

**Industrial Engineering**  
**MS Graduate Handbook**  
**2024 - 2025**



**MANUAL OF THE MS DEGREE IN  
INDUSTRIAL ENGINEERING**

**ARIZONA STATE UNIVERSITY**

**2024– 2025**

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## **I. Introduction to the Industrial Engineering Program**

The Industrial Engineering (IE) Program of Arizona State University (ASU) offers two (2) graduate degrees: a Master of Science (MS) with a thesis or a non-thesis option and a Doctor of Philosophy (Ph.D.). The MS degree requires a written and an oral defense of the thesis or a final written portfolio. The Ph.D. degree is offered to students who have completed a Bachelor's or Master's degree in engineering or a closely related field with distinction. It requires a qualifying exam, comprehensive exam, prospectus, written dissertation, and an oral defense of the dissertation.

At ASU's School of Computing and Augmented Intelligence (SCAI), we envision a society where secure, accurate, and current information is ubiquitously available; data is seamlessly collected, managed, and converted into information that entertains individuals, empowers businesses, and guides the decisions of both in their daily affairs.

We envision our school as a community recognized by its colleagues internationally as a leader in envisioning and enabling an information-driven society and by students as a preferred location for acquiring the knowledge and skills necessary to contribute to this vision.

We envision a community of scholars cooperatively engaged in transdisciplinary research addressing the grand challenges of modern society and supporting the intellectual growth of students and colleagues.

Our mission is to benefit society through excellence in education, use-inspired research from basic to translational, and leadership in service to the profession and community. We seek to provide a supportive environment that promotes creativity, diversity, multidisciplinary teaming, scholarship, and ethical behavior to advance knowledge and practice in computing, information and decision technologies to enhance society.

ASU prohibits all forms of discrimination, harassment, and retaliation. To view ASU's policy please see <https://www.asu.edu/aad/manuals/acd/acd401.html>.

Title IX protects individuals from discrimination based on sex in any educational program or activity operated by recipients of federal financial assistance. As required by Title IX, ASU does not discriminate on the basis of sex in the education programs or activities that we operate, including in admission and employment. Inquiries concerning the application of Title IX may be referred to the Title IX Coordinator or the US Department of Education, Assistant Secretary, or both. Contact [titleixcoordinator@asu.edu](mailto:titleixcoordinator@asu.edu) or 480-965-0696 for more information. Office located at 1120 S. Cady Mall, INTDSB 284. For information on how to make a report, please go to [www.asu.edu/reportit/](http://www.asu.edu/reportit/).

## II. Objective of the Handbook

The purpose of this handbook is to provide guidance and information related to admission, degree requirements, and general policies and procedures. Please note that in some cases, you will find differences between the Graduate Policies and Procedures and the Industrial Engineering Program requirements. In these cases, IE has established higher standards. Students must satisfy both sets of requirements. Please note that policies and procedures are occasionally amended to improve the program. Changes will be communicated to students through email and posting on the SCAI website.

## III. Student Responsibilities

All students are expected to become familiar with university and program policies and procedures and abide by the terms set forth. Information is available both online. Please visit the following websites:

- The Graduate College – <http://graduate.asu.edu>
- Graduate College policies and procedures - <https://graduate.asu.edu/policies-procedures>
- The Industrial Engineering program – <https://scai.engineering.asu.edu/graduate-industrial-engineering/>
- The Ira A. Fulton Schools of Engineering – <http://engineering.asu.edu>
- The International Students and Scholars Center – <https://issc.asu.edu/>, if applicable.

## IV. ASU Resources

We believe graduate education provides an opportunity to grow in our knowledge and expertise, and during our studies, we may face challenges and hardships that can affect our wellbeing. The Graduate College and the ASU Graduate Student Association have compiled resources and best practices guides to help your educational journey. We encourage you to contact a SCAI Graduate Advising Office graduate advisor if you need additional guidance and support.

- [Graduate Wellness Resources](#) – a one-page guide to Financial, Social, Emotional, and Physical Health and Wellness Resources for ASU Graduate Students was developed by the GPSA.
- [10 Best Practices in Graduate Student Wellbeing](#) – proven ways to help graduate students better care for themselves under the increasing demands of graduate school
- [Success Coaches](#) - Part concierge, part support system, your coach will be there every step of the way to help you overcome hurdles between you and your goals.
- [Financial Aid](#) - A dedicated team for all your financial, funding, scholarship and FAFSA questions.

- [Pat Tillman Veterans Center](#) - Support team and services to ensure success among military students.
- [360 Life Services](#) - This service includes confidential counseling, personal care, legal and financial assistance (Online only).
- [ASU Help Desk](#) - The ASU Helpdesk is available 24/7 to provide you with Technical support and assistance with your courses.
- [ASU Library](#) - All the resources of a traditional library, at your fingertips... articles, eBooks, tutorials, and the research help needed to support your academic success!
- [Student Accessibility and Inclusive Learning](#) - Also known as “SAILS” provides services to qualified students with disabilities on all ASU campuses.
- [Career Services](#) - Whether you are a student looking for an internship, an alum looking for a job or an employer looking to recruit, Handshake can get you connected.
- [Alumni Association](#) - Online students are welcome and encouraged to attend alumni events in their area.
- [ASU Online Social Media](#) - Stay up-to-date on university happenings and fun ways to connect with classmates and the university.
- [Sun Devils Connect](#) - An ASU Online Facebook group dedicated to current students. Connect and network with other students around the country and get the insider scoop on ASU Online events, competitions and opportunities.
- [Slack](#) - Live chat with your Success Coach, instructors, classmates or join a social channel.
- [ASU Bookstore](#) – Shop for your textbooks, computers, tablets, and other accessories as needed.

