

SOUTHERN ILLINOIS UNIVERSITY

Doctor of Philosophy Degree in Engineering Science
Student Handbook



SIU SOUTHERN ILLINOIS UNIVERSITY
CARBONDALE COLLEGE OF
ENGINEERING

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Overview

Mission

The Engineering Science Doctoral Program aims to provide world-class graduate education and research opportunities that enhance the economic and social well-being of the citizens of Illinois, the nation, and the world. Our mission will be accomplished by: (1) recruiting, enrolling, and graduating doctoral-level engineers with strong basic science, engineering, and mathematical backgrounds who can adapt to interdisciplinary research and emerging areas of technology; (2) providing expanded research opportunities and knowledge to students in engineering sciences, including materials development, energy processes, coal sciences, and other technologies that are critical to the economic health of the state and nation; (3) providing a central knowledge base for certain emerging technologies; and (4) increasing the number of doctoral-level engineers in interdisciplinary areas within science and technology.

General Information

The Ph.D. in Engineering Science at Southern Illinois University Carbondale was approved and initially offered in 1985. It continues to be the only interdisciplinary Engineering Doctoral Program in the state. The focus of preparing highly-qualified individuals for teaching and research positions in higher education, industry, government, and other organizations is reflected in its mission. The Doctoral Program in Engineering Science has been successful in providing support in the development of research thrusts in several emerging technologies such as advanced materials, artificial neural systems, computer integrated manufacturing, gaseous and laser electronics, and advanced coal refining for SIU. In 2007, the SIUC Graduate School and College of Engineering signed a memorandum of understanding with the SIUE School of Engineering to allow participation of SIUE students in the Engineering Science Doctoral Program. Through the agreement, SIUE is designated as a residency center by the SIUC Graduate School. It is anticipated that this agreement will lead to faculty and graduate student collaboration that simultaneously raises the productivity and visibility of Engineering programs on both campuses.

The Doctor of Philosophy degree in Engineering Science is available in four concentrations that correlate with four academic programs within the College of Engineering. The areas of concentration are:

- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Industrial & Quality Engineering
- Mechanical Engineering and Energy Processes

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Dr. Farhan Chowdhury—Mechanical Engineering & Energy Processes
Dr. Tomas Velasco—Industrial & Quality Engineering
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Departmental Faculty & Staff

Civil & Environmental Engineering Faculty & Staff

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Dr. Aslam Kassimali, Professor & Distinguished Teacher
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Electrical & Computer Engineering

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Dr. Arash Asrari, Assistant Professor
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Dr. Arash Komaee, Assistant Professor
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Dr. James Phegley, Senior Lecturer
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Engineering Technology

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Mechanical Engineering & Energy Processes

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Program Admission Criteria & Procedures

Admission Criteria

Consideration for admission into the Doctoral Program in Engineering Science requires the following:

- A Master of Science degree in Engineering or a related field
- A minimum 3.25 GPA (on a 4.0 scale)
- GRE score
- Official transcripts for both Bachelor's and Master's level
- A statement of interest
- M.S. Thesis abstract
- Three (3) letters of recommendation

International applicants are also required to submit the following:

- Copy of both sides of their passport
- An English proficiency score, with a minimum requirement of: TOEFL (paper) 550; IBT 80; IELTS 6.5
- Current financial statements for availability of funds
- A completed Graduate School Financial Statement (available from the Office Administrator)

For accelerated entry into the Doctoral Program, a student must complete at least two semesters in residence in an Engineering Master of Science (M.S.) program and complete a minimum of 18 hours of approved coursework with a minimum GPA of 3.75 (on a 4.0 scale). Such entry is permitted only to superior students who have exhibited evidence that they are prepared to begin the research activities of doctoral-level study. In addition, the student must have GRE scores that are at or above the 50th percentile for both the verbal component and analytical essay component and 80th percentile for the quantitative component or a combined total percentile score of 180 or higher. For domestic students, an undergraduate GPA of 3.5 or higher is also a requirement. For international students, a minimum TOEFL score of 550 or a minimum IBT score of 80 or a minimum IELTS score of 6.5 is an additional requirement. In exceptional cases, to substitute for the abovementioned GRE and TOEFL score requirements, the student's current faculty advisor, with the approval of the Department Chair, may submit a letter of recommendation for the student's accelerated entry into the Doctoral Program. The student, having an accelerated entry into the Doctoral Program, is not required to write an M.S. thesis. In addition, 6 credit hours of 500 level coursework completed prior to the student's entry into the Doctoral Program may be counted toward the Doctoral Program's coursework requirements. In the event that the student selected for accelerated entry into the Doctoral Program fails to pass the doctoral qualifying exam in two attempts, they will be allowed to complete an M.S. degree in their respective discipline (upon completion of that program's specific requirements).

Admission to the Doctoral Program is decided by the Engineering Science Ph.D. Committee. Admission to the Doctoral Program also requires the identification of an initial graduate advisor

for each student. This advisor will be responsible with the student for planning the student's course work and chairing the student's Dissertation committee.

Admission Procedures

All applications to the Engineering Science Doctoral Program must be done through the Graduate School's online portal, found here: <https://gradschool.siu.edu/apply/>

Original transcripts and any other original application materials should be mailed to:

Engineering Science
College of Engineering
Southern Illinois University
1230 Lincoln Drive, Mail Code 6603
Carbondale, IL 62901

Cost & Financial Assistance

As a public University, we understand that cost is a concern for students (tuition and fee information can be found here: <http://tuition.siu.edu/>). Southern Illinois University and the Graduate School offer various forms of financial assistance for students in graduate programs, including assistantships, fellowships, and scholarships.

