

Academic Year 2026-2027

*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 - PROFESSIONAL
MASTER OF SOFTWARE ENGINEERING – SCALABLE SYSTEMS
MASTER OF SOFTWARE ENGINEERING – EMBEDDED SYSTEMS
MASTER OF SCIENCE in SOFTWARE ENGINEERING (ONLINE)
MASTER OF BUSINESS ADMINISTRATION & MASTER OF SOFTWARE ENGINEERING
INFORMATION SYSTEMS – MASTER OF SOFTWARE ENGINEERING (ACCELERATED MASTER'S
PROGRAM)
SOFTWARE ENGINEERING GRADUATE CERTIFICATES

Table of Contents

SECTION 1: Welcome & Introduction.....	5
SECTION 2: Program Mission.....	5
SECTION 3: Degrees Offered.....	6
3.1: PROFESSIONAL DEGREE PROGRAMS.....	6
3.2: MSE GRADUATE CERTIFICATES.....	7
3.3: CHANGING DEGREE TRACKS.....	7
3.4: GRADUATE CERTIFICATION AND DEGREE TITLE.....	7
SECTION 4: Departmental Personnel.....	8
4.1: SCHOOL OF COMPUTER SCIENCE.....	8
4.2: SOFTWARE AND SOCIETAL SYSTEMS DEPARTMENT.....	8
4.3: MASTER OF SOFTWARE ENGINEERING PROGRAM.....	8
Director and Administrative Staff.....	8
Faculty.....	9
Faculty continued.....	10
SECTION 5: Departmental Resources.....	11
5.1: OUR LOCATION.....	11
Student Spaces.....	11
Safety.....	14
Repairs.....	14
5.2: STUDENT SUPPLIES.....	14
Printer/Copy Machines.....	14
MSE Shared Supplies.....	14
MSE-Provided Computer Equipment.....	14
Troubleshooting.....	15
5.3: FINANCIAL POLICIES.....	15
Student-Incurred Expenses.....	15
Purchasing Policies And Procedures.....	15
5.4: SOCIAL RESOURCES.....	15
Student Leadership.....	15
5.5: MEDIA RELATIONS & MSE BRAND.....	16
Media Contact.....	16
Brand And Logo Usage.....	16
SECTION 6: Advising & Registration.....	16
6.1: ADVISOR ROLE.....	16
6.2: ADVISOR COLLABORATION.....	16
Review/ Redress of Academic Issues.....	17
6.3: REGISTRATION PROCEDURES.....	17
Restricted Enrollment.....	17

6.4: SEMESTER STRUCTURE.....	17
Mini Courses.....	17
Full-Semester Courses.....	18
SECTION 7: MSE Degree Requirements.....	18
7.1: ALL PROGRAM INFORMATION.....	18
Academic Performance Requirements.....	18
Full/Part-Time Status and Enrollment Requirements.....	19
Language Proficiency Requirements.....	20
Core Courses.....	20
Electives and Registration Approval.....	20
Deferred Start and Statute of Limitations.....	21
7.2: MSE PROFESSIONAL REQUIREMENTS.....	21
Residency.....	21
Required Units.....	22
Course Of Study.....	22
Studio Projects.....	24
7.3: DUAL DEGREE MBA/MSE REQUIREMENTS.....	24
7.4: Program Learning Outcomes.....	25
7.5 MSE ONLINE REQUIREMENTS.....	25
Residency.....	25
Required Units.....	26
Sample Plan Of Study.....	26
Required Capstone.....	27
7.6 MSE Online Learning Outcomes.....	28
7.7: MSE SCALABLE SYSTEMS AND EMBEDDED SYSTEMS REQUIREMENTS.....	29
Residency.....	29
Required Units.....	29
Internships.....	29
Practicum Projects.....	30
MSE Scalable Systems (MSE-SS).....	30
MSE Embedded Systems (MSE-ES).....	31
7.8: ACCELERATED MASTER PROGRAM (IS-MSE-AMP) REQUIREMENTS.....	33
7.9: LEARNING OUTCOMES FOR MSE-SS, MSE-ES, and IS-MSE-AMP.....	33
Prerequisite Coursework.....	34
Residency.....	34
Required Units.....	34
Sample Plan Of Study.....	34
Internships.....	36
Practicum Projects.....	36

7.7: Required Units for Degree Attainment.....	37
7.8: TEACHING REQUIREMENTS & OPPORTUNITIES.....	37
7.9: RESEARCH REQUIREMENTS & OPPORTUNITIES.....	38
7.10: INTERNSHIP REQUIREMENTS.....	38
Requirements.....	38
7.11: REQUIREMENTS FOR APPLICATION/CONSIDERATION FOR ENTRY INTO PHD PROGRAM.....	39
SECTION 8: Department Policies & Protocols.....	39
8.1: PETITION PROCEDURES.....	39
Petition Procedures.....	39
Undergraduate Courses.....	39
Double-Counting Courses.....	39
External Electives.....	39
Transfer of Graduate-Level Credit.....	39
8.2: DEPARTMENT POLICY FOR WITHDRAWING FROM A COURSE.....	40
8.3: REQUIREMENTS FOR THOSE WITHOUT A BACHELOR'S DEGREE IN DISCIPLINE.....	40
8.4: NEW POLICIES/ GRANDFATHER POLICY.....	40
8.5: TIME AWAY FROM ACADEMIC RESPONSIBILITIES.....	40
SECTION 9: Grading & Evaluation.....	41
9.1: QPA REQUIREMENTS AND GRADING SCALE.....	41
9.2: DEPARTMENT POLICY ON RETAKING A COURSE.....	41
9.3: DEPARTMENT POLICY ON PASS/FAIL COURSES.....	41
9.4: DEPARTMENT POLICY FOR INCOMPLETE GRADES.....	41
Delaying Graduation.....	41
9.5: INDEPENDENT STUDY/DIRECTED STUDY.....	42
Independent Study (IS) Courses.....	42
Directed Study Course.....	42
9.6: SATISFACTORY ACADEMIC STANDING.....	43
Academic Integrity, Cheating And Plagiarism.....	43
Academic Integrity Violations.....	43
9.7: ETHICAL STANDARDS.....	44
Program Privilege Eligibility.....	44
Professional Integrity.....	44
Academic Probation.....	45
Appeal For Academic Violations & Actions.....	45
9.8: REGULAR REVIEWS AND EVALUATIONS BY DEPARTMENT.....	45
Academic Performance Reviews.....	45
Written Notification Of Unsatisfactory Progress Toward A Degree.....	45
SECTION 10: Funding & Financial Support.....	46

10.1: STATEMENT OF DEPARTMENT FINANCIAL SUPPORT.....	46
MSE Fellowship.....	46
MSE Scholarships.....	46
10.2: DEPARTMENT FEES.....	46
10.3: TRAVEL/CONFERENCE AND RESEARCH FUNDING.....	47
CMU Professional Engagement and Conference Funding.....	47
School of Computer Science Conference Funding.....	47
10.4: ADDITIONAL SOURCES OF INTERNAL & EXTERNAL FINANCIAL SUPPORT.....	47
External Fellowships.....	47
Emergency Funding.....	47
Campus Employment.....	47
10.5: AVAILABILITY OF SUMMER EMPLOYMENT.....	48
10.6: DEPARTMENT POLICY ON OUTSIDE EMPLOYMENT.....	48
10.7: DEPARTMENT EXPECTATIONS REGARDING EMPLOYMENT SEARCH.....	48
SECTION 11: ADDITIONAL DEPARTMENTAL INFORMATION.....	48
11.1: TUITION PAYMENTS.....	48
Tuition For Summer Courses.....	49
Sponsored Students.....	49
11.2: INTELLECTUAL PROPERTY.....	49
11.3: PARTICIPATING IN CAMPUS COMMENCEMENT.....	49
Section 12: Who to Contact.....	49

SECTION 1: Welcome & Introduction

Dear students,

On behalf of the Master of Software Engineering (MSE) Professional Programs faculty, administration, and its extended community of students and alumni, it is my pleasure to welcome you to Carnegie Mellon! You were selected because we saw in you the potential to become future leaders in the software industry. We are certain that you will flourish in our academic community and we hope you enjoy all that it has to offer you.