## V. **Industrial Engineering Faculty**

The members of the faculty of Industrial Engineering have diverse backgrounds and knowledge. They are available to assist you in your plan of study and your educational and career goals. We encourage you to take the opportunity to make individual appointments with faculty members with whom you have common interests. Please refer to the [SCAI website](#) for a list of the faculty names, areas of expertise, and research interests.

## VI. **Admission and Eligibility**

The Industrial Engineering MS degree requires a background in engineering, math, statistics, sciences, or closely related fields. In some cases, students with non-traditional educational backgrounds will be considered for admission. These students may be required to take foundational courses to better prepare for the graduate coursework. A student is encouraged to contact a graduate advisor in the School of Computing and Augmented Intelligence (SCAI) Advising Center to obtain advice on their educational pursuits.

### **A. Eligibility**

Students are required to have completed three (3) semesters or 12 credit hours of Calculus before applying to the IE MS program. Multivariate Calculus is a required class for the 12 hour credit hours of Calculus.

### **B. Application**

All students are required to submit an application and all supporting materials with the Office of Graduate Admissions <https://students.asu.edu/graduate>. The required fee must be paid before a student's application is reviewed and processed.

### **Application Deadlines**

- **January 15 for Fall semester**
- **September 15 for Spring semester**

Please have all of the required documents submitted by the deadline to receive full consideration.

**GRE scores are not required.**

### **C. English Proficiency**

The University requires all international applicants from a country whose native language is not English to provide the Test of English as a Foreign Languages (TOEFL) or the International English Language Testing System (IELTS) scores, or Pearson (PTE).

Industrial Engineering Program uses average scores of 575 (paper-based) or 90 (internet-based) for TOEFL, 7.0 for IELTS, or 115 for Duolingo, and 65 for PTE for admission.

**Note that your application will not be processed until the university receives official scores, which are valid two (2) years from the start date of the degree program.**

Exemption from the English Proficiency requirement can be met by visiting the Graduate Admission site under English Proficiency. Please address all English Proficiency questions with the Office of Graduate Admission

<https://students.asu.edu/graduate/proficiency>. The ASU institution code is 4007 if a department code is required, use: 99 for TOEFL.

### **D. Personal Statement**

Applicants must submit a personal statement. The statement should explain professional goals and your reasons for enrolling in the program.

### **E. GPA Requirement**

To be considered for the MS program, we require a minimum cumulative GPA of 3.2 **in the last 60 credit hours** of the undergraduate degree.

### **F. Application Evaluation**

Several factors are considered when evaluating a student's application: the student's cumulative GPA, major, institution, personal statement, , standardized test scores, and performance in individual courses.

### **G. Notice of Admission**

IE submits its recommendation to the Office of Graduate Admission, which will then email the final admission notice to the applicant in writing. You may check your application status on My ASU (my.asu.edu).

### **H. Admission Deferrals**

Students may defer their initial start semester and year of admission to **one (1) semester** with the recommendation of the degree program,. Requests for deferrals must be submitted by the start of the term of original admission. Students who miss the deferral deadlines can submit a petition for an enrollment exception for the original admit term. For more information, please visit The Graduate Admission on [deferring or canceling](#) your graduate admission

### **I. Deficiencies**

Depending on the applicant's previous academic preparation and achievements, deficiency courses may be specified to ensure adequate background preparation. Please note that deficiencies are not intended solely as prerequisites for graduate coursework; they also satisfy the breadth requirement for all graduates of IE.

Below is a list of prerequisites along with the associated ASU course numbers:

- CSE 110 – Principles of Programming in Java
- CSE 205 – Object-Oriented Programming and Data Structures
- MAT 242 – Linear Algebra
- IEE 376 – Deterministic Operations Research
- IEE 380 – Probability and Statistics for Engineering Problem Solving
- IEE 470 – Stochastic Operations Research

Deficiency coursework completed with a grade of C or better at the undergraduate level will satisfy the requirements. A grade of B or better is required for all assigned deficiency coursework at the post-baccalaureate level. International coursework is evaluated differently.

Deficiencies are assigned to ensure success in graduate courses. All students assigned with a deficiency in their admission letter have three (3) options to meet the assigned deficiency: Waiver process, Test-out exam, or enrolling in the course and passing with a grade of “B” or better. Deficiency courses must be successfully completed within a year of starting the program.

**Students must submit the Deficiency Waiver Options 1 and 2 before the first day of the semester of the admission term.**

#### **Option 1: Waiver Process**

Students wishing to have their course syllabi examined as evidence that deficiencies have been satisfied must submit a petition. The request must be submitted using the [Petition for Reevaluation of Deficiency Course](#) form. Please include a syllabus, catalog description, and university transcripts (including the grade scale) to prove that you have



met the requirements. Be advised that the documents uploaded during the admission application have been evaluated. A reevaluation petition should only be submitted if you have **new** information to provide. Once the petition has been reviewed, it is final. There will be no future petitions or consideration requests. If the petition is not approved after the evaluation, the student may choose to take the deficiency test-out examination (through career catalyst).

### **Option 2: Deficiency Test-Out Exam**

An online course proficiency examination (career catalyst) is provided to allow students entering with deficiencies (listed in the admission letter) to test-out of their deficiency class. It is to establish whether the student's basic knowledge of the course material is sufficient to have an assigned deficiency waived. **Each subject examination costs \$59, payable at the time of registration. This scheduled testing period is the only opportunity for deficiency test-outs. No other arrangements will be made for students to test out of assigned deficiencies.** There are no CPE exams for CSE 110, 205, and MAT 242.

