



# **Graduate Student Handbook**

**2024-2025**



THE UNIVERSITY OF ARIZONA  
COLLEGE OF ENGINEERING

**Systems & Industrial  
Engineering**

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# 1. Introduction

Welcome to the Software Engineering program within the Department of Systems and Industrial Engineering (SIE) at the University of the Arizona! Founded in 1961 as the nation's first systems engineering academic program, the SIE department is committed to providing a welcoming learning and research environment and a comprehensive graduate curriculum leading to Master of Science (MS) and Doctor of Philosophy (PhD) degrees. The department offers four MS degrees: Software Engineering, Systems Engineering, Industrial Engineering, and Engineering Management. At the doctoral level, the department offers a research-intensive PhD in Software Engineering and one in Systems and Industrial Engineering.

The **purpose** of this handbook is to serve as a guide for current graduate students on requirements for completing SFWE graduate programs. Additional information is also provided for prospective students to help them to assess opportunities for graduate studies in SFWE.

## 1.1. SFWE Graduate Studies Administration

The following are key contacts of individuals who will support students in their SFWE graduate studies.

### **Graduate Program Coordinator**

The Graduate Program Coordinator provides administrative and operational support for SFWE Graduate programs, in addition to advising and assisting students with general procedures related to obtaining a SFWE graduate degree.

### **Director of Graduate Studies**

The Director of Graduate studies, also the chair of the SFWE Graduate Studies Committee, appointed by the Department Head, oversees graduate programs in SFWE. The duties of the Director of Graduate Studies include the following, but are not limited to:

- Provide support and necessary resources to ensure professional well-being and success of SFWE graduate students from admission through graduation.
- Lead recruitment, admission, and assessment processes for SFWE graduate programs.
- Manage day-to-day operations of SFWE graduate programs including review and oversight of plans of study, transfer credits, and other graduate student petitions.

The SFWE Graduate Studies Committee, comprised of the Director of Graduate Studies and faculty members appointed by the SIE Department Head, provides overall leadership in administering SFWE graduate programs, in collaboration with the Graduate College at the university-level: [grad.arizona.edu](https://grad.arizona.edu).

### **Faculty Advisor**

PhD students and MS students interested in pursuing research are required to identify a research advisor before the end of their first year in the program. Students are encouraged to identify and contact faculty members in their area of interest. At the beginning of each term there will be a Zoom presentation, where faculty will provide a short bio and information on their research. Afterwards, students would need to contact the faculty in the research area of their interest to see if they are a good match. A list of current

SFWE faculty, their research areas, and contact information can be found here: [SFWE Faculty](#)

Once the student and a faculty member agree to work together on research, the student should inform the Graduate Program Coordinator of this change.

**SFWE Graduate Studies Contact Information**

Ricardo Valerdi, Director of SIE Graduate Studies	1127, E. James E. Rogers Way, Room 111
Liza Soto, Graduate Program Coordinator	The University of Arizona
E-mail: <a href="mailto:sfwe-grad@engr.arizona.edu">sfwe-grad@engr.arizona.edu</a>	Tucson, AZ – 85721-0020

## 2. Master of Science Degrees

The MS in Software Engineering is centered around discovery-based education and experiential learning. Students complete design projects and research that emphasize not only development of software engineering solutions, but also, they build experience in communications, teamwork, critical thinking and professionalism.

### 2.1. MS Degree Requirements

The following general degree requirements apply to the SFWE Master of Science.

- Students must earn at least 30 units of graduate credit (courses numbered 5xx, 6xx, 9xx). Credit for SFWE 695A, SFWE 900, and SFWE 920 may not be counted toward the MS degree. No course may be counted toward the requirements for more than two degrees (earned at any institution). For example, an SFWE 5xx course can be counted toward the MS in Software Engineering as well as PhD in SFWE, but it cannot be counted toward a third degree (e.g., MS in another program).
- All MS students must choose one of the options described below.

