the student to start their program in the following year. Only one deferment will be granted to each student. If a student does not attend in the year following acceptance, the student must re-apply to the program.

Per the Statute of Limitations, all programs must be completed within 7 years of matriculation unless by special permission, such as in cases of Leave of Absence.

11.6: INTELLECTUAL PROPERTY

The MSE Professional Programs adhere to the University's intellectual property policy.

11.7: PARTICIPATING IN CAMPUS COMMENCEMENT

Graduates of the MSE programs participate in a program-specific commencement ceremony in May of the year following completion of their degree requirements.

11.8: GRADUATE CERTIFICATION AND DEGREE TITLE

Upon successful completion of all coursework, students will be certified for graduation by their Graduate Academic Advisor. Degree Titles appear on the degree as follows:

PROGRAM	**DEGREE TITLE**
MSE	**Master of Software Engineering**
MSE Online	**Master of Science in Software Engineering**
MSE-SS, and IS-MSE-AMP SS-Track	**Master of Software Engineering in the field of Scalable Systems**
MSE-ES, and IS-MSE-AMP ES-Track	**Master of Software Engineering in the field of Embedded Systems**
MSE/MBA, students will receive two diplomas which read respectively:	**Master of Software Engineering** **Master of Business Administration**