### **Option 3: Enrolling in the Course**

Students who could not clear their assigned deficiency through the waiver process or deficiency test-out exam are required to enroll and pass the course(s) in their first year. A student has a total of two (2) attempts to clear the deficiency. Deficiency courses must be completed with a grade of "B" or better. A "B" or better grade in a graduate course that follows a prerequisite class does not waive this requirement.

### **J. Pre-Admission Credits and Transfer Credit**

The graduate-level credit hours course must have grades of "B" or better and were not used toward a previous degree, per Graduate College policy. Pre-admission credits must be taken within three years of admission to the ASU degree program to be accepted. A course with a grade of "Pass", "Credit", or "Satisfactory" is not acceptable for transfer. A student who wishes to transfer credits from another institution should contact a graduate advisor in the SCAI Advising Center to initiate the transfer credit process. Acceptance of transfer credit is at the discretion of the IE Program. Please see the Pre-Admission Credit section of the [Graduate College Policies and Procedures Manual](#) for more details. Approved transfer credit cannot count towards meeting the core requirement unless the credit was earned at ASU.

### **K. Transfer Between Programs**

A student who would like to change from a Ph.D. to a Master's should follow the [Degree Change process](#). With approval, twelve credit hours are eligible for transfer into the Master's program with grades of "B" or better within the last three (3) years.

Students who want to change from a Master's to a Ph.D. in Industrial Engineering must submit a new application to ASU Graduate Admissions. Admission to the Ph.D. program is not guaranteed. If admitted, the student is allowed to transfer only 12 credits of courses taken within the last three (3) years with grades of "B" or better from the original uncompleted master's program to the new program. More than 12 credits require approval from the IE Graduate Program Chair, Dissertation Chair, or co-

chair. Otherwise, a petition is needed. Students should familiarize themselves with the Graduate College pre-admission transfer [policy](#).

## VII. Degree Requirements

Degree requirements for the MS include a minimum of 30 semester hours, not including deficiency courses and IEE 584 - CPT credits.

The MS is comprised of three (3) major milestones, which all students are required to complete successfully before graduation:

- a) Completion of coursework.
- b) Filing an approved plan of study.
- c) Successful oral defense of an approved written thesis or a portfolio completion.

### A. Formulation of the Plan of Study

*A student must submit a plan of study (iPOS) online through My ASU before the end of their first semester of attendance.* The final iPOS is subject to approval by the Graduate Program Chair and the supervisory committee for thesis students. Thesis students need to finalize their committee in their 3<sup>rd</sup> semester. After approval at the school level, the iPOS is forwarded to the Graduate College for final approval. The iPOS must contain a minimum of 30 semester hours of approved graduate-level work. Students need to be mindful of course anti-requisites at the time of registration. In addition to meeting the requirements specified above, a student must pass an oral thesis defense or complete a project portfolio.

The four (4) core courses include a course in information systems, a course in simulation, a course in industrial statistics, and a course in operations research. These courses are intended to expose the student to fundamental topics across the IE spectrum. A “C” or better grade must be achieved in each core course. Please note core courses are not intended solely as prerequisites for the following coursework; they also satisfy the breadth requirement for all graduates of our program.

1. IEE 505 – Information Systems Engineering or  
IEE 506 - Web-Enabled Decision Support Systems
2. IEE 545 – Simulating Stochastic Systems or  
IEE 561 - Production Systems
3. IEE 572 - Design of Engineering Experiments or  
IEE 573 – Reliability Engineering or  
IEE 578 – Regression Analysis
4. IEE 574 – Applied Deterministic Operations Research Models, or  
IEE 575 – Stochastic Operation Research

Program electives – 12 (thesis) – 18 (non-thesis) credit hours program electives of which one (1) or two (2) elective courses, 500-level or above, taken from other departments are encouraged but must be approved before enrolling. Only one of these courses can be

counted in the iPOS IEE 541, or 547 is permitted as an elective with approval.

A maximum of six (6) credit hours of 400 level coursework may be used on an approved iPOS (400 level courses taken for a grade of Pass/Fail cannot be included on an iPOS). Students must get approval from the Program Chair before enrolling and completing a 400 level coursework, except for the course that is a deficiency requirement. Courses with grades of “D” (1.00) and “E” (0.00) cannot be included on an IPOS.

### **BS/MS Accelerated Program Students core requirements**

**Note: Students in the accelerated program may complete their master's degree in one (1) year after completing their bachelor's, if they choose to do so. Students can share a maximum of nine (9) credit hours and can reserve three (3) credit hours while completing their undergraduate degree. Refer to the maximum time limit to degree completion.**

### **B. GPA Requirements**

All students must maintain a GPA of 3.0 or higher (Cumulative, Graduate and IPOS). If a student falls below a 3.0 GPA, they are placed on probation and provided the timeframe for the GPA to be raised to a satisfactory level. Students who do not raise their GPA to a 3.0 within the provided timeline risk dismissal from the program. **Note:** any 500-level courses taken as an undergraduate student will immediately count towards your satisfactory progress GPA calculation once you become a graduate student.