Our programs are designed for software engineers who are eager to expand their knowledge of the discipline. We strive to produce some of the world's best software engineers who can shape and guide the industry as lifelong agents of change.

Our academic standards are high, with an emphasis on state-of-the-art research and educational breadth in software engineering, computer science, embedded and distributed systems, artificial intelligence, and human-computer interaction. Through its challenging curriculum, innovative courses, and technical emphasis, students learn enduring principles and practice applying them in real-world project environments.

While those admitted to our programs come to us with strong skills, they leave with an even deeper understanding of software development, process, 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, your dreams, and your aspirations! We are excited to work with you on a plan to attain those short- and longer-term goals.

Jonathan Aldrich

Director, Master of Software Engineering Professional Programs

Please note that this handbook is specific to our program and is just one element of the CMU Handbook Suite. There are several other resources that you should consult when needed:

- [Graduate Student Handbook](#) (Office of Graduate & Postdoctoral Affairs)
- [The Carnegie Mellon Student Handbook](#)

Policies not mentioned in this handbook should be referenced in the above CMU handbooks.

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 in this evolving discipline.

SECTION 3: Degrees Offered

3.1: PROFESSIONAL DEGREE PROGRAMS

The MSE Professional Programs, collectively referred to as “MSE,” includes five (5) degrees and several graduate certificate programs:

Master of Software Engineering (MSE Professional)

- 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. 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 who want to enhance their software development and leadership skills in large-scale, data-intensive and intelligent systems 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.

Information Systems-Master of Software Engineering-Accelerated Masters Program (IS-MSE-AMP)

- The IS-MSE-AMP is a 5th year master’s program for undergraduate Information Systems majors offered jointly by the Dietrich College of Humanities and Social Sciences and the Heinz College of Information Systems and Public Policy at Carnegie Mellon.
- Students in this program will take MSE courses in their undergraduate senior year and in a 5th year as a full-time masters student
- Graduates of this program will receive the MSE-SS or MSE-ES degree, depending on their concentration.

3.2: 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
- MSE Online students who complete the curriculum for any of the offered certificates may request to receive the certificate before completing the MSE Online degree.
- Plans of study for each certificate can be found on the [MSE Graduate Certificate Programs](#) website. Questions may be directed to the MSE Program Manager, [Jennifer Britton](#).

3.3: CHANGING DEGREE TRACKS

Changing degree tracks in any program after enrollment is not possible. During admissions, some applicants may be reassigned to a program that better matches their experience. This is determined by the admissions committee and cannot be appealed. Under some circumstances the following program transfers may be permissible:

- U.S.-based students admitted to the MSE program may transfer to the MSE Online program prior to enrollment by alerting the [MSE Admissions Officer](#).
- U.S.-based IS-MSE-AMP students who receive a return offer from an undergraduate internship may take a leave of absence for one year, and return to finish their degree as an MSE Online student. (Note - CMU cannot issue J-1 or F-1 visas to part-time students.)

3.4: 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 diploma 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

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.

4.1: SCHOOL OF COMPUTER SCIENCE

Name/Title	Office	Contact Info
Martial Hebert <i>Dean</i>	NSH 4113	mhebert@andrew.cmu.edu
David Garlan <i>Associate Dean for Master's Programs</i>	GHC 4218	garlan@cs.cmu.edu
Paul Stockhausen <i>Senior Manager, SCS Building Facilities</i>	GHC 4107	stocky@cs.cmu.edu

4.2: SOFTWARE AND SOCIETAL SYSTEMS DEPARTMENT

Name/Title	Office	Contact Info
Nicolas Christin <i>Director, S3D Department</i>	CIC 2108	nicolasc@cmu.edu
S3D Technical Support	TCS Hall 432	s3d-help@cs.cmu.edu

4.3: MASTER OF SOFTWARE ENGINEERING PROGRAM

Director and Administrative Staff

Name/Title	Role/Interactions	Contact Info
Jonathan Aldrich <i>Director, MSE Professional Programs</i>	Sets 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 422 jonathan.aldrich@cs.cmu.edu
Jennifer Britton <i>Senior Academic Program Manager</i>	Oversees all aspects of S3D Masters program administration. Manages the MSE staff team, TA hiring, course scheduling, and advising for IS-MSE-AMP students. You may speak to her about personal and professional conflicts, concerns regarding courses, faculty or staff, program management and direction.	300 South Craig 270 & TCS Hall 415 412-268-4359 jbritto2@andrew.cmu.edu
Alexandra (Sasha) Balobeshkina <i>Alumni and Corporate Relations Manager</i>	Coordinates alumni outreach efforts, student relations, and internship and career readiness. Interacts directly with industry regarding project sponsorship and engagement with the program.	300 South Craig 278 412-268-7881 abwalker@andrew.cmu.edu

Marlana Ivey <i>Senior Admissions Officer</i>	Oversees the admission processes for all S3D Masters programs. First point-of-contact for prospective and newly admitted students. Plans orientation agenda and events.	300 South Craig 278 412-268-7881 mpawlak@andrew.cmu.edu
Lauren Martinko <i>Senior Graduate Academic Advisor</i>	Supports graduate student success through academic advising. Offers counseling for course planning, registration, career preparation, and commencement.	300 South Craig 272 412-268-6441 laurenma@cs.cmu.edu

Faculty

Name/Title	Office	Contact Info
Jonathan Aldrich <i>Director, MSE Professional Programs</i>	TCS 422	jonathan.aldrich@cs.cmu.edu
Andrew Begel <i>S3D Associate Professor of Computer Science</i>	TCS 441	abegel@andrew.cmu.edu
Len Bass <i>S3D Adjunct Faculty</i>	Remote	lenbass@cmu.edu
Jim Berardone <i>MSE Core Faculty, Professor of Product Management</i>	SCRG 275	jberardone@cmu.edu
Travis Breaux <i>S3D Associate Professor</i>	TCS 346	tdbreaux@andrew.cmu.edu
Nick Frollini <i>MSE Core Faculty, Communications Instructor</i>	SCRG 274	nfrollini@cmu.edu
David Garlan <i>SCS Associate Dean for Master's Programs, S3D Professor of Computer Science</i>	TCS 420	garlan@cs.cmu.edu
Jeff Gennari <i>S3D Adjunct Faculty, SEI Senior Technical Staff</i>	SEI 4320A	jgennari@andrew.cmu.edu
Michael Hilton <i>S3D Associate Teaching Professor</i>	TCS 342	mhilton@andrew.cmu.edu
Cliff Huff <i>SEI Team Lead, Application Infrastructure / MSE Mentor</i>	SEI 3039	cch@sei.cmu.edu
Daniel Justice <i>S3D Adjunct Faculty / SEI Software Developer</i>	CIC 1121	djustice@andrew.cmu.edu
Eunsuk Kang <i>S3D Assistant Professor</i>	TCS 322	eskang@cmu.edu
Christian Kästner <i>S3D Associate Professor Director, Software Engineering PhD Program</i>	TCS 345	kaestner@cmu.edu

Faculty continued		
Eduardo Miranda <i>MSE Core Faculty, Teaching Professor</i>	SCRG 268	mirandae@andrew.cmu.edu
Scott Pavetti <i>MSE Core Faculty, S3D Assistant Teaching Professor</i>	SCRG 276	spavetti@andrew.cmu.edu
Michael Riley <i>S3D Adjunct Faculty, SEI Senior Embedded Software Resiliency Engineer</i>	SEI 4202	mariley@sei.cmu.edu
Bradley Schmerl <i>S3D Principal Systems Scientist</i>	TCS 421	schmerl@andrew.cmu.edu
Mary Shaw <i>Alan J. Perlis University Professor of Computer Science, Software and Societal Systems</i>	TCS 348	mshaw@andrew.cmu.edu
Chris Timperley <i>S3D Systems Scientist</i>	TCS 362	ctimperly@cmu.edu
Ben Titzer <i>S3D Principal Researcher</i>	TCS 447	btitzer@andrew.cmu.edu

SECTION 5: Departmental Resources

5.1: OUR LOCATION

A campus map and guide to building abbreviations can be found [here](#). The main MSE classroom, all student rooms, staff and core faculty offices are located off of the main CMU campus. A student ID card is required to enter the building. Our address is:

**300 South Craig Street
Floor 2
Pittsburgh, PA 15213, USA**

Students cannot receive mail at this location. We recommend that all mailed items be delivered to students' home addresses.