MS Degree Options		
Option	Requirements	Min. Units
Thesis Option	24 units of graduate coursework 6 units of SFWE 910 (Thesis)	30
Coursework Option	30 units of graduate coursework	30

Required Courses for Software Engineering		(12-13 units)
Course Name		Typical Term
SFWE 507 Foundations of Software Engineering		Spring
Additional Core – Select 3 Courses from:		
SFWE 502 (4) – SW DevSecOps		Spring
SFWE 503 (3) – SW Project Management		Fall
SFWE 504 (3) – SW Req., Analysis & Test		Fall
SFWE 505 (3) – SW Architecture & Design		Spring
SFWE 506 (3) – Distributed Computing		TBD
Technical Computing Electives (choose one)		
• Thesis (12 units + 6 units of SFWE 910)		
• Non-Thesis (18 units)		

- Approved Electives for Software Engineering

## Approved Technical Computing Graduate Electives ()

*\*Listed semesters offered are when they are typically offered but subject to change\**

Any SFWE core courses not used to meet the 12-units of *Core* coursework requirement can also be used as technical electives

- SFWE 501 (3) – SW Assurance (*Spring*)
- SFWE 508 (3) –Data Mining (NEW)
- SFWE 509 (3) – Cloud Computing Principles and Practices (NEW)
- SFWE 510 (3) – Cloud Native Software Engineering (NEW)
- SFWE 511 (3) – Software for Industrial Control Systems (NEW)
- SFWE 512 (3) –Robotics (NEW)
- SFWE 513 (3) – Software Engineering Research Methods (NEW)
- CSE 501 (3) – Operating System Design
- ECE 503 (3) – Probability and Random Processes for Engineering Applications (*Fall*)
- ECE 509 (3) – Cybersecurity Concept, Theory, Practice (*Fall*)
- ECE 513 (3) – Web Development and the IoT (*Fall*)
- ECE 523 (3) – Engineering Applications of Machine Learning and Data

Analytics (*Spring*)

- ECE 562 (3) – Computer Architecture and Design (*Spring*)
- ECE 576A (3) – Engineering of Computer Based Systems (*Fall*)
- ECE 576B (3) – Embedded System Design and Optimization (*Spring*)
- ECE 579 (3) – Principles of Artificial Intelligence (*Spring*)
- SIE 533 (3) – Fundamentals of Data Science for Engineers (*Spring*)
- SIE 558 (3) – Model Based Systems Engineering (*Spring*)
- SIE 577 (3) – Introduction to Biomedical Informatics (*Fall, Spring*)
- *Other courses may be added at the discretion of the faculty advisor and GSC, or as additional new SFWE courses not listed in section are developed.*

## 2.2. MS Plan of Study

The Plan of Study is the student's contract with the university regarding specific course requirements that the student must satisfy before becoming eligible for the MS degree. Students should consult with their advisor, Graduate Program Coordinator, and/or the Director of Graduate Studies to identify courses to include in the plan of the study. Students are encouraged to submit a completed plan of study through GradPath before the end of the first year in the program.

**Performance Requirements:** A cumulative GPA of 3.0 or higher must be maintained on all coursework taken for graduate credit. A grade of C or higher is required for a course to be used to satisfy the degree requirements (A or B for transfer credits).

## 2.3. MS Report vs Thesis Option

**MS Thesis Option:** Thesis work is designed for students who wish to work with a faculty member on a specific research topic. The thesis is prepared under the guidance of the faculty advisor and is reviewed by an examining committee prior to an oral presentation. As a part of graduation requirements, the thesis must be submitted to the Graduate College for formatting review and publishing in the campus repository. Students wishing to pursue a Doctoral degree are encouraged to choose the thesis option.

**MS Committee for Thesis Option:** Students who pursue the MS thesis option are required to have a committee of at least three faculty members, including the faculty advisor who will serve as the chair of the committee. At least two members must be current Graduate Faculty (i.e., tenured, tenure-track, or approved tenure-equivalent faculty member). If the third member is not a Graduate Faculty, they must be approved by the Graduate College as a special member.

- Once the committee is formed, the student should submit a *Committee Appointment form* through GradPath.
- A complete draft of the MS Thesis should be shared with all committee members at least two weeks prior to the anticipated defense date.
- **How to identify committee members?** The committee for the MS thesis option will ideally include faculty in the student's area of interest. The faculty advisor may have suggestions on potential committee members.