### **C. Portfolio Requirements**

Eligibility requirement for the Project:

- A student must have a cumulative grade point average (GPA) of 3.0 overall coursework,
- 3.0 GPA overall graduate coursework,
- 3.0 GPA overall iPOS courses, and
- have completed all the deficiency courses with a grade of “B” or higher

### **Portfolio (Non-Thesis)**

The portfolio includes a requirement for a student to attend three (3) seminars recommended by IE Faculty in IE Decision Systems Engineering seminars within the last year they graduate. Students will fill out the attendance form with a signature from an IE faculty member or the speaker. The forms from the three seminars must be turned into Canvas in the student’s final semester. The IE Program Chair will evaluate the submissions.

### **MS Thesis Option – Tempe Campus Only**

Students writing a 6-hour thesis (MS Degree) can reduce area course requirements by one (1) course and eliminate one (1) elective course. They may alternatively eliminate two (2) elective courses. In either case, they must complete 24 hours of 500-level or higher courses. **A minimum GPA of 3.2 is required in the first 18 iPOS hours to pursue the MS thesis option.**

MS students writing a thesis require a research advisory committee comprised of at least three (3) faculty members, including the committee chair. The MS Thesis chair must be approved to chair the IE PhD program. The two (2) additional members are chosen jointly by the committee chair and the student to facilitate the student's research. A least one additional member should be from the IE faculty. For a list of approved IE Faculty members, please refer to the Graduate College-approved [IE faculty](#).

For MS students, the thesis and a successful oral defense constitute their final examination. A majority pass vote by the student's committee is required. For visa reasons, international students have a maximum of two (2) semesters to finish the thesis after completion of coursework listed in the iPOS.

A student must be enrolled in at least one (1) graduate-level credit at the time of the defense. If holding the defense during the interim period between semesters, the student must be registered for the following semester. For example, if defending during the period between the spring and summer semesters, you, the student, must be registered for the summer session. Please see the [Graduate College policies](#).

Once the thesis is completed, the student will submit it to the committee members. There will be an open oral defense following the completion of the thesis. A student can schedule the defense after securing approval from the thesis chair and obtaining approval from Graduate College for the formatted thesis document. The student must schedule their defense through MyASU at least 10 working days before the defense date.

The Graduate College publishes information regarding thesis preparation, formal requirements, [deadlines](#), and oral examinations. The student must comply with all guidelines that the Graduate College publishes regarding submitting a thesis and scheduling a thesis defense.

Students must be physically present at the oral defense of their thesis or dissertation. It is expected that oral defenses will be held on an ASU campus (for in-person defenses) and during regular business hours (8 am-5 pm AZ Mountain Standard Time) to facilitate student, faculty, and public accessibility. A student can include a virtual link to encourage audience attendance. When sound educational reasons exist for holding a defense under different circumstances, contact the Graduate College for approval before scheduling the defense.

All student supervisory committee members must attend the final oral defense of a thesis or dissertation. However, some situations (e.g. faculty travel, faculty emergencies and/or faculty leave) may necessitate holding a defense with one or more committee member(s) absent. The committee chair must be in attendance. A qualified substitute must be appointed to participate if a committee member cannot attend. The substitute should be a regular faculty member within the academic unit. In these circumstances, the Graduate College must be notified with the name of the member who will be absent, the faculty member who will attend as a substitute, and the student's name and ID number.

This information must be submitted before the defense. More details on absent committee members can be found [here](#).

Once a defense has been scheduled and approved in the iPOS, students must submit within 10 days, a complete draft copy of the thesis/dissertation to be defended by uploading the document to their Interactive Plan of Study.

The supervisory committee evaluates the thesis and the student's performance on the defense. The committee votes the thesis as pass, pass with changes (major or minor), or fail. A decision to fail is final.

#### **D. Steps to Prepare for Your MS Defense**

##### Before defense:

1. Obtain a consensus of approval from the committee chair and the committee members to proceed with the oral defense.
2. Schedule a date and time with your committee for the oral defense on MyASU.
3. Important: Ensure that a minimum of 50% of the official committee is physically present at the defense. The defense must be rescheduled if at least 50% of the committee cannot be physically present.
4. Visit the Graduate College [website](#) to familiarize yourself with the dates and deadlines on format approval.

##### 10 days prior to the defense:

These steps are required to be completed prior to 10 business days from the date of oral defense.

1. Follow the instructions [here](#) to reserve a room with SCAI.
2. Schedule your defense through your iPOS/My ASU.
3. Submit a [defense announcement](#) request to the SCAI main office. You will need to include your thesis title, abstract, full names of your committee members, defense date/time/place, and your name as you want it to appear on the announcement.

##### On the day of the defense:

1. Set up all your equipment at least one half-hour before your presentation to ensure it works.

##### After the defense:

1. Your committee will have comments and a discussion with you. At the end, the committee makes their recommendation: Pass, Pass with minor revisions, Pass with major revisions, or Fail.
2. Failing a thesis defense is final.
3. Revisions are normal and are expected to be completed within one year period. This includes remaining registered until the finished document has been uploaded through MyASU on ProQuest.
4. Follow the steps on MyASU to upload your final dissertation through Graduate College and ProQuest.

## **VIII. General Information**

### **A. Research Standards for Publication of Thesis**

Graduate research is the study of an issue of sufficient breadth and depth to be publishable in an IE-related journal. The effort should reflect a minimum of 750 hours of thoughtful work for a thesis (MS). The research should follow the ‘scientific method’ and thus be both objective and reproducible. The thesis should demonstrate independent, original, and creative inquiry. There should be predefined hypotheses or developmental goals and objectives that are measurable and can be tested. The document should demonstrate written English proficiency and conform to the Graduate College format guidelines. For more information on format guidelines, please visit the Graduate College [website](#)

### **B. Financial Assistance and/or Fellowships**

There are limited funds for MS students. We encourage students to pursue assistantships outside the IE and not limit their search to IE. Information regarding other sources of financial assistance is available on the following websites:

- Financial aid: <https://students.asu.edu/financialaid>
- Graduate College: <https://graduate.asu.edu/pay-for-college>
- Fulton: <https://graduate.engineering.asu.edu/graduate-fellowships/>

### **C. Continuous Enrollment and Leave of Absence Policies**

Students must be registered for at least one (1) credit hour during all phases of their graduate education, including the terms in which they are admitted and graduate. This includes periods when students are engaged in research, conducting a doctoral prospectus, working on or defending theses or dissertations, taking comprehensive examinations, taking graduate foreign language examinations, or in any other way utilizing university resources, facilities, or faculty time.