Student Spaces

CUBICLE SPACES

There are six distinct cubicle spaces located in the MSE study area, also known as "The Cave." These cubicles may be assigned to MSE Professional studio teams or MSE-SS and -ES practicum

teams working on an industry project for their core working hours. In the spring semester, empty cubicles may be used as general study space.

STUDENT CONFERENCE ROOMS

Student conference rooms are available for studio and practicum project teams to assemble and meet with their mentors and clients. The rooms may also be reserved by instructors as breakout space for courses. Each of these rooms is equipped with computer projection capabilities, video conferencing speakers, fans, and whiteboards.

Student reservation permissions for the conference rooms change semesterly:

Semester	Permissions
Fall	Reservation Access: Fourth semester students on a project team. View Only: First semester students.
Spring	Reservation Access: Second semester MSE Professional students on Studio teams. View Only: Second semester students in the SS or ES programs.
Summer	Reservation Access: Third semester MSE Professional students on Studio teams. View Only: All other students.

Student conference rooms reservations are available on a first-come, first-served basis. All reservations should be made via google calendar. QR codes to access these calendars are available on the door to each room.

- Reservation Calendars: [261](#), [262](#), [263](#), [264](#), [281](#), [282](#)

Please note the following restrictions:

- Conference rooms may only be reserved for project team meetings. Reservations for individuals are not allowed.
- Studio and Practicum project teams should not reserve the conference 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, but *must always defer to teams with a reservation*.

To access student rooms, keys are available in the lock boxes placed outside of rooms 261 and 282.

The combination to these lock boxes is 7359. Students are responsible for returning each key to its lockbox immediately after use.

Do not share this combination with any student outside of the MSE programs.

INTERVIEW BOOTHS

Two sound-reducing booths are located between the elevator and the kitchenette and a third is located

in the back of the Cave. Student reservation permissions change semesterly:

Semester	Permissions
Fall	Reservation Access: First semester SS & ES students, all fourth semester students. View Only: First semester MSE Professionals.
Spring	Reservation Access: Second semester SS & ES students. View Only: Second semester MSE Professionals.
Summer	Reservation Access: All MSE students.

All reservations should be made via google calendar. QR codes to access these calendars are available on the door to each booth.

- Reservation Calendars: [Booth 1](#), [Booth 2](#), [MeSpace Booth](#)

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 the space, but **must always defer to students with a reservation.**
- Non-MSE students may be asked to leave.

MSE LIBRARY

The James E. Tomayko Memorial Library is located in room 266. This collection is the generous donation of Dr. Jim “Coach” Tomayko, former MSE director, faculty member, and SEI researcher. Program students may borrow books on the honor system from his collection for their personal and professional use. In the fall semester, this space may be reserved for use by practicum teams. Otherwise, the library space is a non-reservable, open study space.

KITCHENETTE

Our kitchenette has a coffee machine for MSE students to use. Please do not invite students outside of our department to use the coffee machine. Coffee cups are not provided. **It is everyone’s responsibility to keep the MSE kitchenette clean.** 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](#).

STUDENT LOCKERS

Each student is assigned a locker and combination at orientation. The MSE program is not responsible for lost or stolen items. Students are responsible for any personal items kept in their locker.

Student Locker Information and Instructions

To open your locker:

Press START

Enter your four digit combination

Press 

To lock your locker:

Press START

Enter your four digit combination

Press 



Note: Your locker will NOT lock on its own. You must close the door and follow the above process to lock the locker after use.

Safety

For the security, safety, and privacy of your fellow MSE students, **please do not invite others into the MSE space** on a regular basis.

- Students must swipe a valid CMU ID card in order to enter 300 S. Craig. The doors remain locked at all times.
- In the event of an emergency, consult The University's [on-campus emergency procedure](#), dial 911, or directly contact Campus Police at 412-268-2323.
- In the event of theft of any personal or university property, please notify [Paul Stockhausen](#), [Campus Security](#), and MSE Programs Manager, [Jennifer Britton](#).
- Please report all accidents to [Paul Stockhausen](#). You will be asked to complete an accident report.
- A basic first aid kit is located in the kitchenette, hung on the side of the upper left cabinets.
- Emergency egress can be made by using any of the exit stairways. The floor plan is displayed outside of room 265 and available [here](#).

Repairs

For MSE student spaces or building facilities in need of repair, notify [Jennifer Britton](#). On weekends or after business hours notify fixit@andrew.cmu.edu and copy Jennifer Britton.

5.2: STUDENT SUPPLIES

Printer/Copy Machines

A SCS public printer is available on the 2nd floor of 300 S. Craig Street between the elevator and the kitchenette. Multiple [public printers](#) are available on CMU campus. Instructions for access and other details can be found [here](#).

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.

MSE Shared Supplies

There is a supply station in the Cave with basic office supplies. Please do not remove shared office supplies from the MSE space. For any refills or other needs, contact Jennifer Britton.

MSE-Provided Computer Equipment

All MSE students on project teams will have shared access to standard, USB-connected computer monitors, mice, and keyboards. The MSE program does not provide any USB-C, HDMI or other adapters. **All provided equipment remains MSE property and may not be removed from the MSE workspace.**

Troubleshooting

- For program-provided computing equipment, notify [Jennifer Britton](#).
- For print/copy issues, notify [SCS Computing services](#).
- For assistance with personal Computers, contact the [Computing Services](#) or [S3D technical support](#).

5.3: FINANCIAL POLICIES

Student-Incurred Expenses

Please note the following restrictions to any expenses incurred by students on behalf of the program:

- Any expenses **must be pre-approved** by your Program Manager in order to be reimbursed. MSE reserves the right not to reimburse any expenses if the student did not obtain authorization prior to incurring the expense.
- **Students should never sign a contract on behalf of the university.** 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. **This includes software Click-Through Agreements (CTAs).** If your purchase is necessary and requires you to sign a contract, contact your administrators for assistance.
- Any receipts must be presented to your administrators **within 30 days of purchase** in order to qualify for reimbursement. All receipts must display date, payment method, and confirmation purchase (i.e. an invoice showing zero balance due or a bank/credit card statement).

Purchasing Policies And Procedures

Students may request supplies if they are in support of professional or social activities that benefit a sizable portion of the program community. **In every instance, approval from the Programs Manager is needed prior to the purchase being made.** Once approved, your MSE Administrative Associate will assist with finalizing the transaction.

5.4: SOCIAL RESOURCES

Student Leadership

Each academic year, a call is made for 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 social events, determining cohort needs, and coordinating skill workshops.

Funding for MSELi events and initiatives is primarily provided by the [Graduate Student Assembly](#). The MSE programs may partially support reasonable expenses for MSELi initiatives. Ideas and a proposed budget must be submitted to the Programs Manager for approval before incurring expenses.

5.5: MEDIA RELATIONS & MSE BRAND

Media Contact

Any contact between the MSE community (including faculty, staff, and students) and the public media must go through the SCS Marketing and Communications team, led by [Aaron Auperlee](#). If any student, staff, faculty are contacted by a media representative, they are encouraged to immediately inform Aaron Auperlee. Persons are not required to answer any questions from media outlets.

Anyone interested in publicizing a project, event, or other MSE activity should first contact the SCS Marketing and Communications Manager.

