



Knowledge that will change your world

Interdisciplinary Engineering PhD (IE PhD)

Student and Advisor Handbook

2024-2025

The purpose of this handbook is to outline the policies, procedures, and milestones for the UAB School of Engineering's (SoE) Interdisciplinary Engineering PhD (IE PhD) program as defined by the IE PhD Committee and UAB's Graduate School. This document should be used by IE PhD students and advisors for guidance. Situations not addressed by this handbook should be referred to the SoE Director of Academic Programs.

Dr. Gregg Janowski
IE PhD Program Director
Professor of Mechanical and Materials Engineering
janowski@uab.edu

[Scarlett Naftel, MS](#)
IE PhD [Program Manager](#)
snaftel@uab.edu

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WELCOME!

Welcome to the Interdisciplinary Engineering PhD (IE PhD) program! We are pleased that you have trusted UAB's School of Engineering (SoE) with your goals. Please use this handbook as a guide throughout the program. We hope that it, along with other resources provided, will be helpful.

CONTACTS

Dr. Gregg Janowski, IE PhD Program Director

janowski@uab.edu

Dr. Janowski works with the SoE Graduate Program Committee and IE PhD Committee to develop and administer the program. Dr. Janowski will sign all forms requiring Program Director or School Dean approval.

Scarlett Naftel, MS, IE PhD Program Manager

Scarlett coordinates the logistics of the IE PhD program and will be your main point of contact. All IE PhD forms, Graduate School forms, and Dissertation information must be submitted to Scarlett. Advise Scarlett of all Dissertation Committee meetings in advance.

Neil Adams, School of Engineering Career Services Director

nwadams@uab.edu

Neil and the School of Engineering Career Center provide a variety of services to help match students with potential employers, career counseling, resume assistance, and interview training.

HELPFUL INFORMATION

- [IE PhD Program Page: Forms](#)
- [UAB Graduate Catalog](#)
- [UAB Graduate School](#)
- [UAB Lab Safety](#)
- [UAB International Student Services](#)
- [UAB Student Health and Wellness](#)
- [UAB Disability Support Services](#)
- [UAB Parking](#)
- [UAB ONE Card \(ID card\)](#)
- [UAB IT Services](#)
- [UAB Police](#)
- [Other Student Services](#)

TERMS AND ABBREVIATIONS

Research Advisor/Advisor

Main point of contact for the student; also serves as Chair of the Dissertation Committee; must be a full member of the UAB graduate faculty in the School of Engineering

Dissertation Committee

Group of faculty and professionals with knowledge of the fields related to the student's dissertation proposal that guides the student's education and research; must include a minimum of 5 members selected from at least two different Schools/Colleges, with a minimum of two faculty with primary appointment in the School of Engineering.

Degree Plan/Plan of Study (after B.S. and after M.S. options)

Listing of all courses the student plans to take during the IE PhD program; includes required and elective courses, Cross-Disciplinary coursework, non-dissertation and dissertation hours Plan must be approved by Research Advisor and IE PhD Program Director.

Cross-Disciplinary Coursework

Coursework related to the student's dissertation topic offered by another College or School at UAB: including College of Arts and Sciences, School of Dentistry, School of Health Professions, School of Medicine, School of Nursing, School of Optometry, and School of Public Health. Courses from the Collat School of Business, School of Education, or Graduate School (except for the required GRD 717) cannot be applied to the IE PhD.

TIMELINE TO DEGREEFirst term

- Select Advisor and submit [Advisor Selection Form](#).
- Complete Degree Plan ([Post Bachelor](#) or [Post Master](#)) with advisor and submit for review.

Second term

- Form committee, submit [Graduate Study Committee Letter](#), and request [Graduate Faculty Status](#) for committee members, if necessary.
- Meet with committee to make introductions and review intended research area.