Registration for every fall semester and spring semester is required. Summer registration is required for students taking examinations, completing culminating experiences, defending theses, or graduating from the degree program.

To maintain continuous enrollment, the credit hour(s) must:

- Appear on the student’s Interactive Plan of Study, OR
- Be thesis (599), or continuing registration (595), OR
- Be a graduate-level course,
- Be a deficiency course that is listed on the student’s admit letter.

Grades of “W” and/or “X” are not considered valid registration for continuous enrollment purposes. “W” grades are received when students officially withdraw from a course after the drop/add period. “X” grades are received for audit courses. Additionally, students completing work for a course in which they received a grade of “I” must maintain continuous enrollment as defined previously. Graduate students have one (1) year to complete work for an incomplete grade. If the work is incomplete and the grade changes within one year, the “I” grade becomes permanent and will remain on the student’s transcripts. Additional information regarding incomplete grades can be found [here](#) .

#### **D. Medical/Compassionate Withdrawal**

There are appropriate circumstances when students may need to withdraw from the university (i.e., medical withdrawal, compassionate leave). The policies for such withdrawals are the same for both undergraduate and graduate students. An approved [Medical/Compassionate Withdrawal](#) is valid for meeting the continuous enrollment policy.

#### **E. Leave of Absence**

Students planning to discontinue enrollment for a semester or more must request approval for a leave of absence. A student may petition the Graduate College for a leave of absence for a maximum of two (2) semesters during their entire program. **Requests should have enough detail to understand the situation fully and should include a plan for continuing in a future semester.** The Graduate College dean must approve a petition for a leave of absence endorsed by the students supervisory committee members and the head of the academic unit. **This request must be filed and approved before the anticipated absence.**

An approved leave of absence will enable students to re-enter their program without re-applying to the university. **Students who do not enroll for a fall or spring semester without an approved leave of absence by the Graduate College are considered withdrawn from the university under the assumption that they have decided to discontinue their program.** A student removed for this reason may reapply for admission to resume their degree program. Their application will be considered along with all other new applications to the degree program.

A student on leave is not required to pay fees. However, the student is not permitted to place any demands on university faculty or use any university resources. These resources include university libraries, laboratories, recreation facilities, or faculty time.

#### **F. Maximum Time Limit**

Master's students must complete all program requirements within **six years**. The six-year period starts with the semester and year of admission to the Master's program. Graduate courses taken prior to admission that are included in the plan of study must have been completed within three (3) years of the semester and year of admission to the program. If coursework completed over 3 (3) years ago is being applied towards a degree program as pre-admission coursework, the maximum time limit may be updated to reflect the start date of the pre-admission coursework.

Any exceptions must be approved by the supervisory committee (thesis students), Graduate Program Chair and the Graduate College Dean. The Graduate College may withdraw students who are unable to complete all degree requirements and graduate within the allowed maximum time limit.

### **G. Maximum Credit Load**

SCAI students on the Tempe campus are limited to a maximum of 11 credit hours per semester, unless they hold an RA/TA position. After the first semester, students in good academic standing may submit an overload request for permission to enroll in 12 credit hours. The 12 credits are the maximum allowed credit enrollment for SCAI graduate students.

### **H. Registration Requirements for Research Assistants (RA) and Teaching Assistants (TA)**

Students awarded an assistantship **within** the Ira A. Fulton School of Engineering are required to be registered for 12 credit hours. Audit credit hours do not count toward the 12 credit hours.

Students who obtain an assistantship **outside** the Ira A. Fulton School of Engineering must be enrolled in at least six (6) credit hours. Audit credit does not count toward the six (6) credit hours. Enrollment in continuing registration (IEE 595) does not count toward the 6-hour requirement.

Students with TA/RA .50 FTE appointments (i.e., 20 hours per week), who are appointed within the first 8 weeks of a semester during the academic year, receive an award covering tuition for the semester. Students with TA/RA .50 FTE appointments during the summer session(s) receive an award covering tuition.

Students with TA/RA .25–.49 FTE appointments (i.e., 10–19 hours per week), who are appointed within the first 8 weeks of a semester during the academic year, receive an award covering 100% of the nonresident portion of tuition and an award covering 50% of the remaining tuition for the semester. Students with TA/RA .25–.49 FTE appointments during the summer session(s) receive an award covering 100% of the nonresident portion of tuition and an award covering 50% of the remaining tuition.

The university provides an award covering the premium for individual health insurance for teaching and research assistants/associates who meet the minimum eligibility requirements during the duration of their appointment (coverage periods are August 16–January 15 and January 16–August 15). These are:

- appointment at 50% time (20 hours per week)
- hired as a TA or RA no later than the end of the eighth week of classes of the semester.