Brand And Logo Usage

Any use of the university, department, or program logo or brand must adhere to the [University's established guidelines](#). Please contact the [Program Manager](#) before using the MSE logo on merchandise.

SECTION 6: Advising & Registration

6.1: ADVISOR ROLE

The Graduate Academic Advisor, [Lauren Martinko](#), advises MSE Professional, MSE/MBA, MSE Online, MSE-ES and MSE-SS students to ensure academic success. IS-MSE-AMP students are advised by [Jennifer Britton](#), MSE Program Manager.

The Graduate Academic Advisor's role is to:

- Ensure that key requirements are met;
- Offer advice on appropriate elective courses to meet individual career goals;
- Monitor student progress throughout the program;
- Evaluate student performance and suggest appropriate intervention;
- Recommend and arrange for social or academic support if needed;
- Recommend disciplinary action to the Program Director if needed;
- Meet with faculty at the conclusion of each semester to evaluate student progress;
- Issue degree progress documentation to the student;
- Consult students on independent study enrollment;
- Approve schedule variations such as elective courses, audits and (in rare circumstances) overloads.

6.2: ADVISOR COLLABORATION

Initial advising is done in late Spring and early Fall during the orientation process. **Students are responsible for making subsequent appointments with the Graduate Academic Advisor.** We recommend periodic check-ins with your advisor to discuss personal and professional career goals, degree progress, and plan of study.

We recommend consulting with your advisor when:

- Planning your semester schedule to review electives and plan of study;
- Considering Independent Study or other academic opportunities;
- Facing academic or social challenges;
- Needing advice on matters of academic integrity or conflict;
- Evaluating professional opportunities.

MSE faculty and mentors may also advise on a number of curricular activities, including coursework, Studio and Practicum projects, and MSE Online Capstone completion.

Review/ Redress of Academic Issues

Academic concerns or conflicts should first be discussed with the instructor of the course and/or any associated project mentors. If a resolution cannot be found, students can discuss the issue with their advisor to bring the attention to program leadership.

All grade disputes should follow [CMU Grading Policy](#). Students have the right to [appeal](#) any academic action taken by the program or department.

6.3: REGISTRATION PROCEDURES

It is the responsibility of each student to [register for their courses](#). Consult the [academic calendar](#) for registration periods deadlines.

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. We recommend registering for courses in a timely manner to

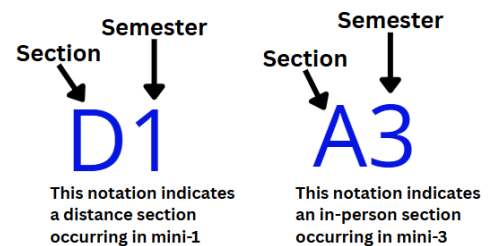
ensure admission to the desired courses.

The registrar reserves the right to cancel any courses if their enrollment is too low. Changes may also be made to course schedules, units, or instructors.

Restricted Enrollment

MSE students have priority registration for MSE core courses, however, desired course sections may fill up quickly. Section capacities will not be overloaded due to conflicts with electives or student preferences.

All departments reserve seats for their program-specific students. Open seats are assigned on a first-come, first-served basis. The MSE programs cannot lobby other departments on behalf of its students for space in their courses. Students may contact the assigned course instructor to plead their case for admission to fully occupied courses or sections.



6.4: SEMESTER STRUCTURE

Mini Courses

Most courses taken by MSE students in their first year are mini courses. Mini courses are 7 weeks long and worth 6 units each. Mini-semester sections are referred to as follows:

Semester	Section Location		Description
	On-Campus	Online	
Fall	A1	D1	Meets during the first half of the Fall semester (August to mid-October)
	A2	D2	Meets during the second half of the Fall semester (Mid-October to December)
Spring	A3	D3	Meets during the first half of the Spring semester (January to mid-March)
	A4	D4	Meets during the second half of the Spring semester (Mid-March to May)
Summer	A5	D5	Meets during the first half of the Summer semester (May to June)
	A6	D6	Meets during the second half of the Summer semester (June to August)

Any MSE course section listed as “D” indicates a remote section. The notation of mini-semester sections in the course catalog can be understood as follows:

Full-Semester Courses

Full semester courses are 14 weeks long and worth 9 to 12 units each.

Any MSE course section listed as “D” indicates a remote section. The notation of full semester sections in the course catalogue can be understood as follows:

For exact semester dates, refer to the university-wide [academic calendar](#).

SECTION 7: MSE Degree Requirements

7.1: ALL PROGRAM INFORMATION

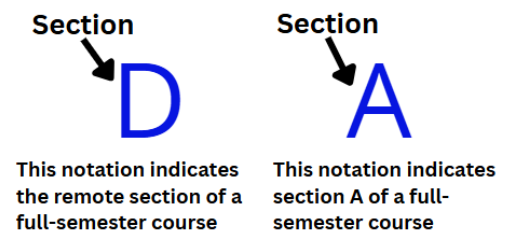
Academic Performance Requirements

All MSE Program degrees require successful completion of the appropriate courses with a minimum cumulative quality point average (QPA) of 3.0. If a grade lower than “B-” is earned in any core, required, or project course, the course must be repeated. Receiving a “B-” or less in any course will jeopardize the student’s academic standing in the program.

Full/Part-Time Status and Enrollment Requirements

To be considered a full-time student in the MSE program, a minimum of 36 units each semester is required. Please note that Carnegie Mellon cannot issue F-1 Visa documents to part-time students. As such, international students are not eligible for part-time status.

International students in F-1 or J-1 status are required by federal law to maintain full-time student status. Failure to do so will result in loss of a student visa and “permit of stay” as per the Office of International Education (OIE)’s [Maintaining Legal Status page](#). Any students who have Federal student loans may not drop below full-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 Professional	Full	On-Campus	4 Consecutive
MSE Online	Part	Remote	6-9 Consecutive or non-consecutive
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.*

***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. For details, see [7.6: IS-MSE-AMP Requirements](#).*

FULL-TIME UNIT LIMITS

For full-time 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 course add period **cannot exceed the unit limits above**. Any student who wishes to exceed their unit limits must obtain advance permission and the approval of their [Graduate Academic Advisor](#). Permission for overloads is never approved for the first mini-semester and is rarely approved for subsequent semesters. See [Overload Policy](#) for more details.

PART-TIME UNIT LIMITS

MSE Online students are in a part-time program and may take a maximum of 36 units. MSE Online students generally complete 6-18 units per semester.

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.

Core Courses

Students can find all required courses by semester in the [plan of study](#) for their respective program. Course descriptions may be found on the [MSE Course Offerings](#) webpage.

Electives and Registration Approval

Electives are any course taken in addition to the core, project, pre-requisite and required courses applicable to the student's degree program. MSE students should select technical courses as their electives, although some exceptions to this rule will be considered. Units associated with elective courses vary.

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

- The student has not already taken the course;
- The course has been determined relevant to the degree track and has received approval from the MSE Academic Advisor.

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

REGISTRATION APPROVAL

Each semester, students can choose from a set of pre-approved electives or seek elective approval from the [MSE Academic Advisor](#). Students must complete a Registration Approval form prior to the final course-add deadline for any electives, teaching assistantships, and research assistantships. **Only electives approved by the Graduate Academic Advisor will be accepted towards degree completion requirements.**

OVERLOAD POLICY

In the **mini-2 semester onward**, students may consult with their [Graduate Academic Advisor](#) about overloading if they meet the following requirements:

- Must have a minimum cumulative QPA of 3.80
- Must not be concurrently enrolled in a High-Intensity Elective (HIE)
- Must not have received an Academic Integrity Violation (AIV)

A maximum of 12 units may be considered for an overload. While overloaded on courses, students are not permitted to obtain any significant university-related time commitments such as teaching or research assistantships.

Students petitioning for an overload must submit an [MSE Course Overload Request form](#) to their [Graduate Academic Advisor](#), who must approve it before the course-add deadline of the term. Students carrying an overload schedule must meet with their advisor mid-semester to review program standing and workload.

