



Knowledge that will change your world

Interdisciplinary Engineering PhD

Student and Advisor Handbook

2022-2023

The purpose of this handbook is to outline the policies, procedures, and milestones for the UAB School of Engineering's Interdisciplinary Engineering (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.

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Table of Contents

Contacts & Helpful Information	3
Terms & Abbreviations	4
Timeline to Degree	5
Program Objectives	6
Residency Expectations	7
Program Requirements	7-8
Advisor and Degree Plan, Dissertation Committee	9
Registration, Progress Reviews	10
Comprehensive Examination	11
Dissertation Submission & Defense	12-13
Academic Integrity & Performance	14
Financial Information	15
Readmission	16

WELCOME!

Welcome to the Interdisciplinary Engineering PhD program! We are pleased that you have trusted UAB's School of Engineering with your goals. Please use this handbook as a guide throughout your program. We hope that it, along with other resources provided, will make a sometimes daunting process a little smoother.

CONTACTS

Dr. Gregg Janowski, Interdisciplinary Engineering 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.

Kristy Barlow, Director of Academic Programs

kbarlow@uab.edu

Kristy coordinates the logistics of the IE PhD program and will be the main point of contact.

All IE PhD forms, Graduate School forms, and Dissertation information must be submitted to Kristy. Students are expected to inform Kristy of all Dissertation Committee meetings in advance.

Adam Neil, Director of Career Services

nwadams@uab.edu

The Engineering Career Center provides 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: 2 must hold appointment in the SOE and 1 must be a UAB faculty member outside SOE

Degree Plan

Listing of all courses the student plans to take during the IE PhD program; includes required and elective courses, seminars, non-dissertation and dissertation hours, and foundational courses, where applicable; 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 (with the exception of the required GRD 717) cannot be applied to the IE PhD.

TIMELINE TO DEGREE

First 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
- [Email Director of Academic Programs](#), 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 if any changes were made

Two semesters prior to graduation

- Successfully complete Comprehensive Exam and submit Comp Exam Verification form and [Candidacy Application](#) to Director of Academic Programs—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 and Director of Academic Programs; 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 Director of Academic Programs (*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 Director of Academic Programs no later than two weeks prior to the Graduate School's deadline.

PROGRAM OBJECTIVES

Today's professional must constantly change, adapt, 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 IE PhD program is designed specifically to meet those needs.

For more than a decade, research-focused centers at UAB have brought together expertise from many disciplines to solve problems. This problem-solving approach is finding its way into academic programs through the implementation of interdisciplinary graduate education. The foundation of interdisciplinary programs is that students are educated in multiple related subject areas to prepare them for high-level, research-oriented work, either in industry or academia.

The PhD program in Interdisciplinary Engineering takes advantage of unique resources and strengths at UAB by creating a program that can be tailored to the individual student. The program is suitable for working engineers and newly minted engineers who want to advance into engineering leadership or project management roles; the typical student enters the program with at least five years of career experience. The program is highly adaptable in that it allows working professionals to enter the program part-time with an option for distance learning.

Whether a student is full-time or part-time, the Interdisciplinary Engineering PhD is a research-intensive engineering program with a rigorous academic curriculum including coursework in engineering and at least one other discipline and unique opportunities for interdisciplinary research. The IE PhD fosters interdisciplinary interactions between the Schools of Engineering, Medicine, Public Health, Health Professions and the College of Arts and Sciences. Students enrolled in the Interdisciplinary Engineering PhD program will gain the skills necessary 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 interdisciplinary program provides:

- a rigorous academic curriculum which includes training in engineering and at least one other discipline related to the dissertation
- Collaborative interdisciplinary interactions with students and faculty from across UAB
- Unique opportunities for interdisciplinary research
- Highly adaptable framework, which includes some online or distance learning, to meet the needs of full-time, working professionals

RESIDENCY EXPECTATIONS

Students in the program can be part time for the first 30 credit hours and some or all of these coursework hours can be online. After 30 hours, the student is expected to be full-time. Per Graduate School requirement, all PhD students must spend at least one year (three consecutive terms) in residency at UAB

working on their dissertation. At a minimum, IE PhD students must meet with their committee on the UAB campus for their dissertation proposal, comprehensive examination, and dissertation defense.

Students who obtain employment after entering the IE program must receive permission from their Dissertation Committee and the IE PhD Program Director in order to continue in the program. Students must show continued progress to remain in the IE PhD program.

PROGRAM REQUIREMENTS

POST BACHELOR STUDENTS

Students whose highest level is an undergraduate degree in Engineering are required to complete a minimum of 72 hours. Students must successfully complete 48 hours of coursework prior to candidacy, including the courses listed below, which total 25 credit hours. The remaining 23 hours can be comprised of courses and non-dissertation research (NDR) hours (not to exceed 16 hours). Any Special Topics or Independent/Individual Study (ST/IS) courses must receive approval by the advisor and IE PhD Program Director. No more than 6 hours of ST/IS courses can be applied toward the IE PhD. Once a post-BS student has successfully completed 48 hours and is admitted to candidacy, he/she must complete 24 hours of dissertation research for a total of 72 hours.

Required Coursework

Course Information	Credit Hours
EGR 710 Introduction to Interdisciplinary EGR	3
EGR 711 Methodology for IEGR Research	3
EGR 796 Journal Club in IEGR	4 (1 hr/term)
GRD 717 Principles of Scientific Integrity	3
Engineering coursework	6, minimum
Cross-Disciplinary (outside of Engineering) coursework	6, minimum
Additional coursework or NDR	23
Dissertation Research	24
Total	72

The hours listed above are the minimum number of hours required to earn the IE PhD. Many students take more than the minimum number of hours.