**There are *four* ways a student can fulfill the English language requirement. Any of the following will fulfill the language requirement.**

There are three possible outcomes:

- **Fully certified** – The graduate student may be given full teaching responsibilities
- **Certified with qualifications** – Depending on a department’s internal guidelines, the graduate student may possibly be able to teach lab classes, tutor, teach online classes where speaking is not required and/or be a grader.
- **Not certified** – students not attaining the scores presented below, may not be given any type of teaching responsibilities.



1. **SPEAK test** - The SPEAK Test is administered on the ASU Tempe campus by Global Launch multiple times a year. Only SPEAK scores from Global Launch are allowed.

Scores: full certification = 55+ certified with qualifications = 50

2. **IELTS test** – Speaking section score only

Scores: full certification = 8 certified with qualifications = 7.5

3. **TOEFL iBT** – Speaking section score only

Scores: full certification = 26 certified with qualifications = 24

4. Complete the ITA Teacher Training Course with a score of ‘certified’

**(Please note that the scores referred to above are only valid for two years.)**

### **I. Satisfactory Progress, Academic Probation, Progress probation, and Withdrawal from the IE Program**

After each semester, the school will conduct an audit to determine if the student is maintaining the required minimum satisfactory progress. This includes progress on academic (GPAs and deficiencies) and probationary issues. Any student who is not in compliance with the satisfactory academic/ progress requirements is notified that she/he is either:

- on academic probation and is given the next nine (9) credit hours or two (2) semesters (fall and spring) to bring the GPA up to the proper level or
- on continued progress probation and is required to meet the conditions outlined in the continued probation letter.

Failure to properly remediate the GPA or the conditions outlined in the letter within the time frame will result in the school recommending that the student be dismissed from the program.

**Note:** Fully admitted students who take optional summer courses are placed on probation after the summer term if the earned grade(s) causes their GPA to fall below the satisfactory progress GPA minimum.

If applicable, the above-noted audit will also review each student’s progress towards removing enrollment deficiency courses and/or any other degree requirement milestone(s). Failure to satisfactorily complete all deficiency course(s) and/or required milestones by the stipulated deadline may result in a recommendation for dismissal to the Graduate College.

Each semester, the Industrial Engineering Program reviews students’ files to ensure satisfactory progress towards completion of the degree. All students are placed in one (1) of the four (4) categories:

- 1) Satisfactory Progress
- 2) Academic Probation
- 3) Progress Probation
- 4) Withdrawal from the IE Program

### **1. Satisfactory Progress**

Student is meeting all program requirements. For thesis students, satisfactory progress includes communicating each semester with the student's committee chair regarding his or her progress.

### **2. Academic Probation**

A student whose grades might affect Program and University policies, including graduation. The following are notices/letters you will receive if one of these pertains to your academics:

- GPA below 3.0 in approved iPOS courses.
- Overall -post-baccalaureate GPA below 3.0.
- Overall graduate (500 level or above) GPA below 3.0.
- The deficiency course grade is below 3.0.

A student will achieve good academic standing by obtaining a semester 3.00 or better in the GPAs listed above by the time the next nine graduate hours are completed. A maximum of two semesters is allowed to complete the nine hours of graduate-level coursework to raise the GPA, whichever comes first. Coursework such as research and thesis registration for Z or Y grades cannot be included in these nine hours. Hence, it is strongly recommended students focus on improving their grades and meeting deficiency requirements. Students who choose to take graduate coursework and not enroll in deficiency courses will be subject to dismissal.

### **3. Progress Probation**

**A student under probation who is not making progress towards a degree.** The following are notices/letters you will receive if one of these pertains to your academics:

- Lack of Progress toward removing deficiencies as listed on your admission letter.
- Lack of Progress toward completing the four Core courses within the first 18 hours of POS courses.
- Failure to pass the culminating event - Portfolio.
- Failure to stay in touch with your Thesis Chair every semester.

### **4. Withdrawal from the IE Program**

A student is recommended for **withdrawal from the IE Program** if she or he fails to meet the probationary standards placed upon in the semester mentioned in the probationary letter. The student will receive a letter from the Industrial Engineering Program explaining the reasons for the withdrawal. The student will have five (**5**) **calendar days** from the date of the letter to appeal the decision. The IE Graduate Program Committee (GPC) will review the case and make the necessary recommendations. The Graduate Program Chair, on behalf of the GPC, will provide a written explanation of the outcome. If the result is favorable, the student must meet all the outlined requirements at the end of the specified period. The student must sign an agreement acknowledging the recommendations and the consequences if the agreements are not met. If the GPC recommends that the appeal is not granted in favor of the student, the Graduate Program Chair, on behalf of the GPC, will recommend to the Dean's Academic Affairs to withdraw the student from the IE Program.

The student appeal packet will be forwarded to the Ira A. Fulton Schools Standards Committee. The committee reviews the student's case and makes the final ruling to Associate Dean and the IE Program. If the appeal is not granted in favor of the student, the Dean's Academic and Student Affairs will recommend that the Graduate College withdraw the student from the IE MS Program. Please refer to the Graduate College catalog on policies and procedures or contact the graduate advisor in the SCAI Advising Center.

### **J. Filing for Graduation**

During the final semester, a student must file an application for graduation with the Graduation Office of the Registrar through My ASU. The student's approved final plan of study (iPOS) must be on file with Graduate College before the student can apply for graduation.

### **K. Academic Integrity**

The highest standards of academic integrity are expected of all graduate students, both in academic coursework and related research activities. The failure of any graduate student to meet these standards may result in serious consequences. This includes suspension or expulsion from the university and/or other sanctions as specified in the academic integrity policies of individual schools as well as those of the university.