Graduate Assistantships

Graduate assistantships (GAs) are available in a variety of places across campus, from academic departments and research centers to administrative and service units. This type of graduate assistantship appointment comprises the largest number of awards offered by the University. Nondeclared students are not eligible for graduate assistantships. Current assistantship contracts are done for one semester terms, with a continuation into the next term contingent on the availability of funds and/or Departmental requirements and discretion.

Students should inquire directly to the chair of the Department to which they have been admitted or to the appointing officer of a research center or administrative or service unit. Information about the criteria used to select GAs and to assign graduate assistantship responsibilities may be obtained by contacting the chair of the Department, the administrator of a research or service unit, or the Graduate School.

There are three types of graduate assistantships:

- Teaching Assistantships
- Research Assistantships
- Administrative Assistantships

These assistantships are typically offered as half-time (50%) or quarter-time (25%).

- Half-time (50%) assistantships require twenty (20) hours of work per week.
- Quarter-time (25%) assistantships require ten (10) hours of work per week.

Fall and Spring assistantship appointments receive a tuition scholarship (waiver) if the appointment is for at least 75% of the semester (13 out of 17 weeks). Tuition scholarships pay tuition only; students are required to pay all their fees for the number of credit hours they are registered for in the Fall and Spring semesters.

Summer assistantships receive a tuition scholarship if the appointment is for 50% of the entire Summer semester (6 out of the 12 weeks). Summer scholarships pay for all Summer classes (i.e. intercession, 6-week, or 8-week courses). Both half time (50%) and quarter-time (25%) assistantships receive a 9-hour waiver for the Summer. Graduate assistants that have a consecutive Fall and Spring contract automatically receive a 9-hour non-working tuition scholarship for the following Summer term; as this tuition scholarship is non-working, the scholarship does not include an appointment or stipend. Tuition scholarships pay tuition only;

students are required to pay all their fees for the number of credit hours they are registered for in the Summer term.

Two quarter-time assistantships may be held without special approval. Graduate assistants are not allowed to hold a concurrent student employment position unless they have special approval through the Graduate School.

Students holding an assistantship are required to register for a minimum of eight (8) hours of graduate credit in the Fall and Spring semester and three (3) hours of graduate credit during the Summer semester.

A student may receive no more than four calendar years of financial support (48 months) while at the doctoral level. This time limit applies to assistantships, fellowships, traineeships, internships, and other similar awards and appointments administered by the University, regardless of source of funds. Time limits may vary.

In the best interests of both the University and students, academic departments should monitor outside employment and intervene in those cases where outside employment results in problems. Toward this end, it is within the rights and responsibilities of the Department: 1) to require that graduate assistants holding outside employment notify their department, so that their performance can be monitored; 2) to make the relinquishing of outside employment a precondition for the continued enrollment of, and/or availability of assistantships to, students whose academic or assistantship performance has been rated Unsatisfactory; and 3) to cancel or not renew the assistantship contracts of those students whose assistantship performance is rated unsatisfactory and who also hold and do not discontinue outside employment. Graduate students can appeal departmental decisions regarding outside employment and academic/assistantship status through the University's standard routes of appeal.

Assistantships from Grants

Students may be hired from funds from a faculty member's research grants. Continued funding of this type will be at the discretion of the faculty member.

PROMPT Assistantship

The PROMPT Program (Proactive Recruitment of Multicultural Professionals for Tomorrow) is an initiative developed by the Graduate School of Southern Illinois University (SIU) to increase the number of individuals receiving advanced degrees in the United States from families which have traditionally not had access to the opportunities of higher education and who, through their life and / or cultural experiences, have unique and potentially positive contributions to make to the program, the discipline, and in the larger academic community. The Graduate School, in alliance with participating academic departments, will provide financial assistance packages to competitive, admissible students to pursue advanced study at SIU.

Pursuant to Section 9.16 of the Board of Higher Education Act (110 ILCS 205), the Illinois Board of Higher Education currently defines underrepresented groups as a citizen or resident alien who identifies as African American, Hispanic or Latino, Asian-American, Pacific Islander, American Indian, Alaska Native, or an individual with a disability.

Dissertation Research Assistantship

Dissertation Research Assistantships are academic awards designed for students who are in the dissertation preparation stage of their graduate education. Students should be able to complete the dissertation during the period of the award.

Students cannot apply for the award on their own as they must be nominated by the academic department. Interested students should contact their academic department for information on how to be nominated.

Complete information regarding Graduate Assistantships can be found here:

<https://gradschool.siu.edu/cost-aid/ga/>

Procedures and Schedules for Implementation of Assistantship Evaluation

At the middle and again at the end of each semester in which a student receives an assistantship, the faculty member supervising the student will be requested to rate the student's performance in his/her assistantship duties.

In the event of an Unsatisfactory rating, the Department Chair or Program Director will consider the appropriateness of continued support. In the event that a negative decision is made, the Chair/Director is authorized to request a meeting with the faculty member making the rating and the student so rated.

Criteria for Awards

All decisions regarding the awarding of graduate assistantships shall be based primarily on academic performance. For incoming students, the primary criteria are undergraduate GPA, standardized test scores, and letters of recommendation. For continuing students, the primary criterion is performance in the graduate program. Qualitative assessments, such as those relating to the quality or difficulty of an academic program, may be factors in the decision-making process.

Length of Graduate Assistantships

A student is eligible to hold a graduate assistantship during the two-year period starting from the time of admission into the program. The eligibility period is variable, and contracts are awarded on a semester-by-semester basis.