Each term

- Meet with Advisor to review progress and Degree Plan/Plan of Study.
- [Email IE PhD Program Manager \(snafte1@uab.edu\)](mailto:snafte1@uab.edu), copy Advisor, to report meeting and request RAC.

Annually

- Meet with committee to review progress and submit Committee Meeting Review and [Student Progress Report](#) forms.
- Submit updated Degree Plan/Plan of Study if any changes were made.

Two semesters prior to graduation

- Successfully complete Comprehensive Exam and submit Comprehensive Exam Verification form and [Candidacy Application](#) to IE PhD Program Manager (snafte1@uab.edu) —by end of third year.
- Complete 24 hours of Dissertation Research (only after admittance to candidacy).

~Two weeks prior to defense (check [Graduate School](#) for details and updates)

- PRIOR TO DEFENSE: Submit copy of Dissertation and abstract to committee, ID PhD Director (janowski@uab.edu) and IE PhD Program Manager (snafte1@uab.edu); submit [Request for Dissertation Approval form](#) (at least two weeks prior to defense).
- DEFENSE: Present and defend dissertation (by Graduate School deadline).
- AFTER DEFENSE:

- Submit Committee approved dissertation and evidence of publications to IE PhD Program Manager (snaftel@uab.edu) (*within five days of defense*).
- Submit completed, final version of dissertation approved by Committee and IE PhD Program Director to the UAB Graduate School (*within 10 days of defense*).
- Submit Application of Degree in BlazerNET (*within 10 days of defense*).
- Submit UAB Publication Agreement, Survey of Earned Doctorates, and Graduate School Exit Survey (*within 10 days of defense*).

To allow adequate time for review, dissertations must be sent electronically to the IE PhD Program Manager (snaftel@uab.edu) no later than two weeks prior to the Graduate School's deadline.

PROGRAM OBJECTIVES

Today's professional must constantly change, adapt, focus, and navigate among disciplines to keep pace with rapid market shifts and technological advances.

Because of these market trends, industries are particularly interested in interdisciplinary graduate education that emphasizes both breadth of knowledge and depth in a particular field. The premise of interdisciplinary programs is that students must be educated in multiple related subject areas to remain competitive and have successful careers in academia or industry. The PhD in Interdisciplinary Engineering Program (IE PhD) provides a rigorous academic curriculum including coursework in two or more disciplines and unique opportunities for interdisciplinary research.

The IE PhD program draws upon strengths of the four departments in the UAB School of Engineering: Biomedical Engineering; Civil, Construction, and Environmental Engineering; Electrical and Computer Engineering; and Mechanical and Materials Engineering. Students enrolled in the IE PhD program will gain the skills to succeed as independent and productive investigators in multidisciplinary analysis and design, with applications over a wide spectrum of science, engineering, health, and medical fields.

The program provides unique opportunities for interdisciplinary research and fosters interdisciplinary collaborative interactions between students and faculty in the School of Engineering, the Schools of Business, Medicine, and Public Health, and the College of Arts and Sciences. Interdisciplinary engineering students have opportunities to develop a plan of study and a dissertation research topic that incorporates coursework and faculty expertise from two or more disciplines across UAB.

The interdisciplinary program will:

- Provide a rigorous academic curriculum including coursework in two or more disciplines
- Provide collaborative interactions with students and faculty from a variety of disciplines
- Provide unique opportunities for interdisciplinary research
- Facilitate continued development of high-quality research programs supported by external funding.

COURSEWORK

The IE PhD promotes a research-based curriculum with a set of core courses required of all students in the program. Additional coursework is directed by the student's graduate study committee based on the student's area of interest. The planned curriculum must result in training in two or more disciplines, which is defined as courses offered outside the School of Engineering.

For all students, at least 24 hours of dissertation research are required and must be taken over at least two semesters after admission to candidacy.