Violations of academic integrity include but are not limited to cheating, fabrication, tampering, plagiarism, or aiding or facilitating such activities. Students are expected to be familiar with these issues at the graduate level. Each student is expected to take personal responsibility for their work. In addition, graduate students are expected to follow university guidelines related to the Student Code of Conduct. University policies related to academic integrity and code of conduct are available in the Office of the University Provost, or at <https://provost.asu.edu/academic-integrity>. Students also should be aware of Ira A. Fulton Schools resources related to academic integrity: <https://engineering.asu.edu/integrity/>.

Unless explicitly allowed by your instructor, the use of generative AI tools to complete any portion of a course assignment or exam will be considered academic dishonesty and a violation of the [ASU Academic Integrity Policy](#). Students confirmed to be engaging in non-allowable use of generative AI will be sanctioned according to the academic integrity policy and FSE sanctioning guidelines.

### **L. IEE 584 - Internship**

Curricular Practical Training (CPT) is an academic experience usually obtained at off-campus work settings, allowing the student to apply knowledge and skills gained in various classes. It is intended as a unique, hands-on learning experience to provide students with several valuable skills that they can use upon graduation from their graduate degree programs. Accordingly, it is not available to full-time or part-time workers regularly employed by the company where the internship is proposed.

The CPT is available to both domestic and international students. International students are required to work with the International Students and Scholars Center (ISSC) and submit additional documentation to obtain work authorization. Furthermore, students are strongly encouraged to include a maximum of three one-credit hours of CPT course IEE 584 (1

credit hour) as an integral part of their Program of Study. This is reflected by their approved iPOS. These credits are not part of the 30 mandatory credits. Addition of the CPT course(s) should be done at the initial submission of the student's iPOS. The Internship course cannot be added to an approved iPOS once all coursework has been completed. Exceptions may be made if the internship is relevant to thesis research. The Graduate Program Chair will determine the need for a CPT internship in such cases in consultation with the Graduate Academic Advisor. Note that approval of an iPOS with the IEE 584 course confirms that the internship is an integral part of the degree requirements as planned by the student. Internship credit hours can be removed from the iPOS if not used during graduation. Note: Only internship courses can be removed from the iPOS. Courses that are approved as part of the overall degree program in the iPOS can only be substituted with another approved course.

To be eligible for an internship, a student must be in good academic standing (cumulative, graduate and iPOS GPA of 3.00 or above) for two (2) full semesters (summer semesters not included). International students need to be aware of immigration policies and regulations, which may jeopardize their academic status. Hence, it is strongly recommended for international students to consult with the International Students and Scholars Center (ISSC).

### **Who Can Participate**

All students (domestic and international) can participate in an out of state or an in-state internship. The internships can be full time or part-time in the **summer sessions** if ALL of their GPA's (graduate, iPOS and CUM GPA) are at least a **2.5**.

Students with all GPAs between 3.0-3.24 may participate in an in-state internship, part-time only in the **fall and spring semesters**. **Campus presence is required**.

Students with all GPA's 3.25 or higher may participate in an out-of-state or in-state internship, part-time or full-time in the **fall and spring semesters**. **Campus presence is required**.

**Full-time CPT is 21 hours more. Part-time CPT is 20 hours or less.**

**For students doing CPT in their last semester, the end date is the last day of finals (Fall/Spring) or last day of class (Summer).**

Required documents and forms for the internship proposal must be submitted Online at least four weeks before the beginning of the semester in which the internship is planned. Students will not be able to request late-add registration of the IEE 584 Internship credit to their class schedule after the drop/add deadline of each semester. Students will be asked to enroll in the next session within the term.

An approved proposal is required before commencing the internship. The request will include a statement from the employer that indicates they understand that the work is to satisfy a degree requirement. A sample letter and other required forms are available on the

[SCAI CPT website](#). Students must receive approval from their faculty advisor and the Graduate Program Chair before registering for IEE 584. In order to register for the IEE 584 – Internship, a student must have a cumulative, graduate, and iPOS GPA of 3.00 or above. A final Plan of Study must be filed with the Graduate College showing the Internship course before registering for IEE 584. All application materials for an internship must be completed by the last day of regular registration for any semester. The student must take classes that appear on the Plan of Study for the semester following the internship.

International students need to be aware of immigration policies and regulations, which may jeopardize their academic status. Hence, it is strongly recommended for international students to consult with the International Students and Scholars Center (ISSC).

All students (domestic and international) may take part in an Out-Of-State internship in the summer semester. The eligibility requirements for CPT internships remain the same as mentioned.

During the regular fall and spring semesters, international graduate students in F-1 status must register for a minimum of nine (9) credit hours to maintain full-time status and be enrolled in a minimum six (6) credit hours of in-person, on-campus coursework at the ASU Tempe campus. A maximum of three (3) credit hours of online course is permitted. The IEE 580 Practicum course will not count as satisfying the 'student's "physical presence" at ASU. Students cannot take part in internships outside the Phoenix metropolitan area. In some cases, students may be approved to intern in Tucson or other nearby locations in Phoenix, as long as the student can prove they can physically attend their courses on campus.

**Renegé: (verb) to fail to carry out a promise or commitment**

It is unethical for students to continue to seek or consider other employment opportunities once an offer has been accepted. SCAI expects students to honor an acceptance and withdraw from all employment seeking activities. Students who accept an offer from an organization and later renege/decline the offer will be prohibited from further requesting future CPT pending a meeting with the Assistant Director.

**A five-page [final report](#) is required** at the end of the internship before a grade and credit is given. The final report must be submitted to the reporting supervisor for comments and then to the Program Chair for grade assignment. Refer to the [SCAI website](#) for guidelines to prepare the final report.