## 2.4. Accelerated MS Programs

The SFWE Accelerated Master's Program (AMP) is designed to allow exceptional undergraduate seniors at the University of Arizona to work concurrently toward an MS degree. Up to 12 units of approved graduate coursework taken in their undergraduate career may count towards both BS and MS degrees, allowing students to earn their MS degree quicker.

**When can undergraduate students apply to the AMP program?** Students interested in the program may apply after completion of a minimum of 75 eligible undergraduate credits. The minimum GPA of 3.3 is required at the time of application as per the Graduate College.

### AMP Admission Requirements

- Cumulative GPA at the time of admission is 3.3
- A minimum of 90 undergraduate credit hours is required at the time of **entry** into the AMP
- Completion of at least 12 earned undergraduate credits in the SFWE major at the University of Arizona (SFEBSFE). Units still graded Incomplete, units graded Pass/Fail or units taken as audit will **not** count toward the requirement of the 12 undergraduate units
- Additional application materials: One letter of recommendation and a statement of purpose. GRE is not required for AMP admission.

### Academic Policies related to the AMP

- Once students are admitted to the AMP, they are strongly encouraged to see the SFWE Graduate Program Coordinator and the SFWE Undergraduate Advisor to discuss their plan of study. Students pursuing MS thesis or report plan must select a faculty advisor and submit a preliminary thesis/report proposal and plan of study before the end of the first semester after being admitted to the AMP.
- AMP academic policies and tuition policies are defined by the Graduate College and are described in the General Catalog at <https://catalog.arizona.edu/policy/accelerated-masters-program-amp#policies>.

## 3. SFWE Doctor of Philosophy

The Software Engineering Doctor of Philosophy Program (PhD) is designed for individuals wishing to pursue advanced research and scholarly work.

### 3.1. Doctoral Coursework and Plan of Study

The Plan of Study is the student's contract with the university regarding specific course requirements that the student must satisfy before becoming eligible for the PhD degree. This includes a minimum of 48 units of non-dissertation course work (of which 12 units will be applied to the minor), plus at least 18 units of dissertation research and two units of Graduate Colloquium.

SFWE Doctoral Plan of Study (62 units)		
Coursework (42 units)		Min. Units
Required Core Courses	SFWE 507 Foundations of Software Engineering SFWE 513 Software Engineering Research Methods Select <b>Three</b> core courses from: <ul style="list-style-type: none"><li>• SFWE 502 Software DevSecOps</li><li>• SFWE 503 Software Project Management</li><li>• SFWE 504 Software Requirements Analysis &amp; Test</li><li>• SFWE 505 Software Architecture &amp; Design</li></ul>	15 units
Elective Courses	<ul style="list-style-type: none"><li>• 15 units of coursework from the approved list of electives</li></ul>	15 units
Minor Courses	<ul style="list-style-type: none"><li>• All minor coursework (12 units) can come from a single discipline or split between two disciplines (6 units from each discipline).</li></ul>	12 units
Colloquium & Dissertation Research (20 units)		
Colloquium	SFWE 695A Colloquium: Minimum 2 units required	2 units



Dissertation Research	SFWE 920 Dissertation: Minimum 18 units required	18 units
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**Performance Requirements:** A cumulative GPA of 3.0 or higher must be maintained on all coursework taken for graduate credit. A grade of C or higher is required for a course to be used to satisfy the degree requirements (A or B for transfer credits). Doctoral students are also required to actively participate in and contribute to research activities with mentorship from their faculty advisor.

**Can graduate coursework from a master's degree be applied toward the PhD degree?** With approval from the student's faculty advisor, graduate coursework applied toward a master's degree may be applied toward the PhD. Non-coursework credits (e.g., thesis or research credits) from a master's degree cannot be applied toward the PhD degree. Transfer credits are subject to the following restrictions:

- A maximum of **30 units** of relevant coursework from another graduate degree may be transferred and applied toward the PhD requirements.
- The credits must first be reviewed and approved by the student's faculty advisor.
- The minimum grade for transferred credits must be an A, B, or the equivalent at the institution where courses were taken.