Continuity of Funding

For students who are awarded departmentally-controlled graduate assistantships, there is a presumption but no guarantee that funding will be continued for four Fall and Spring semesters. However, a student may be denied continued funding if:

1. The student's GPA falls below a 3.0. In this case, there shall be no presumption of continued funding if and when the student's GPA rises to meet the minimum requirement.
2. The student's performance as a graduate assistant is unsatisfactory. In this case, the faculty member evaluating the student shall document the performance shortfall in writing and the student shall meet with the Department Chair or Program Director to

discuss the problem and to explore possible solutions.

3. The Department Chair or Program Director, upon review of the student's progress towards the degree, concludes that the student is not making satisfactory progress. Unsatisfactory progress may be indicated by, for example, an excess of incomplete grades. This review will be conducted systematically at the end of each academic year.
4. Financial exigencies are such that there are insufficient funds to support all meritorious students. In this case, merit-based considerations of academic performance shall be the primary criteria for funding decisions.

Fellowships

The Graduate School awards fellowships to students who have demonstrated superior abilities in either their undergraduate or graduate work. Because of the limited number of awards and the large number of applicants seeking support, there is stiff competition for fellowships and high GPA and GRE records are essential to be considered. Fellowships are competitively awarded by the University from a pool of candidates nominated by departments across campus. Applications must be submitted by early January (specific dates differ by year) in order to be considered for fellowship nomination.

Graduate Dean's Fellowship

The Graduate Dean's Fellowship is designed for individuals from underrepresented groups who have overcome social, cultural, or economic conditions. The Graduate Dean's Fellowship will be awarded for up to a maximum of two years. These awards will be made to students who show the greatest promise for scholarly and professional achievement in their respective disciplines.

Pursuant to Section 9.16 of the Board of Higher Education Act (110 ILCS 205), the Illinois Board of Higher Education currently defines underrepresented groups as a citizen or resident alien who identifies as African American, Hispanic or Latino, Asian-American, Pacific Islander, American Indian, Alaska Native, or an individual with a disability.

Doctoral Fellowship

The Doctoral Fellowship is designed for those nominees who show the greatest promise for scholarly and professional achievement in their respective disciplines at the doctoral level. Fellowships will be awarded for three semesters - Fall, Spring, and Summer semesters - for a total of eleven (11) months. The Doctoral Fellowship pays a monthly stipend (excluding Summer Intersession) and provides a full tuition waiver for Fall and Spring semesters, and up to 9 hours in the Summer.

Morris Fellowship

The Delyte and Dorothy Morris Doctoral Fellowships have been established by Southern Illinois University to honor a distinguished former president and his wife. During Dr. Morris' tenure as President (1949-71), the University grew to be a comprehensive research institution and established doctoral programs in twenty-two fields, now expanded to over thirty fields.

The Morris Doctoral Fellowship is designed for those nominees who are new to Southern Illinois University (SIU). This fellowship is intended for applicants who possess exceptional credentials as indicated by high scholastic standing, excellent scores on standardized tests, outstanding recommendations, and evidence of significant potential for research and publication.

The Morris Doctoral Fellowship is a five-year financial support package. The Graduate School provides a 12-month 50% research fellowship award for the first three years and the Department provides a 12-month 50% graduate assistantship for the last two years. They will also receive a \$1000 allowance for books, scholarly travel, and research materials for the first three years, while being paid by the Graduate School.

Complete information on Fellowships can be found here: <https://gradschool.siu.edu/cost-aid/fellowships/>

Scholarships

Scholarships are awards granted to students who meet certain criteria. The Graduate School offers the following scholarships and awards.

Tuition Scholarship

A limited number of tuition scholarships are awarded each semester to graduate students. The award is for remission of tuition; fees must be paid. This scholarship is a scholastic award. The number of Tuition Waiver Scholarships allocated to each college at SIU will depend on the percentage of graduate school enrollment they contribute. After the number of scholarships per college is calculated, current GPA in program of study (if two semesters within the program have been completed) will be the determining factor for who receives the award. Otherwise, the decision will be based on GPA from most recent previous degree program. The award is for remission of tuition only; fees must be paid by the student. The award provides a full tuition scholarship and a tuition scholarship for up to nine (9) hours in the Summer. This scholarship award will be posted to the student's account.

International students must contact the Center for International Education about applying for this scholarship. A limited number of tuition scholarships are available to international students who have completed at least one full year at SIUC. These awards are granted on a competitive basis, and the limited number means that many qualified students are unable to secure them.

Graduate Scholarship Program

The purpose of the Graduate Scholarship Program (GSP) is to provide a 1/3 tuition waiver to academically outstanding graduate students who have been admitted into their first semester of a graduate program for the remainder of that academic year. A student awarded the GSP receives the scholarship for the academic year in which they are admitted, however, an application must be completed and submitted each semester of the awarded academic year. The student must be selected by the academic department based on outstanding academic performance.

Graduate students who have been admitted into their first semester of a graduate program are eligible for the GSP. Recipients must be enrolled for a minimum of 9 graduate credit hours for Fall and Spring semesters, and 6 graduate credit hours for Summer semester. If the student is already receiving payment of tuition from another source, they are not eligible.

Native American Scholarship

The former American Indian Association (AIA) of SIU offers scholarship awards to both undergraduate and graduate students. Applicants are required to be of Native American heritage, be a full-time student., and have a minimum GPA of 3.2 (on a 4.0 scale).