In addition to those failing to meet eligibility requirements, the following students are never permitted to overload their course schedule:

- Any students in their first mini- semester of the program
- Any MSE-SS or MSE-ES students completing a summer internship

Deferred Start and Statute of Limitations

Although admitted applicants are encouraged to enter the program without delay, they are permitted to request a one-year deferment for extenuating circumstances. Students must submit a written deferment request to the [Admissions Manager](#). Approvals will be granted on a case-by-case basis and will only be granted once per student. If a student does not attend the program after their deferral year has ended, they must re-apply to the program.

Per the university [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.

7.2: MSE PROFESSIONAL REQUIREMENTS

MSE Professional (MSE) is a full-time, 16-month program consisting of four semesters on campus. The program begins in August and concludes the following year in December. Studio project work begins in January. The summer and second fall semesters are devoted to Studio projects and elective courses.

Residency

All MSE Professional Students must reside in Pittsburgh, Pennsylvania, for the duration of the program.

Required Units

PROGRAM	CORE	ELECTIVE	COMMUNICATIONS	CAPSTONE	TOTAL UNITS
MSE	60	45	6	84 (Studio)	195

Students must take all MSE Core courses in person (IPE modality). The [Graduate Academic Advisor](#) may approve remote courses to fulfill elective requirements on a case-by-case basis.

Course Of Study

This course of study is also available [online](#).

FALL 2025			
Term	Course Number	Course Title	Units
Full Semester	17-603	Communications for Software Leaders I	3
	xx-xxx	Elective Course(s)	12
Mini-1	17-611	Statistics for Decision Making	6
	17-619	Product Management Essentials I	6
	17-614	Formal Methods	6

Mini-2	17-622	Agile Methods	6
	17-623	Quality Assurance	6
	17-626 or 17-627	Requirements Course	6

SPRING 2026

Term	Course Number	Course Title	Units
Full Semester	17-633	Software Architectures	12
	17-604	Communications for Software Leaders II	3
	xx-xxx	Elective Course(s)	12
	17-671	Studio Project I	12
Mini-3	17-632	Software Project Management	6
Mini-4	17-643	Quality Management	6

SUMMER 2026

Term	Course Number	Course Title	Units
Full Semester	17-672	Studio Project II	36
	xx-xxx	Elective Course(s)	12

FALL 2026

Term	Course Number	Course Title	Units
Full Semester	17-673	Studio Project III	36
	xx-xxx	Elective Course(s)	12

DEGREE TRACKS

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 17-648.

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
Mini-2	17-626	Requirements for Information Systems	6	Required
Mini-4	17-647	Engineering 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
Mini-2	17-627	Requirements for Embedded Systems	6	Required
Mini-4	17-648	Sensor Based Systems	6	Elective

Studio Projects

MSE Professionals are assigned to year-long Studio Projects in their second semester of the program (Spring).

PROJECT SELECTION

Students will attend a Studio Orientation Day in January, where sponsors will present the details of their studio projects. Students will be able to express preferences for project assignments and team members, but are ultimately assigned to a team by the instructor of the studio course.

PROJECT PRESENTATIONS

Studio Teams will present their progress three times, at the end of each semester. Presentation dates usually fall on the last day of classes or the first day of final exams. Presentations are critiqued and evaluated by MSE faculty, project mentors and practice area coaches. Tentative presentation dates will be provided at MSE program orientation.

COLLABORATION

Teamwork is essential to the success of Studio Projects. While working on a Studio Project 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 open communication with all stakeholders;
- Contributing equally to their team's efforts for the duration of the project;
- Collaborating to create End-of-Semester presentations.

7.3: DUAL DEGREE 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 1-3 are taken at the Tepper School of Business, during which they must abide by all rules and regulations of the Tepper MBA Program.

Students begin the on-campus Software Engineering portion of the dual degree in their subsequent fall term. The MSE Portion of the degree is as shown above in [7.2: MSE Professional Requirements](#).

7.4: Program Learning Outcomes

Learning outcomes for the MSE Professional Degree and the MSE/MBA Dual degree are:

Outcome 1: Select and tailor appropriate methods for organizing and executing a full life-cycle project including scoping, business requirements, requirements analysis, system architecture and design with tradeoffs, implementation, testing and quality assurance, and documentation development in a principled and deliberate manner.

Outcome 2: Apply formal modeling, analysis techniques, and tools to software requirements, design, construction and validation to ensure quality in the software systems produced.

Outcome 3: Manage a complex software engineering project including gathering, analyzing, and prioritizing requirements from a real-world industrial customer.

Outcome 4: Demonstrate leadership skills in managing a software development team including meeting management, project planning and tracking, setting technical direction, communication with customers and project technical leads, and problem solving/remediation.

Outcome 5: Communicate effectively with technical and non-technical audiences and peers through active listening and clear, organized speaking and writing.

Outcome 6: Be able to maturely respond and adapt to large shifts in the software industry. This includes being able to evaluate and assess the trade-offs associated with new technologies, practices, and research for adoption into their professional practices.

7.5 MSE ONLINE REQUIREMENTS

MSE Online is a part-time, distance learning, 24-month variation of the full MSE program. The program consists of 6-9 semesters depending on course load. The first 5-7 semesters include both synchronous and asynchronous lectures with additional time dedicated to synchronous faculty meetings and recitations. The final semester is usually dedicated to writing the term paper.

Residency

MSE Online students must reside in the U.S. while completing their part-time, fully remote program.

Required Units

PROGRAM	CORE	ELECTIVE	COMMUNICATIONS	CAPSTONE	TOTAL UNITS
MSE ONLINE	72	24	6	6	108

Sample Plan Of Study

Please note that the plan of study for MSE Online students varies depending on whether a student starts the program in the fall or spring semester and the year of matriculation. An [MSE course planning matrix](#) is available to assist you in course planning and is updated semesterly.

The following sample plan of study is for MSE Online students who enter the program in the fall semester of an odd-numbered year. Detailed sample courses of study for each semester and entry year are available [online](#).

Semester 1: Fall			
Semester	Course Number	Course Title	Units
Mini-1	17-611	Statistics for Decision Making	6
	17-614	Formal Methods	6
Mini-2	17-623	Quality Assurance	6
Semester 2: Spring			
Semester	Course Number	Course Title	Units
	xx-xxx	Elective Course(s)	12

Full Semester			
Mini-3	17-635	Software Architectures	6
Mini-4	17-643	Quality Management	6

Semester 3: Summer

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

Semester 4: Fall

Semester	Course Number	Course Title	Units
Full Semester	17-603	Communications for Software Leaders I	3
Mini-1	17-619	Product Management Essentials	6
Mini-2	17-622	Agile Methods	6
	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.

Semester 5: Spring

Semester	Course Number	Course Title	Units
Full Semester	17-604	Communications for Software Leaders II	3
	xx-xxx	Elective Course(s)	6
Mini-3	17-632	Software Project Management	6
Mini-4	17-642	Software Management Theory	6

Semester 6: Summer or Fall

Semester	Course Number	Course Title	Units
Full Semester	17-679 or	Paper Writing for Industrial Software Research or	6

	17-697**	Directed Study	6-12
--	----------	----------------	------

** Students will submit a [Proposal Form](#) in the semester prior to enrolling in 17-679 or 17-697.

Required Term Paper Capstone

Students in the MSE Online program are required to demonstrate an aptitude for reflective practice. By completing a term or research-based paper, students will demonstrate depth of knowledge in one of [six key practice areas](#). To complete the requirement, students have two options:

- Complete the full-semester course **17-679 Paper Writing for Industrial Software Research**, writing a term paper within the structure of the course; or
- Work with a faculty advisor to identify a research topic, conduct supervised research, and write a term paper while enrolled in one or more full semester **17-697 Directed Study** course(s).