**Participation in SFWE Graduate Seminar/Colloquium:** Students must take at least two units of SFWE 695A Graduate Seminar. This class will be graded as Pass/Fail. To fulfill this requirement, students must attend the department seminars during each semester where they are enrolled in SFWE 695A. **Prior to completing the seminar requirement, the student must also give a research presentation to the class.** After completing the seminar requirement, students are highly encouraged to continue attending graduate seminars of interest to their research area.

**Are independent study credits (e.g., SFWE 699) applicable to PhD coursework?** Three units of independent investigation may be included in the plan of study, provided the independent study covers a topic not available through regular courses and a detailed course plan is submitted to and approved by the Graduate Studies Committee

**Are SFWE 900 credits applicable to PhD coursework or dissertation research?** SFWE 900 research credits may not be counted toward the PhD Degree.

**Minimum registration requirement for funded students:** Students funded by the SIE Department are required to be enrolled in at least nine graduate units per semester to maintain their appointment.

Overview of PhD Milestones and Recommended Timeline*	
Year 1	<ul style="list-style-type: none"> <li>• Complete core SFWE courses</li> <li>• Identify your research and professional interests.</li> <li>• Get acquainted with peers in your cohort as well as faculty/staff in the department</li> <li>• Identify a faculty advisor by the end of the second semester</li> <li>• Register and prepare for the Doctoral Qualifying Exam (DQE) during summer</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Take the DQE at the start of the second year</li> <li>• Develop and submit a Doctoral Plan of Study</li> <li>• Continue taking elective coursework and begin minor coursework</li> <li>• Develop a research plan with mentorship from your faculty advisor</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• Refine and implement your research plan</li> <li>• Begin developing a dissertation research proposal</li> <li>• Complete any remaining coursework</li> </ul>
Years 4 – 5 or later	<ul style="list-style-type: none"> <li>• Continue refining and implementing your research plan</li> <li>• Complete written comprehensive exam &amp; then schedule oral comprehensive exam</li> <li>• Begin identifying career opportunities**</li> <li>• Begin disseminating your research ideas and findings**</li> </ul> <p><i>Final Semester</i></p> <ul style="list-style-type: none"> <li>• Complete doctoral research, including writing the dissertation</li> <li>• Schedule a final oral defense when the research is complete, and the written dissertation is ready for sharing with committee members</li> <li>• Defend your dissertation and submit an approved, electronic copy of the dissertation to the Graduate College</li> <li>• Complete the exit survey</li> </ul>

### 3.2. Doctoral Minor

**For SFWE PhD Students:** Doctoral students in SFWE are required to choose a minor and minor advisor outside of SFWE and complete 12 units of graduate coursework in the minor department/program. Common minor programs for SFWE students are systems & industrial engineering, computer science, information science, statistics, and other engineering programs (e.g., biomedical, computer, or mechanical engineering). Students can also choose to do a split minor between two programs (6 units in each minor program) or a multidisciplinary minor. The minor advisor typically serves on the student's comprehensive exam committee. Their participation in the final dissertation committee is at the discretion of the student's major advisor.

**For non-SFWE PhD Students:** Doctoral students in any department/program outside of SFWE may choose to minor in SFWE. Students intending to minor in SFWE should first identify a SFWE faculty as their minor advisor.

The PhD minor in SFWE consists of 12 units of graduate coursework.

- 6 units from Core Area Courses
  - SFWE 507 – Foundations of Software Engineering
  - SFWE 502 – Software DevSecOps

- SFWE 503 – Software Project Management
- SFWE 504 – Software Requirements Analysis & Testing
- SFWE 505 – Software Architecture & Design
- SFWE 506 – Distributed Computing
- 6 units from SFWE-approved electives
  - SFWE 501 – Software Assurance
  - SFWE 508 – Data Mining
  - SFWE 509 – Cloud Computing Principles and Practices
  - SFWE 510 – Cloud Native Software Engineering
  - SFWE 511 – Software for Industrial Control Systems
  - SFWE 512 – Robotics
  - SFWE 513 – Software Engineering Research Methods

A minor that is split between SFWE and another academic department/program requires 6 units of graduate coursework from the SFWE core area courses and 6 units of coursework in the other program. Participation of the SFWE minor advisor in written and oral comprehensive exam and final defense is at discretion of the minor and major advisors.