In addition to the IE PhD program core courses (below) course selection is based on the research and career goals of the student, and curricula will vary between students. Students are guided by their faculty mentor (committee chair) and a graduate study committee composed of faculty representing an interdisciplinary team in the student's area of research interest. The coursework must include courses from at least two disciplines.

These courses will be completed under the guidance of the student's faculty mentor (graduate study committee chair). Non-dissertation research and dissertation research hours will be taken through the department of the student's faculty mentor.

The IE PhD program is not an online program. In many situations, it can be completed through distance learning, however, the program cannot guarantee all courses will be available in that format as many of the courses are administered by other programs/schools. Distance learners also need to identify a facility where they can complete their research. Some students have agreements with their places of employment.

Post Bachelor Students

Students entering the IE PhD program with a baccalaureate degree must, in keeping with UAB Graduate School policies, complete at least 48 hours of coursework prior to admission to candidacy. Up to 16 of the 48 credits can be non-dissertation research, and up to 10 credits can be a combination of laboratory rotations, seminars, and directed study.

Students entering with a baccalaureate degree must complete the following:

Requirements	Hours
Journal Club* - 4 enrollments of 1 hour each (*EGR 796 Journal Club in Interdisciplinary Engineering or other Department Journal Club with prior approval from IE PhD Director)	4
GRD 717 Principles of Scientific Integrity	3
EGR Courses & Non-Dissertation Research	32
Cross-Disciplinary Coursework	9
Dissertation Research	24
Total Hours	72

Post Master's Students

Students entering the PhD program with a Master's degree in a related field, MD, DMD, etc., must complete at least 27 credit hours of coursework prior to candidacy. Up to 6 credits of the 27 can

be non-dissertation research credits, and up to 6 credits can be as lab rotations, seminars, or directed study credits.

Students entering with a Master's degree must complete the following:

Requirements	Hours
Journal Club* - 4 enrollments of 1 hour each (*EGR 796 Journal Club in Interdisciplinary Engineering or other Department Journal Club with prior approval from IE PhD Director)	4
GRD 717 Principles of Scientific Integrity	3
Engineering Coursework	12
Cross Disciplinary Coursework	6
Dissertation Research	24
Non-Dissertation Research/Individual Study/Electives	2
Total Hours	51

Additional Requirements for All Students

- Students who do not have an engineering degree (BS or thesis-based MS) will be required to complete a series of foundation courses before beginning IE PhD coursework to ensure success in doctoral-level engineering courses. These courses will not count toward the degree.
- Students are required to present research at a local, regional, national, or international technical conference and publish research findings in at least three peer-reviewed journals. The IE PhD Program Director will not approve the student's application for degree without evidence that the articles were published, in press, or submitted.
- PhD students are required to complete their program within 7 years, per Graduate School requirement. Any student who does not meet this requirement must appeal to the Graduate School for an extension.

ADVISOR, DEGREE PLAN, REGISTRATION AND PROGRESS REPORT

Advisor

Because the IE PhD is a program and not a department, the student will select a "home department" within the School of Engineering where his/her Advisor resides. The student's Advisor should be established within the first term of study and an Advisor Selection Form submitted to the IE PhD Program Manager (snafte1@uab.edu). The Advisor must be a full member of the UAB graduate faculty in the School of Engineering.

Degree Plan

During the first term of study, the Advisor and student will determine a Degree Plan/Plan of Study that supports the student's intended area of research. Once established, either a Post/After-BS or Post/After-MS Degree Plan form must be filled out, signed by the student and advisor, and submitted to the IE PhD Program Manager (snafte1@uab.edu) for review and approval by the IE

PhD Program Director. The Degree Plan/Plan of Study must be reviewed each semester prior to the next term's registration.

Registration

IE PhD students are expected to register for 700-level courses. In some situations, 600-level courses may be accepted with their Advisor's and the IE Program Director's approval. IE PhD students should not register for 500-level courses as the majority will not apply to the degree.

