

Introduction

Welcome to the Department of Systems and Industrial Engineering (SIE) at the University of 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 undergraduate curriculum leading to bachelor of science degrees in systems engineering, industrial engineering, and integrated business and engineering (shared with Eller College of Management). Our system and industrial engineering programs are accredited by the Engineering Accreditation Commission of ABET <https://www.abet.org/>. The department offers three MS degrees: systems engineering, industrial engineering, and engineering management. At the doctoral level, the department offers a research-intensive PhD in systems and industrial engineering.

The purpose of this handbook is to serve as a guide for current undergraduate students on requirements and policies within our program.

SIE Undergraduate Studies Administration

The following are key contacts of individuals who will support students in their SIE undergraduate studies.

MAJOR ACADEMIC ADVISOR

Email correspondence can be sent to chornett@arizona.edu. Students are responsible for checking their UA email daily for important updates, announcements, deadlines and opportunities. This can be supplemented by joining our SIE Discord and following our SIE Instagram and LinkedIn. During Fall/Spring semesters, newsletters will be sent around the first Monday of each month, and the addition of any other necessary emails in between.

Academic advising is a collaborative relationship between the student and academic advisor. The intent of the collaboration is to assist the student in developing educational and career goals. Academic advisors assist and support the student in progressing toward the appropriate degree. Academic advisors provide academic assistance and individualized attention to promote each student's success at the University of Arizona. An academic advisor can share knowledge, experience and insight that is beneficial to the student. The advisor's role is to help the student evaluate and realize educational and career options. This requires the advisor to:

- Approve the student's academic study plan
- Provide accurate and consistent information
- Clarify program requirements, policies and procedures

- Assist the student in identifying appropriate institutional resources
- Facilitate relationships between the student and other individuals on campus who may provide assistance
- Uphold the academic standards of the institution

A key tenet of academic advising is that the student is responsible for his or her own decisions. Academic advisors exist because students require information and assistance to navigate the university system and to make appropriate decisions. The student's role is to explore academic, career, and personal goals. This requires the student to:

- Seek advising from advisor at appropriate times
- Learn academic program requirements
- Utilize available resources, including those that are web-based, to monitor academic progress
- Be engaged

Students can schedule Zoom or in-person appointments through *Trellis Advise* (under Advising tab in Student Center). The meetings listed here are *required*, but as student needs support, advise or guidance, appointments should be made as needed.

- Once admitted to SIE major to remove advising hold in UAccess
- Semester before enrollment to upper division courses/applying for Advanced Standing
- Semester before ready to graduate to ensure degree audit is requested, steps for applying are completed
- When shopping carts open for enrollment (highly recommended)

DIRECTOR OF BS PROGRAMS

Director, Industrial Engineering: Dr. Hannah Budinoff (hdb@arizona.edu)

Director, Systems Engineering: Dr. Alejandro Salado (alejandrosalado@arizona.edu)

Director, Integrated Business and Engineering: Dr. Michael Kwinn (kwinnm@arizona.edu)

Director of Undergraduate Studies: Dr. Jianqiang Cheng (jqcheng@arizona.edu)

BS Degree Requirements

SIE programs offer unique combinations of technical knowledge, communication skills, teamwork and leadership experience. SIE programs focus on the skills needed in every industry to design and refine complex systems and to prepare individuals for professional work in systems, industrial, and integrated business and engineering.

The following general degree requirement applies to undergraduate programs in systems engineering and industrial engineering (please note, the integrated business and engineering degree is advised under the Eller College of Management:

<https://eller.arizona.edu/programs/undergraduate/academics/ibe> .) It is the student's responsibility to review their Advisement Report in UAccess with their advisor to ensure satisfaction of graduation requirements.