### 3.3. Doctoral Qualifying Exam (QE)

**Purpose:** The Doctoral Qualifying Examination (QE) aims to evaluate the prerequisite knowledge required to undertake research in the student's area of interest in Software Engineering, leading to successful completion of the Ph.D.

The QE is required to be taken by the student prior to the end of their third semester, and will be administered by a Qualifying Exam Committee (QEC) comprising of at least three and not more than five members of College of Engineering faculty. The QEC will be chaired by the student's Faculty Advisor, who will work with the student in identifying the rest of the QEC. The content of the QE will be based on graduate level courses in software engineering and related disciplines based on each individual student's plan of study.

The content of each doctoral student's QEC will be submitted by their advisor for approval by the Director of SFWE Graduate Studies Committee one month prior to scheduling the exam. Once the QEC is approved, the student should schedule this QE at a suitable time for the Committee with the assistance of the Graduate Program Coordinator. The student is allowed to request meetings with the QEC members in advance to discuss the scope of the exam, and the appropriate review topics.

The QE will be a closed session (not open to public) exam administered by the QEC through a combination of oral/written questions on topics priorly identified to the student. The exam is required to be at least forty-five minutes in duration and cannot last more than three hours.

**Evaluation:** At the end of the exam, the committee will vote if the student passed or failed in a secret ballot administered by the chair of the QEC. The majority of the QEC voting a fail vote will result in failure in the exam, wherein abstaining to vote equates to a Negative vote. The results of the exam will be provided by the QEC chair to the SFWE Graduate Studies Committee.

Students failing the QE the first time are allowed a second and last attempt in the following semester. The QEC for the second attempt can request access to the results of the first QE and is required to have at least one member from the first QEC. can retake the exam for the second time.

Failure to pass the QE on the second attempt will result in the removal of the student from the SFWE PhD program.

### **3.4. Doctoral Comprehensive Exam**

**Purpose:** The purpose of the comprehensive examination is to determine whether the student has developed sufficient background and expertise for research in the field of their planned dissertation. Successful completion of the examination leads to formal admission to PhD candidacy.

**Format:** This exam includes written and oral portions covering the major and minor areas of the student. Shortly after successful completion of the written portion, an oral exam is conducted by a committee appointed by the Dean of the Graduate College in consultation with the department.

- **Written Comprehensive Exam:** The student will send a summary of the dissertation proposal to the committee when they are ready for taking the comprehensive exam. Each committee member will then develop a set of questions related to the student's area of specialization and, when appropriate, on any aspect of the student's proposed dissertation. The nature and type of questions as well as the timeline for the student to respond to the questions (e.g., few weeks to a month) are up to each committee member.

- **Oral Comprehensive Exam:** After completing all written portions, the student can schedule an oral exam with the committee. The oral exam typically includes a presentation based on the proposed dissertation research.

**Timing:** The comprehensive exam is typically taken at least a semester to a year before the final dissertation defense. It is recommended that the comprehensive exam is taken at least nine months before the final defense.

**Evaluation:** Students are evaluated on their ability to formulate and analyze research problems using theory and methods from their major and minor areas of specialization as well as their written and oral communication.

- For the written comprehensive exam, each committee member will assess the outcome as pass or fail. A committee member may ask for clarifications or revisions to the written exam once. Satisfactory response to *all* questions from each committee member constitutes a pass in the written exam.
- For oral comprehensive exam, each committee member will assess three areas (extent of pertinent literature review and analyses; depth and originality of research problem and methods; communication) on a scale of 1 to 5. A score of 3 or above on all three areas from all committee members is considered as pass. When the student passes the oral comprehensive exam, they are recommended to the Graduate College for acceptance as a PhD candidate. At the discretion of the committee, the student may repeat the oral comprehensive exam once within four months, incorporating specific recommendations from committee members.