Swartz Award

The Graduate School would like to implement the Willis Swartz Graduate Student Scholarship Award this academic year. This fund is established to honor the work of Dr. Willis Swartz. In 1943, Dr. Swartz became the first Chair of the Graduate Council, and in 1950 he was named the first Dean of the Graduate School. In addition, Dr. Swartz was chosen to direct the foreign student programs from 1963 to 1964. The selection of the recipient(s) of the Willis Swartz Graduate Student Award will be made by the Award Selection Committee of the Graduate School. Award letters for the Willis Swartz Graduate Student Award shall carry the name of the honoree of this award in such a manner that the recipient(s) will understand the source of the funds awarded. At least one award each year will be given to a student conducting, or projecting to conduct, research in materials technology, as long as such a student is in the applicant pool for this award and meets the other criteria. The Willis Swartz Graduate Student Award will be open to all applicants with the following qualifications, regardless of race, color, religion, sex, national origin, disability, age or veteran status. The recipient will be a graduate student. Preference will be given to: 1. International graduate students. 2. Incoming graduate students.

Complete information on Scholarships can be found here: <https://gradschool.siu.edu/cost-aid/scholarships/>

Other Forms of Financial Support

In addition to the variety of financial aid options found on campus, there are opportunities for funding from external sources. Graduate students are eligible for a large number of student loans. In addition, the Office of Sponsored Projects Administration maintains a database of these opportunities. That database, as well as additional research and funding related materials, can be found here: <https://ospa.siu.edu/student-research/graduate/>

Registration & General Academic Information

Prior to registering for classes for their first term, students should meet with their faculty mentor and complete a Program of Study, mapping out the courses to be taken during their time in the program. Once a student is ready to register for classes, they may access Registration via Salukinet (<http://salukinet.siu.edu>). SIU utilizes a self-registration system, which means that the student is responsible for registering for the classes they require (except in very specific and rare circumstances). For some courses, a student may receive a Registration Error that prevents them from registering for that course; in cases like this, students should contact the Office Administrator for assistance.

Sometimes, schedules require adjustment, and a student will need to add or drop a course. This can be accomplished via the Registration system outlined above. Please note that after the first week of classes, students will be unable to self-register or remove a course without approval from the College of Engineering Dean's Office, and are required to complete paperwork in order to register for the course. This paperwork can be obtained from the Office Administrator. For additional information, as well as step by step instructions on how to register, please visit <http://registrar.siu.edu/pdf/registration.pdf>.

Minimum and Maximum Registration

Enrollment Certification

The following semester hours of credit are to be used to certify full-time and half-time attendance of graduate students:

| Status | 16-Week Semester | 8-Week Session |
|---------------------|-------------------|-------------------|
| Full-time | 9 or more hours* | 3 or more hours |
| Half-time | 6 | 3 |
| Less than half-time | Less than 6 hours | Less than 3 hours |

*Students who hold at least a quarter-time (25% FTE) graduate assistantship are considered as full-time if they have a minimum of 8 semester hours.

Minimum and Maximum Course Loads

Maximum coursework for graduate students is 16 hours each semester; 12 hours is considered a normal load. The minimum and maximum loads for graduate students under various types of financial support are summarized below. To meet the minima below, a graduate student must enroll in graduate-level course(s) (typically a 400- or 500-level course; certain 400-level courses are not available for graduate credit). Audit work will not qualify to meet the minimum load; however, audit work is calculated in determining a student's maximum course load. Exceptions to these minima and maxima are possible only with the written permission of the Graduate School Dean. If graduate students' enrollments exceed the maximum or fail to meet the minimum

of hours required by their type of financial support, their registrations will be withdrawn and financial support will be terminated.

| Type of Financial Support | 16 Week Semester Maximum | 16 Week Semester Minimum | 8 Week Session Maximum | 8 Week Session Minimum |
|----------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|
| No financial support | 16 | - | 9 | - |
| Graduate Assistantships: | | | | |
| Half-Time Appointment | 16 | 8 | 9 | 3 |
| Quarter-Time Appointment | 16 | 8 | 9 | 3 |
| Full-time University employees | 6 | - | 6 | - |
| Graduate Fellowships | 16 | 9 | 9 | 3 |
| Full Veteran's Benefits | 16 | 9 | 9 | 3 |
| SIUC Scholarships | 16 | 9 | 9 | 3 |

Financial Aid Awards

For financial aid awarding purposes, the following defines the number of semester hours for full- and half-time:

| Status | 16-Week Semester | 8-Week Session |
|---------------|-------------------------|-----------------------|
| Full-time | 12 | 6 |
| Half-time | 6 | 3 |

Graduate students enrolled in fewer than 6 hours for Fall and Spring semesters or 3 hours for Summer session are not eligible to obtain student loans.

Continuous Registration

Unless a student has been granted a Leave of Absence, the policy is that students must be registered each term (excluding Summer) you are in a graduate degree program, whether on campus or off, until degree requirements are completed.

Registration in Continuous Enrollment (ENGR 601; 1 credit hour per semester) is required of all graduate students, whether in residence or not, who are not otherwise enrolled for Fall or Spring semester. Concurrent registration in any other course is not permitted.

Leave of Absence Policy

Students admitted to the Doctoral Program in Engineering Science at SIU must be enrolled for each Fall and Spring semester of their academic career. Students not intending to enroll for course work for a given Fall or Spring semester may enroll for one hour of ENGR 601 (Continuing Enrollment).

In the alternative, students who are making satisfactory progress toward completion of their degree, but do not intend to enroll for a given Fall or Spring semester, may be granted Leaves of Absence for that semester. A student requesting a Leave of Absence must be able to demonstrate physical, financial, or other circumstances that prevent continued progress towards a degree.