- Students must earn a minimum of 128 units for the degree. Minimum 30 units must be acquired at UA for transfer students.
- The majority of coursework must be taken within the SIE department, unless instructor approval is acquired for an SIE equivalent course.
- Advanced Standing: This indicates that students are ready to enroll into 300-400 level engineering courses by completing lower division courses and meeting GPA requirements. Eligible students must meet with their academic advisor to apply and be approved.
- Engineering Minor and Technical Elective Requirements: In addition to core courses and prerequisites, systems engineering students complete an engineering or technical thematic minor, consisting of 18 unique units. Industrial engineering students do not have a minor requirement but must complete 12 units of technical electives from 300-400 level coursework. The SIE department has prepared the guidelines for required minors and technical electives and multiple-use course policy:
 - [Minor Course Guide for Systems Engineering](#)
 - [Technical Elective Guide for Industrial Engineering](#)

*Please note that students should always check with their advisor as approved courses for minors and technical electives are subject to change

Students will need to declare their minor on the college website:

<https://www.engr.arizona.edu/academic-policies/declare-minor> .

Thematic minors will need form/course approval. Students wishing to pursue a thematic minor should meet with the advisor to review the steps for approval and how the thematic minor will be added to their degree plan. SIE 492 Directed Research or SIE 493 Internship (3 units max) may be potential options in a thematic minor.

Senior Capstone (Senior Design) Requirements (ENGR 498A/B): To be eligible, students must be in senior standing with Advanced Standing, met GPA and prerequisite and corequisite requirements in order to enroll. No exceptions allowed as the pre- and corequisite courses are to ensure preparation and success. Students cannot have any lower division deficiencies or incomplete grades. Students need to work with their academic advisor on their study plan to

ensure they are prepared to meet the prerequisites and co-requisites for this interdisciplinary capstone.

- Systems Engineering majors: prerequisites SIE 370, SIE 454A; corequisites SIE 410A, SIE 330R
- Industrial Engineering majors: prerequisites SIE 370, SIE 383; corequisites SIE 410A, SIE 330R

SIE Undergraduate Degree Options		
Degree	Requirements	Minimum Units
Systems Engineering	✓ Earn C or higher in all 200-level SIE courses ✓ Require completion of lower division courses to be eligible to apply for Advanced Standing ✓ Maintain minimum 2.0 cumulative/major/minor GPA ✓ Engineering minor required, do double-dipping between major and minor courses	128
Industrial Engineering	✓ Earn C or higher in all 200-level SIE courses ✓ Require completion of lower division courses to be eligible to apply for Advanced Standing ✓ Maintain minimum 2.0 cumulative/major GPA ✓ Upper division technical electives (12 units)	128

Accelerated MS programs

The SIE Accelerated Master's Program, (AMP), is designed to allow exceptional undergraduate seniors at the University of Arizona to work concurrently towards an MS degree. Up to 12 units of approved graduate coursework taken in their undergraduate career may count towards both their 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 75 eligible undergraduate credits (typically semester before beginning senior year). The minimum GPA of 3.3 is required at the time of application per the Graduate College.

AMP Admission Requirements:

- Cumulative GPA of 3.3 at time of admission
- A minimum of 90 undergraduate credit hours is required at the time of **entry** into the AMP
- Completion of at least 12 earned undergraduate units in their SIE major at the University of Arizona. Units still graded Incomplete, units graded Pass/Fail or units taken as audit will **not** count toward the requirement of the 12 undergraduate units.
- Students should have taken the following MS prerequisite courses. Courses equivalent to these prerequisites taken in other departments or institutions will be allowed.
 - Systems Engineering:
 - SIE 305 Engineering Probability and Statistics
 - SIE 340 Deterministic Operations Research **or** SIE 321 Probabilistic Models in Operations Research
 - Industrial Engineering:
 - SIE 305 Engineering Probability and Statistics
 - SIE 340 Deterministic Operations Research **or** SIE 321 Probabilistic Models in Operations Research
 - Engineering Management:
 - SIE 305 Engineering Probability and Statistics

Additional application materials include: Three letters of recommendation, a statement of purpose, and a CV/resume. 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 Graduate Program Coordinator and the SIE 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 a plan of study before the end of the first semester after being admitted to the AMP.
- SIE 500-level courses that are convened with 400-level courses and those 400-level courses are required for a BS degree cannot be counted towards an MS degree. For example, if a student is enrolled in the BS in Industrial Engineering (INE), SIE 531 cannot be counted towards the student's MS INE degree as SIE 431 is required for the BS INE degree. Overlap between the BS and MS degrees occurs within the required minor or technical electives and is coordinated with the help of the undergraduate advisor and graduate coordinator in SIE.