**Comprehensive Exam Committee:** The committee must consist of a minimum of four members, of which one member must be a minor representative. Three members, including their major and minor advisors, must be current tenured, or tenure track faculty members or approved tenure equivalent. The fourth member may be an approved special member. The minor faculty advisor may choose to waive the written portion of the exam but is required to participate in the oral comprehensive exam.

### 3.5. Doctoral Final Exam: Written Dissertation and Final Oral Defense Exam

**Purpose:** The purpose the doctoral final exam is to assess the merit and contributions of the candidate's doctoral research. This doctoral final exam is a culmination of the candidate's original research conducted during their PhD program.

**Format:** There are two components to the doctoral final exam: a written dissertation and a final oral defense of their dissertation.

- **Written Dissertation:** The candidate should develop a written document that demonstrates all aspects of their research including significance of the work, a detailed review of relevant literature, methodologies employed and/or developed, significant findings from the work, a critical discussion of the findings, limitations, and the impact, and potential for future research. The specific format of written dissertation is defined by the faculty advisor. General formatting guidelines are provided by

the Graduate College: <https://grad.arizona.edu/gsas/dissertations-theses/dissertation-and-thesis-formatting-guides>

- **Final Oral Defense:** When the doctoral candidate has met the rigor and standards of scholarship and has documented the research in a dissertation, the candidate will publicly defend the dissertation and answer any general questions related to their work. The exact time and place of the oral defense must be announced publicly at least two weeks in advance of the oral defense. The oral defense is facilitated by a faculty committee appointed by the Dean of the Graduate College in consultation with the major department and chaired by the faculty advisor. The presentation portion of the oral defense is open to the public. Following the public presentation and discussion, the candidate will participate in a closed meeting with the committee for further evaluation.

**Timing:** The oral defense can be scheduled when both the candidate and faculty advisor agree that the proposed dissertation research is complete, rigorous, and of high quality. The written dissertation should be complete at the time of scheduling the oral defense. An electronic version of the dissertation should be shared with all committee members at least two weeks prior to the oral defense date. Additionally, an *Announcement of Oral Examination Form* should be completed and submitted via GradPath at least two weeks (i.e., 10 business days) prior to the oral defense date.

**Evaluation:** The dissertation committee will assess the originality, merit, and contributions of the candidate's research. This includes their ability to (a) identify and critically evaluate relevant literature, (b) formulate and solve original problems using SFWE methods, and (c) interpret and communicate research ideas and findings. Further guidelines for the oral defense are provided by the Graduate College: <https://arizona.app.box.com/v/grad-gsas-finaldefnsinstr>

**Dissertation Committee:** The committee must consist of a minimum of three faculty members, all of whom must be current University of Arizona faculty members that are either tenured, tenure-track, or approved as tenure equivalent. Fourth and any additional committee members can be tenured or tenure-track or approved special members. All dissertation committee members are expected to attend the entire final defense.

## 4. Resources and Academic Policies for SIE Graduate Students

### 4.1. Grievance Procedures

A graduate student with any type of grievance should first communicate with their faculty advisor or Director of SFWE Graduate Studies, depending on who is more appropriate from the student's view. Should the issue not be properly addressed by either faculty members, the student may bring the matter to the attention of the Graduate Program Coordinator and the SIE Department head.

- When issues cannot be resolved at the department-level, the student is encouraged to review the Graduate College grievance policy; <https://grad.arizona.edu/policies/academic-policies/grievance-policy>
- Summary of Grievance Types and Responsibilities is here: <https://grad.arizona.edu/policies/academic-policies/summary-grievance-types-and-responsible-parties>

- If a student believes they have been subject to discrimination or harassment based on race, religion, color, sex, age, national origin, disability, veteran status, sexual orientation, gender identity or genetic information, they can report such issues to the Office of Institutional Equity: <https://equity.arizona.edu/>

## 4.2. Satisfactory Academic Progress

Graduate students are required to maintain a minimum 3.00 cumulative GPA. Students should consult with both their faculty advisor and Graduate Program Coordinator to discuss issues pertaining to unsatisfactory progress that may result in academic probation: <https://grad.arizona.edu/policies/academic-policies/academic-probation>.