CAPSTONE TIMING

Ideally, students should complete all core degree requirements before declaring either option. Consult your Graduate Academic Advisor to determine the best time to complete your capstone requirement.

CAPSTONE UNITS

Option A: 17-679 Paper Writing for Industrial Software Research is a 6-unit course.

Option B: Students enrolling in 17-697 Directed Study have the option of enrolling in the course as 6 or 12 units depending on the scope of the project. If enrolling for 12 units, the additional 6 units may not count as elective credits toward the degree. If a student would like 6 units of effort on a research capstone option to count as elective credits, they should register for 6 units in 17-697 and a 6-unit independent study.

TERM PAPER 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 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 capstone options and documents can be found on the [MSE website](#).

7.6 MSE Online Learning Outcomes

Learning outcomes for the MSE Online program include:

Outcome 1: Select and tailor appropriate methods for organizing and executing a full life-cycle project including scoping, business requirements, requirements analysis, system architecture and design with tradeoffs, implementation, testing and quality assurance, and documentation development in a principled and deliberate manner.

Outcome 2: Apply formal modeling, analysis techniques, and tools to software requirements, design, construction and validation to ensure quality in the software systems produced.

Outcome 3: Manage a complex software engineering project including gathering, analyzing, and prioritizing requirements from a real-world industrial customer.

Outcome 4: Demonstrate leadership skills in managing a software development team including meeting management, project planning and tracking, setting technical direction, communication with customers and project technical leads, and problem solving/remediation.

Outcome 5: Communicate effectively with technical and non-technical audiences and peers through active listening and clear, organized speaking and writing.

Outcome 6: Be able to maturely respond and adapt to large shifts in the software industry. This includes being able to evaluate and assess the trade-offs associated with new technologies, practices, and research for adoption into their professional practices.

7.7: MSE SCALABLE SYSTEMS AND EMBEDDED SYSTEMS REQUIREMENTS

MSE Scalable Systems and MSE Embedded Systems are 16-month, in-person programs consisting of three on-campus semesters and one summer internship. Both programs begin in August and conclude the following year in December. Students will complete a required internship in the summer semester and dedicate their subsequent final semester (Fall) to a Practicum Project.

Residency

All MSE-SS and MSE-ES students must reside in Pittsburgh for the duration of these programs unless completing an off-campus internship in the summer semester.

Required Units

PROGRAM	CORE	ELECTIVE	COMMUNICATIONS	CAPSTONE	INTERNSHIP	TOTAL UNITS
MSE-SS/ES	84	24	6	36 (Practicum)	3	153

MSE-SS and ES students must take all MSE Core courses in person (IPE modality). The Graduate Academic Advisor may approve remote courses to fulfill elective requirements on a case-by-case basis.

Internships

MSE-SS and MSE-ES students are required to complete an internship in their third semester of the program (Summer). **Upon arrival in the Fall semester, students are responsible for identifying prospective employers, preparing their resumes, improving their interviewing skills, and obtaining an internship offer.** For more detail, see [7.10: Internship Requirements](#).

Practicum Projects

MSE-SS and MSE-ES students are assigned to semester-long Practicum Projects in their final semester of the program (Second fall semester).

PROJECT SELECTION

Students will attend a Practicum Orientation Day where sponsors will present the details of their practicum projects. Students will be able to express preferences for project assignments and team members, but are ultimately assigned to a team by the instructor of the practicum course.

PROJECT PRESENTATIONS

Practicum Teams will give three presentations throughout the Fall semester:

Practicum Milestone #1	6 weeks after Practicum Orientation
Practicum Milestone #2	4-5 weeks after Practicum Milestone #1
End of Semester Presentation	4-5 weeks after Practicum Milestone #2

For planning purposes, tentative dates will be provided at MSE program orientation. Presentations are critiqued and evaluated by both MSE faculty and project mentors.

COLLABORATION

Teamwork is essential to the success of Practicum Projects. While working on a Practicum Project 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 open communication with all stakeholders;
- Contributing equally to their team's efforts for the duration of the project;
- Collaborating to create Milestone and End-of-Semester presentations.

MSE Scalable Systems (MSE-SS)

PLAN OF STUDY

FALL			
Semester	Course Number	Course Title	Units
Full Semester	17-603	Communications for Software Leaders I	3
Mini-1	17-611	Statistics for Decision Making	6
	17-619	Product Management Essentials I	6
	17-614	Formal Methods	6
	17-695	Design Patterns	6
Mini-2	17-622	Agile Methods	6
	17-623	Quality Assurance	6
	17-624 or 17-625	Advanced Formal Methods or API Design for Scalable Systems	6
	17-626	Requirements for Information Systems	6

SPRING			
Semester	Course Number	Course Title	Units
Full Semester	17-604	Communications for Software Leaders II	3
	17-636	DevOps: Engineering for Secure Development and Deployment	12
	xx-xxx	Elective Course(s)	12
Mini-3	17-632	Software Project Management	6
	17-635	Software Architectures	6
Mini-4	17-643	Quality Management	6
	17-647	Engineering Scalable Systems	6

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

FALL			
Semester	Course Number	Course Title	Units
Full Semester	17-675	Software Engineering Practicum	36
	xx-xxx	Elective Course(s)	12

MSE Embedded Systems (MSE-ES)

PLAN OF STUDY

FALL			
Semester	Course Number	Course Title	Units
Full Semester	17-603	Communications for Software Leaders I	3
Mini-1	17-611	Statistics for Decision Making	6
	17-619	Product Management Essentials I	6
	17-614	Formal Methods	6
	17-638	Engineering Embedded Systems	6
Mini-2	17-622	Agile Methods	6
	17-623	Quality Assurance	6
	17-625	API Design for Scalable Systems	6
	17-627	Requirements for Embedded Systems	6

SPRING 2025			
Semester	Course Number	Course Title	Units
Full Semester	17-604	Communications for Software Leaders II	3
	17-636	DevOps: Engineering for Secure Development and Deployment	12
	xx-xxx	Elective Course(s)	12
Mini-3	17-632	Software Project Management	6
	17-635	Software Architectures	6
Mini-4	17-643	Quality Management	6
	17-648	Sensor Based Systems	6

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

FALL			
-------------	--	--	--

Semester	Course Number	Course Title	Units
Full Semester	17-675	Software Engineering Practicum	36
	xx-xxx	Elective Course(s)	12

7.8: ACCELERATED MASTER PROGRAM (IS-MSE-AMP) REQUIREMENTS

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 transitions into one year of dedicated graduate schooling within the Software and Societal Systems Department (S3D).

Up to 54 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.

7.9: LEARNING OUTCOMES FOR MSE-SS, MSE-ES, and IS-MSE-AMP

Learning outcomes for the MSE-SS, MSE-ES and IS-MSE-AMP programs are:

Outcome 1: Produce scalable system designs to include: identifying suitable scalability, integration, and operations patterns and use disciplined analysis techniques to perform engineering tradeoffs and determine the fitness of their designs.

Outcome 2: Design software for scalable systems to include: selecting appropriate data structures and algorithms, software structures and patterns, to satisfy systemic functional and quality attribute requirements (e. g. scalability, modifiability, performance, etc.).

Outcome 3: Select the appropriate development lifecycles and processes for an scalable systems project in a given organizational and business context, and manage small project development teams to include: developing project plans, tracking progress, and utilizing data driven project controls.

Outcome 4: Assure systems hardware and software quality with respect to functional correctness and key system qualities (e g. safety, reliability, performance, and so forth) using disciplined testing, analysis, verification and validation methodologies and technologies.

Outcome 5: Interact with internal and external customers to perform systems requirements engineering (elicitation, analysis, and change management) for a scalable systems project in a given organizational and business context.

Outcome 6: Create clear and concise technical and project documentation (e.g. requirements, design, planning, and so forth) and effectively communicate such information to managerial, customer, and technical stakeholders.

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. A maximum of 54 units may be taken as an undergraduate as long as the final grades earned are a B- or above.