AMP academic policies and tuition policies are defined by the Graduate College and are described in the General Catalog at:

<https://grad.arizona.edu/admissions/types/accelerated-masters-programs-amp>

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).

Resources and Academic Policies for SIE Undergraduate Students

Requesting documents from advisor

ROTC study plans, sponsor letters, sponsor study plans, and other documents:

- It is the student's responsibility to give their academic advisor advance notice when requesting creation of a study plan or specific sponsor letter. *A minimum of 5-7 business days (Monday – Friday) turnaround or more is needed*, especially if requested during peak times such as enrollment or prior to a holiday or winter closure. ***Postponing action on the student's end does not constitute an urgent request.***

ENGR 102: Introduction to Engineering

Students who did not begin as a first-year student in the College of Engineering will not be eligible to enroll in this degree requirement. Work with your advisor for an approved course substitution to satisfy your graduation requirement.

Transfer Credit and Articulation

The [Transfer Credit Guide](#) will list courses that have already been evaluated for direct equivalency to UA courses. A [course equivalency request](#) (and syllabus) must be submitted to the appropriate department if the transfer course in question has not been previously accepted or reviewed by the university. If the transfer coursework is an engineering course, the syllabus will have to be sent to the specific engineering department for evaluation. If planning on taking a lower division course within Arizona, then check [AZ Transfer](#) to confirm course equivalency and units prior to enrollment.

SIE 493 Internship

Juniors and seniors who intern with private or public employers outside the university to work on substantially technical projects related to their academic work are eligible for internship credits through SIE 493. A maximum of 3 units of SIE 493 may be applied to 1) technical elective requirements for industrial majors, or 2) minor requirements for systems majors (pending

minor). Please work with and coordinate the approval and application of units towards degree with your academic advisor.

Honors College

Students in the Honors College are only required to complete 23 honors units for engineering students. The College's senior capstone ENGR 498A/B are included as part of the 30 required honors units. SIE has three courses that offer honors sections: SIE 265 (Fall/Spring), SIE 340 (Fall), and SIE 432 (Summer). Honors students should meet with their honors advisor regarding honors-specific requirements.

Grievance Procedures

A student with any type of grievance should first communicate with their instructor, then academic advisor (cc advisor on all email communications). Should the issue not be properly addressed by the instructor, the student may bring to the attention of the SIE department head.

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](#).

International Student Services (ISS) advisor and MyGlobal

[International student advisors](#) are available via Zoom for quick advising or through scheduled appointments. ISS advisors can answer questions related to academic changes, work authorizations, change of status to F-1, full-time enrollment requirements (including online units), leave of absence, travel and reentry, cultural, social, and academic adjustment. The ISS advisors can also answer questions related to immigration, orientation, financial guarantees, letter requests, concurrent enrollment, enrollment verification, and sponsorship requirements.