Students who fail to meet the GPA requirement will be placed on academic probation for one semester. Students on academic probation, under the advisement of their faculty advisor, will meet to develop a mentoring plan to raise the cumulative GPA. If after one semester the cumulative GPA has not been raised, the graduate studies committee will decide whether to: (1) academically disqualify the student from the program; or (2) with approval from the Graduate College, allow the student to continue probation upon approval of a justification waiver. The student is expected to continue working with their faculty advisor and Graduate Program Coordinator to improve their academic standing. Students who fail to make satisfactory progress for two consecutive semesters will be dismissed from their program.

## 4.3. Incomplete Grades

Students earning a grade of Incomplete, "I" are encouraged to submit a completed Report of Incomplete form to the Graduate Student Coordinator: <https://registrar.arizona.edu/faculty-staff-resources/grading/grading-policies/incomplete>

- Incomplete grades should be completed in a timely manner and are submitted at the discretion of the course instructor. Per the Graduate College, any incomplete grade must be completed no later than one year from the last day of the term for the course for which the student received the incomplete: <https://catalog.arizona.edu/policy/grades-and-grading-system#incomplete>
- If an additional extension is needed, the student may submit a Graduate Course Extension Petition to be reviewed by the Graduate College prior to the one-year deadline.

## 4.4. Graduate Student Academic Services

The graduate student academic services (GSAS) within the graduate college help students, staff, and faculty advisors keep track of academic progress and the steps needed to complete a graduate degree: <https://grad.arizona.edu/gsas>

Links to Graduate College Resources	
GradPath is the Graduate College's degree audit system that facilitates tracking and monitoring of academic progress. GradPath allows the graduate student, our SFWE program, and Graduate College to see where a student is in their academic journey at a glance.	<a href="https://grad.arizona.edu/gsas/gradpath">https://grad.arizona.edu/gsas/gradpath</a>



Overview of Degree Requirements: In addition to SFWE degree requirements, graduate students must meet requirements of the Graduate College as described in the link on the right.	<a href="https://grad.arizona.edu/gsas/degree-requirements">https://grad.arizona.edu/gsas/degree-requirements</a> .
Important dates and deadlines related to graduate degree	<a href="https://grad.arizona.edu/gsas/degree-requirements/important-degree-dates-and-deadlines">https://grad.arizona.edu/gsas/degree-requirements/important-degree-dates-and-deadlines</a>
Commencement Information	<a href="https://grad.arizona.edu/gsas/commencement">https://grad.arizona.edu/gsas/commencement</a>
Graduate College Forms	<a href="https://grad.arizona.edu/forms/gsas">https://grad.arizona.edu/forms/gsas</a>
The current Degree Counselor for all SFWE graduate programs is Kristi Davenport, <a href="mailto:kdavenport@arizona.edu">kdavenport@arizona.edu</a>	<a href="https://grad.arizona.edu/directories/degree-counselors/">https://grad.arizona.edu/directories/degree-counselors/</a>

## 4.5. Resources for Healthy and Productive Graduate Student Life

The following are curated set of resources\* for healthy, happy, and productive graduate student life at the University of Arizona.

- Professional Development resources including writing resources, teaching workshops and seminars, and resources for expanding language abilities: <https://gradcenter.arizona.edu/resources>
- Graduate Assistant/Associate Benefits including parental leave, family and medical leave, bookstore discount, and health insurance: <https://grad.arizona.edu/funding/ga/benefits-appointment>
- Health and well-being: List of comprehensive services and support for physical, mental, emotional well-being for graduate students: <https://www.arizona.edu/health-wellness-students>
- Child and Elder Care: <https://lifework.arizona.edu/>
- Safety: Link to sign-up for campus emergency alerts - <https://cirt.arizona.edu/ualert>
- **Student Support Groups and Organizations:**
  - Graduate Student Professional Council: <https://gpsc.arizona.edu/>
  - Office of Fellowships and Community Engagement: <https://gradcenter.arizona.edu/gcof/>
  - SIE-specific organizations: <https://sie.engineering.arizona.edu/undergrad-programs/student-clubs>

\*The primary source for all the above information comes from the Graduate College: <https://grad.arizona.edu/new-and-current-students>

## 4.6. Financial Assistance

### Graduate Teaching and Research Assistantships

Financial assistance is available through the SIE Department in limited amounts, in the form of Graduate Teaching Assistantships (GTA) and Graduate Research Assistantships (GRA). Online students are generally not eligible for these assistantships.