Residency

All AMP students must reside in Pittsburgh for the MSE portion of the program unless completing an off-campus internship in the summer semester. MSE Core classes must be completed in person.

Required Units

PROGRAM	CORE	ELECTIVE	COMMUNICATIONS	CAPSTONE	INTERNSHIP	TOTAL UNITS
IS-MSE-AMP	84	24	6	36 (Practicum)	3	153*

**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.*

Sample Plan Of Study

AMP Students will choose between the Scalable Systems (MSE-SS), or Embedded Systems (MSE-ES) concentrations. Details for both may be found [online](#).

Course selections and semester allocations will depend on the chosen concentration. **MSE courses are scheduled in sequence to prepare you for the Practicum capstone experience in the 5th year fall semester. Please make every effort to follow this plan of study. If you are unable to enroll in a course listed here, please consult your [MSE Graduate Advisor](#).** The following is a sample plan for the IS-MSE-AMP with the Scalable Systems Concentration.

FALL of Undergrad. Senior Year			
Semester	Course Number	Course Title	Units
Mini-1	17-611	Statistics for Decision Making	6
Mini-2	17-626	Requirements for Information Systems	6

	17-623	Quality Assurance	6
--	--------	-------------------	---

SPRING of Undergrad. Senior Year

Semester	Course Number	Course Title	Units
Full Semester	17-514	Principles of Software Construction	12
Mini-3	17-635	Software Architectures	6
	17-632	Software Project Management	6
Mini-4	17-643	Quality Management	6
	17-647	Engineering Scalable Systems	6

SUMMER after Undergrad. Senior Year

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

FALL of Graduate 5th Year

Semester	Course Number	Course Title	Units
Full Semester	17-603	Communications for Software Leaders I	3
	17-675	Software Engineering Practicum	36
Mini-1	17-614	Formal Methods	6
Mini-2	17-622	Agile Methods	6

SPRING of Graduate 5th Year

Semester	Course Number	Course Title	Units
Full Semester	17-604	Communications for Software Leaders II	3
	17-636	DevOps: Engineering for Secure Development and Deployment	12
	Variable	Software Engineering Free Elective	12
	Variable	Software Engineering Free Elective	12

Mini-3	17-619	Product Management Essentials I	6
--------	--------	---------------------------------	---

Internships

IS-MSE-AMP students are required to complete a summer internship after finishing their undergraduate degree, unless they have already completed an equivalent internship that has been approved by the MSE [Corporate Relations Manager](#).

International students on a F-1 or J-1 visa are not able to begin their masters degree program with an internship, and, therefore, have more limited options for fulfilling their internship requirements. International students should consult with [OIE](#) before their undergraduate senior year to determine their options. For more detail, see section [7.10 Internship Requirements](#).

Practicum Projects

MSE-AMP students are assigned to semester-long [Practicum Projects](#) in the Fall of their 5th year.

7.7: Required Units for Degree Attainment

The chart below is a reiteration of the required units for each MSE degree program.

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

*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 54 units may be taken as an undergraduate as long as the final grades earned are a B- or above. Therefore, IS-MSE-AMP students may complete their master's degree in only one year rather than 18 months.

7.8: TEACHING REQUIREMENTS & OPPORTUNITIES

There are no requirements to teach in the MSE program. Students wishing to work as a teaching assistant as part of their experience on campus may independently find opportunities through faculty or on [Handshake](#). Students must be in good standing with the program to work as a teaching assistant. Students may not be a TA for courses in which they are enrolled.

As required by the English Fluency in Higher Education Act of 1990, 1) graduate students must attain functional fluency in English before entering the MSE Program and 2) the English fluency of all instructional personnel, including teaching assistants and interns, is also evaluated and certified. The [full university policy](#) can be found online.

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 act as a TA. In addition to administering the International Teaching Assistant (ITA) Test (mandatory screening for non-native English speakers), they provide support for non-native English speakers to develop the fluency and cultural understanding necessary to teach successfully at Carnegie Mellon.

Students working as Teaching Assistants (TA) in the MSE programs should meet with their course instructor to discuss their role in the course. A teaching assistant may be tasked with grading assignments, providing feedback to students, leading recitation sections, coordinating with other TAs, and other duties as assigned. The [Eberly Center for Teaching Excellence](#) is a recommended resource for TA and instructor training.

7.9: RESEARCH REQUIREMENTS & OPPORTUNITIES

Research is not a requirement for the in-person MSE Programs. MSE Online students who choose the [Supervised Research](#) option will conduct research as part of their capstone requirement. Students wishing to conduct research as part of their experience on campus may find research assistant opportunities independently through faculty or on [Handshake](#).

7.10: INTERNSHIP REQUIREMENTS

MSE-SS, -ES, and -AMP students are required to complete an internship. International students must receive work authorization before starting any internship and should review [OIE guidance](#) regarding the work authorization process.

Program staff will provide guidance for internship applications and help students vet internship offer letters. Guidance and resources are available from the Carnegie Mellon Career and Professional Development Center ([CPDC](#)), which has [dedicated advisors](#) for the School of Computer Science. For on-campus job fair information, visit CMU's [Handshake Events page](#).

Requirements

In order to count towards degree completion, internships must:

- Be at least 10 weeks in duration, including any orientation and off-boarding;
- Take place within the dates of the university's [summer internship calendar](#);
- Receive approval from the [Corporate and Alumni Relations Manager](#);

- If applicable, receive approval from the [Office of International Education \(OIE\)](#) to ensure University compliance with Federal immigration and employment laws.
- Self-employment, personal start-ups or research projects, or other positions where experienced guidance and supervision is not available are not acceptable internships.

Students who successfully obtain internships will enroll in a 3-unit internship course 17-667 Internship for Software Engineers in the summer prior to their 5th year. 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 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.

Internships 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.

7.11: REQUIREMENTS FOR APPLICATION/CONSIDERATION FOR ENTRY INTO PHD PROGRAM

Although completion of an MSE degree may supplement students' eligibility for doctoral programs, it does not guarantee admission into any doctoral degree program at Carnegie Mellon. If a student leaves to pursue another academic program, before completing MSE degree requirements, the master's degree will not be awarded.

SECTION 8: Department Policies & Protocols

8.1: PETITION PROCEDURES

Petition Procedures

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

Undergraduate Courses

Only one undergraduate course (numbered as XX-300 level or higher) may be applied to a master degree's elective requirement.

IS-AMP-MSE students who have taken the undergraduate version of Principles of Software Construction, 17-214, may count it in place of the graduate-level version of the course. This counts as the one undergraduate level course allowed toward degree completion, as noted above.

Double-Counting Courses

With the exception of IS-MSE-AMP, any courses counted toward an MSE degree may not be double-counted toward any other Carnegie Mellon degree program.

External Electives

Students are strongly encouraged to take electives within the S3D Department — courses numbered 17-XXX. However, they may consult their [Graduate Academic Advisor](#) to register for external master-level elective courses. Note that Heinz and Tepper have their own academic calendars. Add and drop deadlines may not be the same as the main CMU academic calendar. It is the student's responsibility to understand deadlines for adding or dropping a course or using a voucher for any elective course. Only those approved by the Graduate Academic Advisor will be counted toward the completion of elective requirements.

Transfer of Graduate-Level Credit

Students who have successfully completed graduate-level courses in software engineering or related disciplines such as computer science or information technology may petition to apply these credits to their elective requirements, as long as the following conditions are met:

1. No course credit can be granted if it has been used to obtain another 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 provide a transcript from the institution where the course was taken which shows the final earned grade.
4. Students must provide supporting documentation specific to the course at the time it was taken (course description, syllabus, learning/educational outcomes and student work products such as projects, reports, etc.)
5. The final earned grade in these petitioned courses must be equivalent to a "B-" or higher.
6. All petitioned courses must be graduate level, or equivalent to a course numbered XX-500 or higher at CMU.

PROTOCOL FOR EVALUATION OF TRANSFER CREDIT

Each transfer credit 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, core, communications, and project courses must be completed through the Master of Software Engineering program. Courses approved for transfer will appear on the student transcript as "transfer credits".