Graduate students may request a Leave of Absence from their degree program for up to two semesters. Requests for leave of absence require the approval of the student’s graduate advisor and the Program Director of the Department, as well as the Graduate School. A Leave of Absence must be requested by the 8th week of the semester.

Grading Policy and Grades

| | |
|---|---|
| A | Excellent. 4 grade points. |
| B | Good. 3 grade points. |
| C | Conditional, not fully satisfactory. 2 grade points. |
| D | Poor, not satisfactory. 1 grade point. |
| F | Failure. 0 grade points. |
| S | Satisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average. |

| | |
|-----|---|
| U | Unsatisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average. |
| W | Authorized withdrawal. Work may not be completed. Refer to grade explanation below. |
| INC | Incomplete. Has permission of the instructor to be completed within a period of time designated by the instructor. Refer to grade explanation below. |
| DEF | Deferred. Used only for certain designated and approved 500-level courses of an individual continuing nature such as research, thesis, or dissertation. Refer to grade explanation below. |
| AU | Audit. No grade or credit earned. Refer to grade explanation below. |
| WF | Assigned to students who did not officially withdraw from the course but ceased attending and have failed to complete course requirements. |
| NS | No Show. Student failed to show up for the class. |

Grading System Explained

Only courses for which the grades of A, B, C, or S have been received are acceptable in fulfillment of graduate degree requirements. The letter grades A, B, C, D, and F are included in computing the grade-point averages for academic retention. If a graduate student repeats a course with the permission of the graduate dean, both grades will be counted in the grade-point average. Graduate students will not receive graduate credit for Pass/Fail grades. They may not receive a grade of Pass/Fail in a 400-level course graded Pass/Fail on an elective basis.

400-Level Courses

Most 400-level courses may be taken for graduate credit. The [Graduate Catalog](#) will indicate those 400-level courses which may be taken for graduate credit. No grades of Pass/Fail may be given for a 400-level course for graduate credit. The instructor in a 400-level course which can be taken for graduate credit has the discretion to decide whether to require additional work for graduate credit.

Withdrawal

Except for the WU grade, a W indicates authorized withdrawal from a course prior to the date indicated in the [Schedule of Classes Information](#) for the term in which the course was taken. The student's record will reflect the courses from which the student had withdrawn with the symbol W and the week of withdrawal. Program changes to drop a course during the first two weeks of classes result in no entry being made on the student's record.

Incomplete

An INC grade should be assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. INC is not included in grade-point computation. An INC must be changed to a completed grade within one year from the close of the term in which the course was taken or graduation, whichever comes first. Should the student fail to complete the course within the time period designated, the Incomplete will be converted to a grade of F and the grade will be computed in the student's grade point average. To complete the work from the original registration, a student should not register for the course again, but should complete the work for the original registration if the original registration is within the normal time limits established for the degree.

Deferred

When the work is completed in a course for which DEF has been assigned, the grade is changed to a letter grade by the instructor, except in the case of theses and dissertations. When a thesis or dissertation has been submitted to the Graduate School as approved, the grade is automatically changed to S. If a thesis or dissertation is found unacceptable and the student is dismissed from the program, the grade of U is automatically assigned upon receipt by the Graduate School of the action dismissing the student.

Audit

A student registering for a course on an audit basis receives no letter grade and no credit hours. The student's registration must indicate audit registration and the same fees are paid as when registering for credit. During the first two weeks of a regular semester a student registered for a course for credit may change to audit status or vice versa through the official program change process. Thereafter, the change may not be made.

Changing of Grades

At the completion of a course the final grade assigned to a student is the responsibility of the instructor of the course. Grades given at the end of the course are final and may not be changed by additional work or by submitting additional materials; however, clerical errors in recording grades can be corrected. To correct a clerical error, the assigned instructors should submit a grade change card together with an explanation and justification of the grade change for the approval or disapproval of the department chair, the appropriate college dean, and the dean of the Graduate School. In cases of theses and dissertations, for which DEF grades are given, the Graduate School changes the DEF grades upon presentation and acceptance of the thesis and dissertation and receipt of the departmental approval papers. In courses for which INC and DEF grades have been given, the assigned instructors has the responsibility of determining the final grade to be assigned and notifying the Office of Admissions and Records of the final grade by means of the grade change card.

Transfer of Credit

Coursework taken as a non-declared student or as a graduate student in another institution or department may be transferred to the student's degree program if that credit has not been used to fulfill requirements for another degree. Petitions for use of such credit must be approved by the Department and the Graduate School.

Incomplete (INC) Grades

An incomplete is assigned when, for reasons acceptable to the course instructor, students engaged in passing work are unable to complete all class assignments. Incompletes are not included in grade-point computations.

Requests for and the granting of incompletes are strongly discouraged. The presence of incompletes on a student's transcript will be a factor considered in graduate assistantship funding decisions. Students with more than six (6) hours of incomplete work on their records may be dropped from the program, regardless of their cumulative GPA. A student with more than one incomplete grade is not eligible to defend his/her thesis.

Academic Probation

University Policy

Any graduate student whose grade point average falls below 3.00 will be placed on academic probation. All 400- and 500-level courses taken after a student is admitted to the Graduate School are considered graduate level, unless the course is specifically designated Not for Graduate Credit. Grade point averages for master's degree students and non-declared graduate students are based on all graduate credit work completed at SIUC.