Links to Undergraduate College Resources	
Four-Year Plans: these are generic/overviews of programs, be sure to utilize/follow the grad plan created for you in our appointments	https://www.engr.arizona.edu/current/4-year-degree
Overview of Degree Requirements: in addition to SIE degree requirements, students must meet university requirements described in the link to the right.	https://catalog.arizona.edu/policy/program-graduation/degrees-programs/undergraduate/graduation-requirements

Dates and Deadlines: it is the student's responsibility to be aware of add/drop/refund, etc., deadlines.	https://registrar.arizona.edu/dates-and-deadlines
Convocation and Commencement Information: please note websites will update as semesters begin, watch emails for RSVP's and info from the commencement team and college team.	https://commencement.arizona.edu/ https://commencement.arizona.edu/ceremonies
Student Forms: FERPA, petitions, residency, etc.	https://registrar.arizona.edu/student-forms

Satisfactory Academic Progress

Undergraduate students are required to maintain a minimum 2.0 cumulative/major/minor GPA and make satisfactory progress in degree requirements. Students should consult with their advisor to discuss issues pertaining to unsatisfactory progress that may result in academic probation.

University repeat policy: <https://registrar.arizona.edu/records-enrollment/enrollment/how-register-classes/repeating-course-grading-repeated-courses>

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 major advisor, will meet to develop a success plan to raise the semester/major/minor/cumulative GPA. If after one semester on probation the GPA has not been raised, the College may remove the student from College of Engineering and to the A-Center.

Incomplete grades

The grade of "I" may be awarded only at the end of the term, when all but a *minor* portion of the coursework has been satisfactorily completed. It is not to be awarded in place of a failing grade.

Students earning a grade of Incomplete, "I", will work with the instructor to complete a required Report of Incomplete form or "contract" between the student and instructor:

<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. 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 or the student will receive an "E" failing grade.

Resources for Health and Student Life

The following are a curated set of resources to support a healthy and productive student life at the University of Arizona.

- [Center for Career Readiness](#): resources include Handshake for internships and on-campus jobs, career exploration, resume and cover letter assistance, career fairs, interview skills, and other workshops.
- [Counseling & Psych Services \(CAPS\)](#): short term counseling and psychiatry services, game nights, arts and crafts, therapy dogs and kittens, 1:1 chats, peer counseling, and SocialRx (free admission to museums, performers, concerts, etc.) Most services are free!
- [Disability Resource Center \(DRC\)](#): assist with accommodations and campus access, assistive technology, and more.
- [SALT Center](#): fee-based academic support program that inspires students with mild to moderate learning and attention challenges to succeed.
- [Safety](#): sign up for UAlert notifications on/around the campus area
- [SIE Department Events](#): ensure you have the link to join our SIE Discord – we post engineering club socials, food events, welcome BBQ, etc.

Student Support Groups and Organizations

- [College of Engineering study groups and academic support](#): schedule will update for each semester. Includes Tau Beta Pi (Engineering Honor Society) which provides free individual tutoring in major specific coursework.
- [Think Tank](#): free drop-in tutoring, academic skills workshops (get organized!), and supplemental instruction.
- [Engineering Clubs and Professional Organizations](#): expand your interests, meet new people, find leadership and practical skills.
- [SIE-specific organizations](#): foster teamwork, leadership, and strengthen career networks.
- [Cultural and Resource Centers](#): spaces on campus that highlight students' various identities and serve as a home-away-from-home.
- [International Student Services \(ISS\)](#): assists with 1-20 requests, travel documents, employment, verification enrollment, concurrent enrollment approvals, and sponsored student advising. The Buddy Program also connects students to other international students and Global Ambassadors to make friends and explore campus and Tucson together.

Scholarships

Scholarship Universe is the university scholarship matching tool. You'll create a profile and answer questions to be matched to internal and external scholarships. The College of Engineering General Scholarship Application usually opens in February, requires full-time enrollment, minimum 3.0 GPA, and meet donor specifications to match with eligible scholarships.

- [University of Arizona Merit Scholarships](#) (Tuition Awards) must be able to maintain required units and GPA to renew scholarship for a specific award every year.
- [Southern Arizona Community Foundation Scholarships](#): awarded annually to help students achieve educational goals, based on eligibility.
- [Women in Science & Engineering \(WISE\) Scholarships](#): annually administers various scholarships, per eligibility.
- [Hispanic Association of Colleges and Universities \(HACU\) Scholarship Program](#): can apply if applicants meet scholarship program criteria.