- *Teaching Assistantships:* GTAs are allocated on a competitive basis, with priority given to incoming students who exhibit outstanding potential and to continuing students who are making satisfactory progress toward their graduate degree. GTAs are normally provided for a maximum of three semesters for a student in an MS degree program, or for a total of six semesters for a student pursuing a PhD.
- *Research Assistantships:* A limited number of GRAs are available for students who are exceptionally well-prepared to aid faculty research activities. Funding decisions on GRAs rest



directly with those faculty members with grant funding. Interested students should discuss the availability and requirements for GRA funding with their faculty advisor.

*Minimum registration requirement for funded students:* Students funded by the SIE Department are required to be enrolled in at least nine graduate units every semester to maintain their appointment.

### **Tuition Scholarships**

Each semester the SIE Department awards a limited number of tuition scholarships, which provides partial tuition waivers for graduate students. To be eligible, a student must be enrolled for nine or more graduate units and be in good academic standing.

### **Graduate Fellowships**

SFWE graduate students are actively considered for fellowships at the department, college, and University levels, as well as external fellowship opportunities.

- *College Fellowships:* The College of Engineering offers a range of graduate fellowships to highly qualified MS and PhD students. The SFWE Graduate Studies Committee nominates current and incoming graduate students for college fellowships on a regular basis as opportunities arise.
- *University Fellowship Program:* As the flagship initiative of the Graduate College, the University Fellows program is offered to highest-ranked incoming doctoral students. Every year, the SFWE Graduate Studies Committee nominates two incoming doctoral students. More information on this program can be found here: <https://gradcenter.arizona.edu/university-fellows-program>.
- *Funding and Financial Information from the Graduate College:* <https://grad.arizona.edu/funding>

## **5. Information for Prospective Graduate Students**

### **5.1. Graduate Admissions**

For regular admissions, applicants should have a bachelor's degree in software engineering, computer science, or a computing related field. Application for admission is made by applying through GradApp: <https://apply.grad.arizona.edu/users/login>. All applications require academic transcripts, a statement of purpose describing their intent and motivation to pursue a graduate degree in SFWE, three letters of recommendation, and a resume or curriculum vitae. Application deadlines and other admission details are available at <https://sfwe.engineering.arizona.edu/grad-programs/admissions>

## 5.2. Minimum Admission Requirements

Applicants interested in pursuing a SFWE graduate degree must meet the following minimum requirements:

- A minimum 3.0 cumulative GPA in their overall undergraduate degree or in the last 60 units of their undergraduate degree.
- Hold a BS degree from a regionally accredited USA university or equivalent international university recognized by the UArizona.
- Additionally students must have
  - Proficiency in at least 1 programming language
  - OR 1-2 years of industry experience in a software-development position

### Students with BS Degree outside of Software Engineering

Students with BS degrees in disciplines not directly related to Software Engineering may be admitted into the MS or PhD program. However, those students may be required to complete a certain number of undergraduate deficiency courses prior to enrolling in graduate courses for SFWE.

**Is an MS degree required for applying to the SFWE PhD program?** The SFWE doctoral program does not require applicants to have an MS degree to be admitted. Admitted PhD students have the option to earn a SFWE MS degree enroute to their PhD. Students interested in this option should contact the Graduate Program Coordinator during their second year in the program.

For all other questions, please visit <https://sfwe.engineering.arizona.edu/grad-programs/admissions> or e-mail [sfwe-grad@engr.arizona.edu](mailto:sfwe-grad@engr.arizona.edu).

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