Any graduate student on academic probation whose grade point average remains below 3.00 for two consecutive semesters in which he or she is enrolled, excluding Summer sessions, will be permanently suspended from the Graduate School, unless the Department and the College Dean petition the Graduate Dean for an exception.

2019-20 Academic Calendar

Important Dates & Deadlines for Fall 2019

August 12

Deadline for all Graduate Assistantship (GA) paperwork to be processed in order to make payroll in August

August 12-14

Fall Orientation for International Graduate Students at Center for International Education (CIE)

August 13

International Teaching Assistant (TA) testing at CIE

August 14

Graduate School welcome party, 11:00am-1:00pm at pavilion outside Student Services Building (in SSB 150 in case of inclement weather)

August 14

CIE World of Welcome, 4:45-7:00pm at Guyon Auditorium in Morris Library

August 15

New Graduate TA Training, 9:00am-5:00pm at Guyon Auditorium in Morris Library

August 16

New Student Convocation, 7:00-8:00pm at Shryock Auditorium

August 19

Fall courses begin

August 21

Saluki Job Fair, 1:30-4:30pm at Student Center Ballrooms

August 25

Deadline to register, add a course, or change sections of full-term courses (without Dean's signature)

Deadline for receipt of Graduate Scholarship Program Application for Fall 2019

August 27

International Teaching Assistant (TA) testing at CIE

August 30

Last day to submit paperwork to the Registration Office to drop a semester length course to be eligible for a credit/refund; change credit/audit status; and to withdraw from the university with a full refund

Deadline for processing any admissions or major change requests

September 1

Last day for student to drop a full-term course (to be eligible for a credit/refund)

September 2

Labor Day – University Closed

September 10

Grad Bash – University Bookstore, 10:00am-1:00pm

September 13

[Deadline to apply for December 2018 Graduation](#)

September 19

Deadline to apply for Illinois residency for Fall 2019

October 2

Research Paper, Thesis, & Dissertation Information Session, 12:00-1:00pm, Student Services Building 150

October 3

Research Paper, Thesis, & Dissertation Information Session, 5:00-6:00pm, Student Services Building 150

October 25

Last day to submit paperwork to the Registration Office related to the last day to drop or for a withdrawal from the University

October 27

Last day to drop a full-term course online using SalukiNet (no refund; results in a grade of W)

November 8

[Deadline for Format Check for Research Papers, Theses, and Dissertations to Graduate School for December Graduation](#)

November 15

[Deadline to submit Research Papers, Theses, and Dissertations to Graduate School for December Graduation](#)

Deadline to submit Graduate Tuition Scholarship Application for Spring 2019

November 23 - December 1

Thanksgiving Vacation

December 1

Spring 2020 Graduate Assistantship contracts due to Graduate School

Graduate Assistant Re-Employment Notification: Departments must notify Graduate Assistants of decision to re-employ or not to re-employ for the following Spring Semester

December 9-13

Finals Week

December 14

Graduate School [Commencement](#)

December 16 - January 12

Holiday Break - Students

December 25 - January 1

Campus Holiday

Important Dates & Deadlines for Spring 2020

January 5

Deadline for receipt of Graduate Scholarship Program (GSP) applications for Spring 2020 semester

January 13

Spring courses begin

January 17

Morris Fellowship nominations due to the Graduate School

Doctoral Fellowship nominations due to the Graduate School

January 24

Graduate Dean Fellowship nominations due to the Graduate School

PROMPT nominations due to the Graduate School

Last day to submit paperwork to the Registration Office to drop a semester length course to be eligible for a credit/refund; change credit/audit status; and to withdraw from the University with a full refund

February 4

Research Paper, Thesis, & Dissertation Informational Session, 5:00-6:00pm, Student Services Building 150

February 5

Research Paper, Thesis, & Dissertation Informational Session, 11:00am-12:00pm, Student Services Building 150

February 7

Morris Fellowship announcements
Doctoral Fellowship announcements

[Deadline to apply for May 2020 Graduation](#)

February 21

Graduate Dean Fellowship announcements
PROMPT announcements

March 7 - 15

Spring Break

March 20

Dissertation Research Award (DRA) nominations due to Dean's office

March 27

Last day to submit paperwork to the Registration Office related to the last day to drop or for a withdrawal from the University

March 29

Last day to drop a full-term course online using SalukiNet (no refund; results in a grade of W)

April 3

Dissertation Research Award (DRA) nominations from Deans due to Graduate School

[Deadline for Format Check for Research Papers, Theses, and Dissertations to Graduate School for December Graduation](#)

April 10

[Deadline to submit Research Papers, Theses, and Dissertations to Graduate School for December Graduation](#)

April 15

Deadline for receipt of Graduate School Tuition Scholarship applications for Summer 2020 semester

April 17

Dissertation Research Assistantship Award announcements

May 1

Graduate Assistant Re-Employment Notification: Departments must notify Graduate Assistants of decision to re-employ or not to re-employ for the following Fall & Spring semesters
Summer 2020 Graduate Assistantship contracts due to Graduate School

May 4 – 8
Finals Week

May 9
Graduate School [Commencement](#)

May 13
Research Paper, Thesis, & Dissertation Informational Session, 3:00-4:00pm, Student Services
Building Room 150

Program Curriculum & Degree Requirements

Curriculum

A minimum of 26 semester hours of course work, including two (2) hours of seminar, and 24 semester hours of dissertation research is required. The coursework must be completed in two areas: area of concentration and program core. A student must complete a minimum of 15 hours of course work relevant to their area of concentration. The coursework in the area of concentration is intended to provide depth in the student's area of research. The program core consists of 11 hours of course work. A dissertation must be completed in the student's area of research interest with the approval of the dissertation committee.