The School of Engineering requires all students to have a Registration Access Code (RAC) in order to register for courses. Prior to a student's first term of study, the IE PhD Director or IE PhD Program Manager will provide the RAC to the student. Beginning with a student's second term, RACs will only be released if a fully approved Degree Plan is on file. After meeting with their Advisor each term, the student should send an email to the SoE IE PhD Program Manager (snaftel@uab.edu), copying their Advisor, indicating that the student and Advisor have reviewed the plan and requesting their RAC. If changes are made to the Degree Plan/Plan of Study, attach the revised and signed form to the email for the IE PhD Program Director's review. **Students who do not have a current and approved Degree Plan/Plan of Study on file will have a hold placed on their account, preventing registration.**

Any student with a stipend, fellowship, or assistantship must register for a minimum of 27 credit hours per year, or 9 hours per term except where this requirement is superseded by the Graduate School's requirement. This can be a combination of courses, seminars, and research credit hours. In the rare instance that a student has completed all of the thesis or dissertation defense requirements and is, therefore, not on campus, the student may register for one credit hour with the approval of the IE PhD Program Director and the Graduate School Dean. This is a one-time only exception.

Progress Report

Students are expected to submit a Student Progress Report to the IE PhD Program Manager (snaftel@uab.edu) prior to the last week of the Spring term. **Students who do not meet with their Committee and submit the required forms will have a hold placed on their account, preventing registration, until the required forms are received by the IE PhD Program Manager.**

ACADEMIC PERFORMANCE

Students must maintain an overall GPA of 3.0 to remain in good academic standing in the program. If a student fails to meet the criteria for good academic standing at the end of any semester, the student will be placed on probation. The student must re-establish good academic standing within the next two semesters. Students who continue to have a GPA under the minimum 3.0 at such time will be dismissed from the program and the UAB Graduate School.

DISSERTATION COMMITTEE

During the second term, the student should form their Dissertation Committee. The Committee will be chaired by their Advisor. Committees must have at least five members, including the advisor/chair, all of whom must hold graduate faculty status with UAB's Graduate School, selected from at least two different Schools/Colleges, with a minimum of two faculty with primary appointment in the School of Engineering., The remaining members may also be faculty at UAB, faculty from another accredited institution, or a professional working outside academia with knowledge of the student's research area.

Once each member has agreed to serve on the Committee, the student must fill out the [Graduate Study Committee](#) form. Any subsequent change in committee requires submission of the [Request to Change Graduate Study Committee](#) form. For Committee members who are not full-time faculty at UAB, the student will need to request [Graduate Faculty Status](#).

Following the initial meeting, IE PhD students must meet with their Dissertation Committee at least once during the academic year, typically by the end of the Spring semester. The purpose of the meeting is to ensure satisfactory progress toward the degree. The Committee members will be asked to complete a Committee Review form, which will be submitted to the Committee Chair. The Chair will compile the information and comments provided and submit a report to the student and IE PhD Program Manager (snafstel@uab.edu). Should the evaluation indicate a lack of satisfactory progress, the Committee Chair will meet with the student to establish a plan for improvement. Any such plan must be submitted to the IE PhD Program Manager (snafstel@uab.edu).

COMPREHENSIVE EXAMINATION

IE PhD students must successfully complete a Comprehensive Examination before being admitted to Candidacy. The Comprehensive Exam allows the student to demonstrate scholarly proficiency of the chosen field and assures Committee members of the student's ability to conduct independent research.

The student is responsible for communicating with their Advisor and other Committee members to schedule the Comprehensive Exam date, time, and location.

The student's Dissertation Committee will administer the Comprehensive Exam only after all coursework has been completed. The exam will consist of both a written and an oral portion and will be given on the UAB campus. Each Committee member will submit one to two questions for the written exam, and the Advisor will select at least 5 questions the student will be expected to answer. The student will be given up to two weeks to respond to the questions and submit the answers to the Committee members. The oral exam will allow the student to clarify answers from the written exam, if needed, and will include an Oral Defense of the proposed dissertation.