POST MASTER'S STUDENTS

Students whose highest level is a Master's degree in engineering are required to complete a minimum of 51 hours. Students must successfully complete 27 hours of coursework prior to candidacy, including the courses listed below, which total 25 credit hours. The remaining 2 hours can be comprised of courses or non-dissertation research (NDR) hours. Any Special Topics or Independent/Individual Study course must be approved by the advisor and IE PhD Program Director. No more than 6 hours of ST/IS courses can be applied to the degree. Once a post-MS student has successfully completed 27 hours and is admitted to candidacy, he/she must complete 24 hours of dissertation research for a total of 51 hours.

Required Coursework

Course Information	Credit Hours
EGR 710 Introduction to Interdisciplinary EGR	3
EGR 711 Methodology for IEGR Research	3
EGR 796 Journal Club in IEGR	4 (1 hr/term)
GRD 717 Principles of Scientific Integrity	3
Engineering coursework	6, minimum
Cross-Disciplinary (outside of Engineering) coursework	6, minimum
Additional coursework or NDR	2
Dissertation Research	24
Total	51

The hours listed above are the minimum number of hours required to earn the IE PhD. Many students take more than the minimum number of hours.

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 AND DEGREE PLAN

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 Director of Academic Programs. The advisor must be a full member of the UAB graduate faculty in the School of Engineering. During the first term of study, the Advisor and student will determine a degree plan that supports the student's intended area of research. Once established, either a Post-BS or Post-MS Degree Plan form must be filled out, signed by the student and advisor, and submitted to the Director of Academic Programs for review and approval by the IE Program Director. The degree plan must be reviewed each semester prior to the next term's registration.

DISSERTATION COMMITTEE

During the second term, the student should form his/her Dissertation Committee. The committee will be chaired by the Advisor. Committees must have a minimum of five members, including the advisor/chair, all of whom must hold graduate faculty status with UAB's Graduate School. Two must hold appointments within the School of Engineering and one must hold an appointment at UAB but outside 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](#).

REGISTRATION

IE PhD students are expected to register for 700-level courses. In some situations 600-level courses may be accepted with the advisor's and 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 Director of Academic Programs 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 the advisor each term, the student should send an email to the SoE Director of Academic Programs, copying the advisor, indicating that the student and advisor have reviewed the plan and requesting the RAC. If changes are made to the degree plan, 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 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 only 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 REVIEWS

Committee Evaluation

Following the initial meeting, 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 Director of Academic Programs. 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 Director of Academic Programs.

Student Report

Students are expected to submit a Student Progress Report to the Director of Academic Programs prior to the last week of the Spring term. **Students who do not meet with their committees and submit the required forms will have a hold placed on their account, preventing registration, until the required forms are received by the Director of Academic Programs.**

COMPREHENSIVE EXAMINATION

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 the advisor and other committee members to schedule the comprehensive exam date, time, and location.

The student's dissertation committee will administer the exam only after all coursework has been completed. The exam will consist of both a written and 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 Director of Academic Programs with the proposal title, abstract, and committee members' names and email addresses. Per Graduate School requirements, the oral examination must take place on the UAB campus.

Students may only take the written portion of the comprehensive exam twice. If the student does not pass the exam, he/she 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 SUBMISSION AND DEFENSE

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 the 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 Director of Academic Programs 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 Director of Academic Programs 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.

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 the Research Advisor to develop the dissertation. When the Research 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 the Research 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.

4. After the defense, the student works under the direction of the Research 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 Director of Academic Programs. 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.

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 Director of Academic Programs:

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

The Director of Academic Programs 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 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 Director of Academic Programs.
- [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 the dissertation.

Binding

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.

ACADEMIC INTEGRITY

All UAB students are expected to operate with high standards of academic integrity. Academic misconduct undermines the purpose of education and is a serious violation of the trust that must exist among faculty and students for a university to nurture intellectual growth and development. Students in the IE PhD program will abide by the [UAB Academic Honor Code](#) at all times. Failure to do so may result in dismissal from the program.

UAB expects all members of its academic community to function according to the highest ethical and professional standards. Students, faculty, and the administration of the institution must be involved to ensure this quality of academic conduct. Academic misconduct undermines the purpose of education. Such behavior is a serious violation of the trust that must exist among faculty and students for a university to nurture intellectual growth and development. Academic misconduct can generally be defined as all acts of dishonesty in an academic or related matter.

Academic dishonesty includes, but is not limited to, the following categories of behavior:

ABETTING is helping another student commit an act of academic dishonesty. Allowing someone to copy your quiz answers or use your work as their own are examples of abetting.

CHEATING is the unauthorized use or attempted use of unauthorized materials, information, study aids, the work of others, or computer-related information.

PLAGIARISM means claiming as your own the ideas, words, data, computer programs, creative compositions, artwork, etc., done by someone else. Examples include improper citation of referenced works, the use of commercially available scholarly papers, failure to cite sources, or copying another person's ideas.

FABRICATION means presenting falsified data, citations, or quotations as genuine.

MISREPRESENTATION is falsification, alteration, or the misstatement of the contents of documents, academic work, or other materials related to academic matters, including work substantially done for one class as work done for another without receiving prior approval from the instructor.

Violations of the UAB Academic Honor Code are punishable by a range of penalties, from receiving a failing grade on an assignment to an F in the course to dismissal. Any course grade of F for academic misconduct supersedes any other grade or notation for that class. Withdrawal from a course while a possible violation of the Academic Honor Code is under review will not preclude the assignment of a course grade that appropriately reflects the student's performance prior to withdrawal if the violation is substantiated.

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.

FINANCIAL INFORMATION

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. 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 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.

FELLOWSHIPS

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 his/her advisor to establish a plan of completion to include:

- A new Advisor Selection form
- A new Degree Plan 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 Director of Academic Programs for review by the Program Director.