Program Core

The program core consists of eleven (11) hours of coursework: Six (6) hours in Mathematics, three (3) hours in Engineering or Science, and two (2) hours of Seminar. The Mathematics courses to choose from are: all 400 and 500 level courses, **except** MATH 400, 411, 412, 458, 480, 483, 511, 512, 513, and 516. The Engineering courses to choose from are: ENGR 530—Engineering Data Acquisition: Theory and Practice; ENGR 540— Design of Engineering Experiments; ENGR 545—Advanced Numerical Methods in Engineering; and ENGR 521—Probability and Stochastic Processes for Engineers. The Science course can be any 400 or 500 level course in Computer Science, Physics, Chemistry, or Geology, as approved by the student's advisor. The Seminar course, ENGR 580, must be taken in two separate semesters, each time as a one (1) credit hour course. It is recommended that the first Seminar class be taken in the student's first Fall semester in the doctoral program and the second be taken in the first Fall semester after the student has been admitted to candidacy.

Notes for the Program Core and Concentration coursework:

- Only two 400-level courses (typically six hours) can be counted towards the minimum required 26 semester hours of coursework.
- A Special Investigation course can be taken under ENGR 590—Special Investigations in Engineering Science, and only three (3) hours can be counted towards the minimum required 26 semester hours of coursework.
- Transfer credit will normally be given for some of the graduate level courses suitable to the program upon review by the college Ph.D. Committee. Proficiency examinations may be authorized by the committee for areas in which questions of transfer credit arise. No credit will be given for industrial experience. A maximum of six (6) hours of coursework can be transferred in all cases due to residency requirement, which states that every student must complete at least 24 semester hours of approved course work at SIU prior to taking the candidacy examination.
- Of the 24 hours of dissertation research (ENGR 600) only six (6) hours can be completed before candidacy.

- A student transferring credits from a Master's program must have earned those credits over and above the required coursework to obtain the M.S. degree at their institution. Credit cannot be transferred from master degrees obtained from international institutions.

Candidacy

A doctoral student must satisfy all Graduate School requirements to become a candidate. Acceptance to doctoral candidacy is contingent upon the completion of all courses, excluding the Seminar, with A or B grades and successful completion of a written and an oral examination in the student's area of concentration.

Qualifying Examination

The examination in the area of concentration is organized and administered by the student's academic advisor. The candidacy examination committee consists of at least three faculty chosen by the advisor in consultation with the student. The committee has to be approved by the program Director before it conducts the examination. Normally, the examination can be conducted at any time during the year when classes are in session. In the written examination, the student is tested in at least two major topics of the area of concentration with an appropriate number of questions prepared by the members of the student's candidacy committee. Each student has to score at least 70 percent in each major topic test in order to successfully complete the written part of the candidacy examination. If a student fails to pass any topic test of the written examination, a second chance is given for the failed topic test. If a student does not successfully complete the written examination after two attempts, they will not be accepted to candidacy in the Engineering Science Doctoral Program. A student is qualified to take the oral examination only after successfully completing the written examination.

The oral examination is conducted within two weeks of the successful completion of the written examination. In the oral examination, the student is tested again in the area of concentration by the candidacy members. If a student fails to pass the oral examination in the first attempt, a second chance is given for the oral examination. If a student does not successfully complete the oral examination after two attempts, they will not be accepted to candidacy in the Engineering Science Doctoral Program.

After the completion of the concentration examination, copies of the graded tests, along with signoff sheets for both the written and oral examinations are submitted to the Director of the Doctoral Program.

Dissertation

A dissertation must be written under the direction or co-direction of an Engineering faculty member and approved by a dissertation committee consisting of at least five members, one of whom must be from outside the College of Engineering. The dissertation advisor must be chosen by the end of the student's first academic year. The dissertation committee should be formed after successful completion of the candidacy examination, and submitted to the Graduate School with a completed Graduate Faculty Committee Approval Form, available on the Graduate School's website or from the Office Administrator. The members of this committee need not be the same as the members of the candidacy examination committee. A dissertation research

proposal must be approved by the dissertation committee. Candidates will be required to present an acceptable dissertation describing original research performed with minimal supervision. Dissertation approval is based on a successful oral defense of the dissertation research and approval of the dissertation. This requires approval of at least 80 percent of the dissertation committee.

Following the admission to candidacy and upon completion of all the required coursework, the candidate will prepare and submit a formal written dissertation proposal, defining the proposed research and the proposed line of inquiry. The candidate subsequently must make an oral presentation of the dissertation proposal to the members of the dissertation committee in an open forum. A public announcement of this event must be made at least five days in advance.

In the framework of the oral presentation of the dissertation proposal, the candidate is expected to address and respond to any questions (by the members of the committee) related to material covered by all the courses taken during the candidate's doctoral studies or to the background necessary for the specific area of the proposed research. In addition, the candidate is expected to defend the research methodology and the proposed line of inquiry.

The dissertation must be prepared in accordance to the *Guidelines for the Preparation of Dissertations, Theses, and Research Papers* from the SIU Graduate School. Dissertation approval is based on successful defense of the research performed in terms of originality, relevance and presentation (written and oral). This requires approval by at least 80% of the members of the dissertation committee. At this time, the student's Dissertation Approval Form will be approved or denied by the student's dissertation committee and submitted to the Office Administrator.