No later than two weeks prior to the oral examination date, the student must send the final draft of the written Dissertation Proposal to the Committee members and provide the IE PhD Program Manager (snafstel@uab.edu) with the Proposal title, abstract, and Committee members' names and email addresses.

Students may only take the written portion of the Comprehensive Exam twice. If the student does not pass the exam, they will not be allowed to continue.

Failure to provide the required information by the deadline will result in cancellation of the scheduled oral portion of the examination.

DISSERTATION

Reprint/Preprint Format of Dissertation

The reprint/preprint option (i.e. journal articles that appear as chapters) is available to students who have written closely-related articles which have already been published (reprint), accepted for publication, are under review for publication, or are being prepared for publication (preprint). Students considering this option must obtain the Dissertation Committee's approval. For more information about this option, refer to the [UAB Format Manual for Theses and Dissertation](#).

Edit and Review Process

Students must submit a high-quality dissertation. In the event that the dissertation does not meet quality standards, it may require review by an external editor. The expense for editing is the responsibility of the student. The following policies were formulated by the School of Engineering Graduate Program Directors and Department Chairs to ensure that each dissertation meets requirements for technical excellence and readability.

1. The student works under the direction of their Advisor to develop the dissertation. When their Advisor is satisfied with the content, it is given a 'heavy' edit by an outside reader.
2. The student brings the 'edited' copy of the dissertation to their Advisor and obtains the Advisor's approval to distribute it to the Dissertation Committee.
3. The Committee members review the dissertation and provide feedback to the student.
4. After the defense, the student works under the direction of their Advisor to revise the Dissertation. The Committee members do not sign to approve the Dissertation until they have reviewed it and are satisfied that all needed corrections have been made.
5. The student forwards the revised Dissertation to the IE PhD Program Manager (snaftel@uab.edu). The IE PhD Program Director reviews the final version of the Dissertation to ensure that it excels technically and meets high standards for structure, grammar, and writing style. The IE PhD Program Director either signs to approve or meets with the student to discuss any needed corrections.

Submission

Dissertations submitted must follow the requirements established in [UAB's Format Manual for Theses and Dissertations](#). If the dissertation does not meet the quality standards established by the IE PhD program and Graduate School, the Advisor or IE PhD Program Director may require review by an external editor. The expense for editing is the responsibility of the student. Every dissertation will also be submitted to a plagiarism detection program to check the document for originality. The results of the originality report will be shared with the student who, along with their Advisor, will determine whether any parts of the dissertation need to be rewritten to conform to the norms of good scientific writing and proper citation of source material.

Each dissertation will be reviewed by the IE PhD Program Director after final review by the Dissertation Committee and before it is submitted to the Graduate School. To allow adequate time for review, dissertations must be sent electronically to the IE PhD Program Manager (snaftel@uab.edu) no later than two weeks prior to the Graduate School's deadline.

Five business days before submission to the Graduate School, the student must send full references of at least 3 publications and evidence of at least three presentations to the IE PhD Program Manager (snaftel@uab.edu) for review and approval.

Instructions for submitting the Dissertation to the Graduate School can be found on [UAB's Theses and Dissertations](#) page. Please note that the IE PhD program's deadline for submission requires that dissertations be completed well in advance of the Graduate School deadline.

After receiving final approval from the Graduate School, take the number of copies of the Dissertation to be bound to the Administrative Office at Sterne Library between 8am-5pm Monday through Friday. Refer to the [Sterne Library](#) site for more information.

DEFENSE

Dissertation defenses are open to the public and advertised on the Graduate School Calendar of Events by way of submission of the [Request for Approval Form](#), which must be received by the Graduate School **no later than two weeks prior to the defense date**.