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, Software Engineering, or another related field. Students with non-CS degrees who are admitted to the program are not required to complete additional coursework or exams. Applicants without the requisite years of industry experience for certain MSE programs may be moved into the applicant pool for a more appropriate MSE program to ensure student success.

8.4: NEW POLICIES/ GRANDFATHER POLICY

Students enrolled in any degree program affected by a change in policy or requirements 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.

SECTION 9: Grading & Evaluation

9.1: QPA REQUIREMENTS AND GRADING SCALE

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 MSE core, communications, required, or project course, those courses must be repeated regardless of QPA.

9.2: DEPARTMENT POLICY ON RETAKING A COURSE

Any student who does not earn a B- grade or above in MSE core courses or a D grade or above in elective courses, will need to repeat the course and earn a passing grade in order to complete their degree requirements. This may require additional semesters and impact a student's timeline toward degree completion.

9.3: DEPARTMENT POLICY ON PASS/FAIL COURSES

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](#). However, these courses will not count towards MSE degree requirements.

9.4: DEPARTMENT POLICY FOR INCOMPLETE GRADES

At the discretion of the course instructor, a grade of “I” or “Incomplete” may be given if a student is unable to complete their coursework within the allotted academic semester. The work completed up to that date must be of passing quality and the extra time afforded by the Incomplete grade must not provide an unfair advantage to that student over others.

When awarding an “I” grade, the instructor must specify their requirements for the completion of the course 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.

If the instructor does not record a permanent grade by the last day of the subsequent semester, a default grade will be automatically assigned by the Registrar.

Delaying Graduation

If a student receives an Incomplete grade for an elective in the semester that they expect 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. The resulting final cumulative QPA must meet the minimum 3.0 program requirement.

This option *is not* available for MSE core, communications courses 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](#).

9.5: INDEPENDENT STUDY/DIRECTED STUDY

Independent Study (IS) Courses

An Independent Study (IS) course is designed by the student under faculty guidance for further study in a particular area of interest. It 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 can be counted 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; therefore, it is the duty of the student to negotiate the terms and conditions of the Independent Study with their supervising faculty member(s) and staff. 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 deliverables;
2. Complete an [Independent Study Contract](#) 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 in order to receive approval from the Graduate Academic Advisor.

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 capstone option. Students opting for a research-based capstone should seek a faculty advisor for the project and submit a [Proposal for Supervised Research](#) to their Graduate Academic Advisor before enrollment in the course. See section [7.4: MSE Online Requirements](#) for more details on the Directed Study course.

9.6: 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 result in an Academic Integrity Violation and can jeopardize the student's academic standing in the program.

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;

Academic Integrity Violations

All students should familiarize themselves with the University's Academic Integrity Policy, which may be found on the [Office of Community Standards and Integrity \(OCSI\)](#) website. 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.

Should a student choose to cheat or otherwise misrepresent their work and is caught doing so, they should expect the following:

- The student will receive course-level consequences as 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. This report will become part of the [Student Conduct Record](#) and program leadership and staff 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.

9.7: 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;
- 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.

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. 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 program requirements, including the MSE professional and ethical standards, or if 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.

Students placed on probation will be given written notice from the program's director with conditions of probation and a timeline for fulfilling the stated conditions.

Program leadership will meet with a student placed on probation to present the probation terms and at the end of the probation period with a determination for continuing academic probation, ending academic probation, or some other action including dismissal from the program.

Appeal For Academic Violations & Actions

All grade disputes should follow [CMU Grading Policy](#).

Any student who wishes to appeal an AIV or other academic action should follow the University's [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 semester to evaluate individual student and project team performances. All core and associated faculty, the program director, project mentors, the MSE Programs Manager, and the Graduate Academic Advisor are invited to contribute input regarding student performance.

Measures of student performance include academic achievement and teamwork, personal responsibility in meeting ethical standards, and overall progress in the program. 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

The MSE Programs do not grant tuition waivers or financial support. However, students have the opportunity to obtain competitive funding 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, AMP students will be charged the full MSE Program tuition rate for their 5th year. If IS-MSE-AMP students wish to continue receiving financial aid, they must re-apply for aid before entering 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.

MSE Scholarships

The MSE Program offers two scholarships for full-time students who demonstrate exceptional academic achievement, leadership potential, communication skills, and initiative. Prospective awardees are identified by faculty upon the student's completion of at least two full semesters in the program. The

recipient is chosen at the end of the summer semester and the award is applied to the student's final semester (Fall) tuition.

James E. Tomayko Scholarship

The James E. Tomayko Scholarship is awarded to exceptional full-time students with financial need. Full-time students may apply for this scholarship at the end of the spring semester.

Director's Scholarship

The Director's List recognizes the top 5-10% of the class who demonstrate exceptional academic achievement. Unlike the James E. Tomayko Scholarship, financial need is not a factor in this award. Full-time students may apply for this scholarship at the end of the spring semester.

10.2: DEPARTMENT FEES

All required course materials will be detailed 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.

10.3: 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 Conference Funding

Each year, the SCS Office of Community Engagement 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 Dean's Office.

Details regarding the [application process](#) can be found online. Students are encouraged to apply for sponsorship in the spring semester.

10.4: 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. Students may not be a teaching assistant for a course in which they are enrolled.

10.5: 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.

10.6: 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.

10.7: 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.

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 For Summer Courses

FULL-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. 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.

PART-TIME STUDENTS

Students enrolled in the part-time remote program are charged [tuition](#) per unit based on the rate effective for that particular semester.

TUITION REFUND POLICY

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.

11.2: INTELLECTUAL PROPERTY

The MSE Professional Programs adhere to the University's [intellectual property policy](#).

11.3: 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.

Section 12: Who to Contact

For MSE Staff information and their roles, see Section [4.3: Master of Software Engineering Program](#).

Type of Inquiry	Contact
• Seeking pre-approval for expenses • Advising questions for IS-MSE-AMP students • Academic probation • Working as a TA • Requesting restock of office and kitchenette supplies • Reporting broken or non-functioning equipment • Reporting messes or other facility issues • Issues with student spaces, rooms, and lockers • Slack channel and student calendar access • Seeking reimbursement for pre-approved expenses • Participating in MSE social media content • Promoting sponsored projects on MSE social media	Jennifer Britton MSE Program Manager
• Student ID cards and building accesses • Financial aid, tuition, and other fees • Course registration and enrollment status issues in SIO • Requesting transcripts or other records	The Hub
• Any inquiry regarding visas or immigration • Any inquiry about work/internship eligibility (international students) • Immigration paperwork and regulations • International travel regulations • Maintaining legal status	Office of International Education

• Questions about enrollment and orientation • Questions about the application process • Questions about the admissions timeline	Marlana Ivey Senior Admissions Officer
• Resume and professional presence coaching • Internship: preparation, application and 17-667 assignments • Introductions to program alumni • Any professional inquiries specific to MSE	Sasha Balobeshkina Corporate & Alumni Relations Manager
• Schedule planning, required units, and registration • Choosing electives • Course changes such as adds, drops, and withdrawals • Academic standing and degree progress • Social adjustment or interpersonal concerns within MSE • Leaves of absence • Graduation eligibility	Lauren Martinko Graduate Academic Advisor
• Becoming a teaching assistant for a course • Conducting research • Final exam or presentation conflicts	Relevant Faculty
• Inquiries relating to funding for MSEL and Grad Student Association activities • Inquiries about GSA budget balance	Suzanne Fleischel GSA Financial Assistant
• Campus employment • Career training sessions • Handshake guidance • Job fair information • Career, resume, and interview consultation • Alumni networking opportunities	Career and Professional Development Center Mike Stowell SCS Master's Student Career Consultant
• Independent Study, Course Registration, Add/Drop Petition, and other forms (PDF) • Student FAQs • Internship preparation checklist and calendar	MSE Current Students Page