**M. IEE 590 Reading and Conference**

IEE 590 Reading and Conference (Independent Study) is available for MS students. The student cannot combine IEE 590, 584, and 581 as part of the Plan of Study. The student must get written approval from the supervising faculty outlining the content coverage. The Independent Study form must be approved by the Graduate Program Chair, which will be placed in the student's file.

## **N. Student Chapters of Professional Societies and Engineering Student Organizations**

Our graduate students are involved in many professional societies. Most branches of Industrial Engineering have professional societies associated with them. Participation in professional societies is an excellent road to career and interest group connections. Student membership typically costs less than \$30. There are many benefits to having a membership including a monthly magazine. Professors will be happy to sign a membership form that will entitle a student to reduced rates. The professional society for all areas of Industrial Engineering is the Institute of Industrial Engineers (IIE). The ASU student chapter of IIE was the first student chapter formed in the Industrial Engineering Program and has a long history including many chapter awards. In 1999, a new student chapter of INFORMS, an operations research and management science professional society, was formed at ASU.

There are dozens of engineering student organizations and teams ranging from honors and professional associations to groups creating underwater robots, concrete canoes, and launching rockets. Student organizations are excellent opportunities to learn about career possibilities as many student groups operate in conjunction with industry professional societies get involved today! Please visit <http://studentorgs.engineering.asu.edu/> for a list of engineering student organizations.

## **O. Studying Suggestions**

As a graduate student, you are expected to keep up with your coursework. If any assignment appears unclear to you, please contact your instructor immediately. A suggestion for hours dedicated to a class as homework are as follows:

- 8-10 hours per week for each 3 hour course credit for a 15 week course
- 18 hours per week for each 3 hour course credit for a 7.5 week course

## **P. Instructional Concerns and Course-Related Complaints**

Being part of a large university creates opportunities to learn from a diverse instructor population, each with different teaching styles and modalities for delivering course content. Courses are offered by a diverse set of faculty. Our faculty includes those who are research-intensive, those whose primary responsibility is teaching, and part-time faculty who are working in the field. Based on enrollment or modality of offering, faculty may also be supported by graduate student teaching assistants and graders. This diverse higher education delivery platform may differ significantly from the high school experience, and while it provides an opportunity to expand the student's ability to learn and develop problem-solving skills, concerns and conflicts with requirements and instructors may occasionally arise.

SCAI students with instructional concerns should review and adhere to the following guidelines to attempt to resolve their issues. Faculty and advising staff are experienced, dedicated educators. They are here to help you achieve your educational goals. They also have a responsibility to ensure standards are maintained and student outcomes are achieved before graduation. The university culture recognizes the value of diversity in multiple dimensions as well as the presumption of expertise and academic freedom of the faculty.

### **1. Addressing Concerns with your Instructor**

Should any concerns arise in class, please visit your instructor or TA/GSA during their office hours. Instructors and TA/GSAs are also available through email. They are here to help! Remember the student code of conduct when speaking with faculty.

If you still have problems in the course after communicating with your instructor, TA or GSA, connect with your academic advisor to understand your options moving forward.

### **2. Connect with your Program Chair**

If you are unable to resolve the concern after initial contact with the instructor GSA or TA, and you have met with your academic advisor, you should then connect with the program chair for your degree (or the department offering the course). The program chair will confer with the instructor and/or GSA/TA to better understand the concern and try to resolve the problem. Please note that before meeting with the program chair, you should have made a reasonable effort to meet with the course instructor (not just the support GSA or TA) and get the issue resolved. When contacting the program chair, provide all the relevant details such as the course syllabus, assignment handout, email exchange with the instructor, etc., so that the program chair can promptly act on your concerns. Please be brief and precise in the description of your concerns. In some cases, the graduate program chair would like to meet you. When coming for the meeting, bring along all the relevant documents.

If the instructional concern is not resolved with the program chair or the department offering the course, contact the Associate Dean of Academic Affairs Office for the college offering the course for assistance through the grade grievance process <https://engineering.asu.edu/grade-grievance/>.

### **3. Remain Focused**

When faced with instructional concerns, it is important to remain focused on the rest of the course while addressing specific areas that are under review. Be sure to stay connected with your academic advisor if there are any changes in your situation.

NOTE:

- Misrepresentation of facts or disrespectful behavior when confronting your instructor or teaching assistant is considered an academic integrity violation.
- Maintain all documentation.
- Act proactively and promptly.

### **4. In Summary, Guidelines for Avoiding Problems**

- Be sure you have the necessary prerequisite knowledge before starting a course;
- Attend class and online exercises regularly;
- Devote time each week to studying to avoid getting behind;
- Contact the TA (if assigned) or instructor during office hours at first sign of trouble and come prepared to ask precise questions and to explain your difficulty
- Accept the fact that you grow intellectually and professionally by being challenged and learning to deal with diverse expectations and environments.

**5. Process for Resolving Conflicts in Grading, Course Expectations, etc.**

- Contact the TA or GSA (if available) or instructor to explain your concern and seek resolution;
- If the TA/instructor has attempted to assist you, but you are still having an academic difficulty that is causing personal stress or hindering your academic success, see your Academic Advisor;
- If the TA/instructor is not responsive or does not provide a legitimate response/accommodation, then contact your Program Chair.
- If you still feel a legal, ethical or procedural violation is victimizing you, contact the Office of the Associate Dean of Engineering for Academic Affairs.
- Circumventing this process will be considered a violation of professional ethics and protocol.