Immediately after submitting the Request for Approval Form, the student must email the following to their committee members and the IE PhD Program Manager (snaftel@uab.edu):

- Dissertation Title and Abstract
- Full Dissertation
- Defense date, time, and location

The IE PhD Program Manager will create a flyer using the IE PhD's Dissertation Defense template and email it to the student once the above information is received. Students are encouraged to advertise their defense through the provided flyer, in UAB's email newsletter to students: [Green Mail](#), and by posting the flyer in high traffic areas of Hoehn and the Business-Engineering Complex.

DISSERTATION DEFENSE FORMS

- IE PhD Candidate Information Form
Fill out this form as soon as you have confirmation from the Graduate School that your defense date has been approved and put on the calendar and return to the IE PhD Program Manager (snaftel@uab.edu).
- IE PhD Defense Committee Evaluation
This is for your Committee Members to fill out. The first page can be filled out prior to the defense itself, but the second page cannot be filled out until after the defense. The completed forms need to be given to your Committee Chair after the Dissertation.
- Defense Feedback Form-Attendees
This form should be given to all Non-Committee Members who attend the Defense. The completed forms should be given to your Committee Chair after your Dissertation Defense.

GRAS AND FELLOWSHIPS

The IE PhD program does not provide funding for students. Many graduate students are supported by a Graduate Research Assistantship (GRA) through a Research Advisor's grant or contract. IE PhD students on a GRA receive a monthly stipend, plus tuition, and fees in exchange for work on a research project leading to their dissertation.

For students funded from grants, the Principal Investigator, usually the student's Committee Chair, defines the requirements and expectations. Research is the main component of graduate education, and students must put in the time necessary to make measurable progress on the research project. Students are expected to spend a minimum of 40 hours per week on coursework and research leading to the IE PhD, though most find they exceed 40 hours per week.

Students who receive funding must register for 9 credit hours per term (27 credit hours per year). Students receiving stipends are expected to register only for courses that are

directly related to the degree. The student is solely responsible for any fees due to late registration.

In general, GRAs and trainees are expected to be available between terms, but are entitled to the following short-term leaves:

- A maximum of 15 calendar days (one-half month) paid leave of absence (vacation) per calendar year;
- 3 calendar days paid sick leave per calendar year, and
- Paid parental leave of absence of 30 consecutive days per calendar year upon the birth or adoption of a child.

Students should speak with their Principal Investigator about any additional expectations or policies specific to their lab.

Supplies and materials needed by the GRA must be approved by and are the financial obligation of the Principal Investigator. Questions regarding how purchases are made should be directed to the PI or department administrative personnel. UAB has specific procedures that must be followed. Failure to do so may result in the return of materials or the student assuming responsibility for the purchase. Most purchases require a purchase order, which takes time to reach approval. The process should be started well in advance of when the materials are needed.

All graduate students are encouraged to apply for a graduate fellowship, assistantship, or scholarship to support their graduate studies. Many Advisors are willing to assist with creating a competitive fellowship application. Please visit the Graduate School [funding page](#) and [training grant page](#) for information about various opportunities, including grants, scholarships, and fellowships.

READMISSION

Per UAB policy, students who do not register for three consecutive terms, including the summer term, become inactive and must reapply to the program.

In addition to completing and submitting an application through the Graduate School for readmission, students seeking readmission to the IE PhD program must meet with their Advisor to establish a plan of completion to include:

- A new Advisor Selection form.
- A new Degree Plan/Plan of Study with a month-by-month or term-by-term proposed completion plan.
- Syllabi for any Special Topics or Individual Study courses already taken or proposed.
- Details regarding Committee Membership, including any ad hoc requests for members who do not already have graduate faculty status at UAB.
- Anticipated term to complete Comprehensive Examination (both written and oral components) and acceptance into Candidacy.
- Anticipated term to defend Dissertation.

- Details regarding publications and presentations.

Applications for readmission will only be considered once all information above has been received by the IE PhD Program Manager for review by the IE PhD Program Director.