Upon completion of the dissertation, which must demonstrate the ability of the candidate to conduct independent research, the committee will administer the final oral examination. The objective of the final oral examination, conducted in an open forum, will be the defense of the dissertation. At this time, the Oral Defense Form will be approved or denied by the student's dissertation committee and submitted to the Office Administrator. Upon satisfactory completion of the dissertation and the final oral examination the committee will recommend the candidate for the doctoral degree.

Note: It is strongly recommended that students submit two or more original copies (with signature) of the Graduate Faculty Committee Form, the Dissertation Approval Form, and the Oral Defense Form to the Office Administrator for submission to the Graduate School.

Graduation

In order to be cleared for graduation, the candidate must have met the following requirements:

- A minimum of 26 hours of doctoral-level coursework with a minimum GPA of 3.25.
- An acceptable dissertation completed within five years after admission to candidacy.
- Any and all requirements of the SIU Graduate School.

It is recommended that in the semester **before** the student intends to graduate, they should make an appointment with the program's Office Administrator in order to confirm that all requirements have been met or are currently being completed.

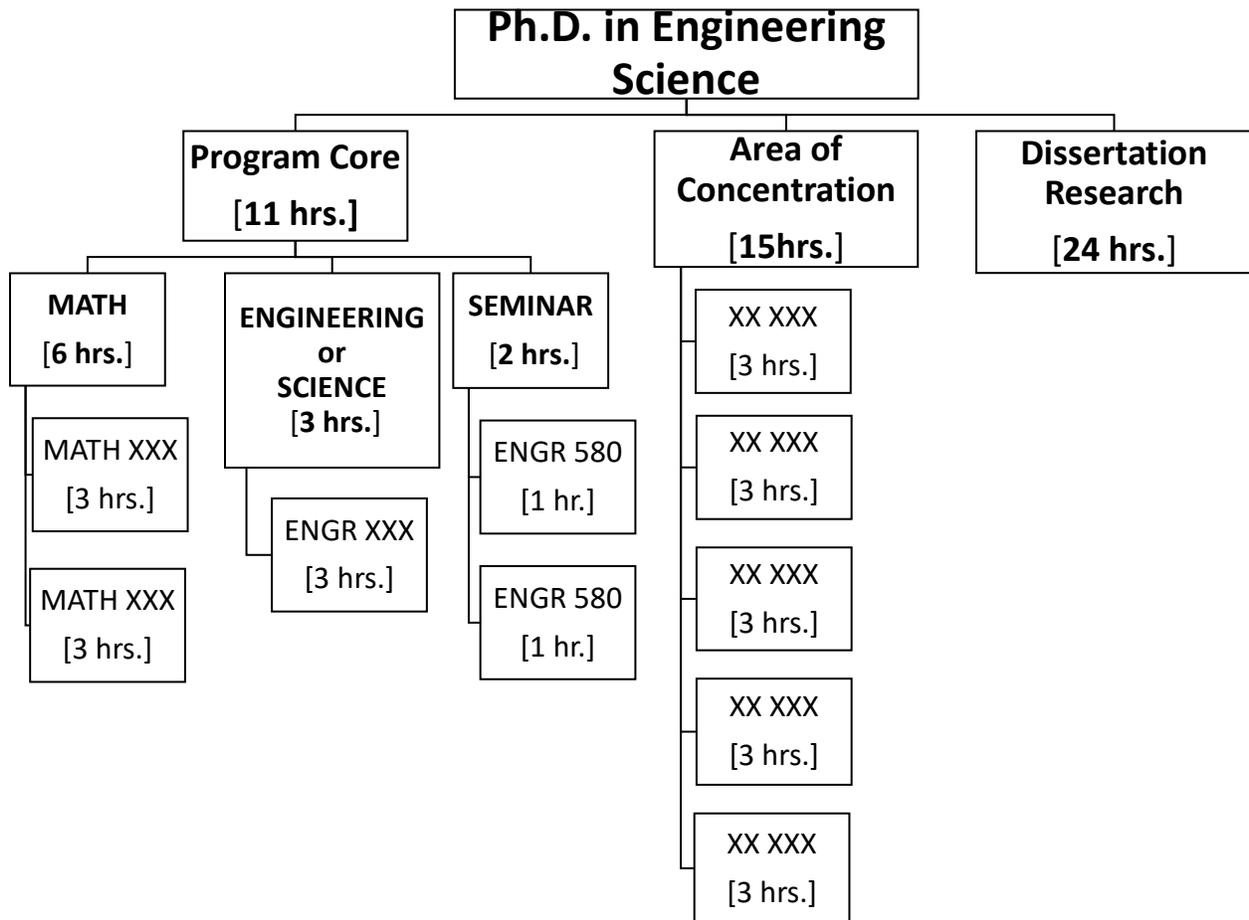
Degree Summary & Timeline

After being admitted to the Engineering Science Doctoral Program, the program timeline may be broken down into 26 credit hours of coursework, the candidacy exam, 24 credit hours of dissertation, and the dissertation defense. The student's faculty advisor will assist with completing their Program of Study, which allows the student to see their own progress and remaining coursework. A breakdown of the individual requirements is as follows:

1. Complete 26 credit hours of coursework, including six (6) credit hours of Mathematics and two (2) credit hours of ENGR 580—Seminar.
 - a. Two courses may be 400-level. All other courses must be 500-level.
 - b. Only six (6) credit hours of dissertation hours taken before candidacy will be counted towards the student's degree requirements.
 - c. ENGR 580 is taken twice for one (1) credit hour each time. It should be taken during the student's first Fall semester in the program and again the Fall semester after the student is admitted to candidacy.
 - d. Each student should fill out a Course Request Form (CRF) when deciding with their advisor which courses to take and turn the form in to the Office Administrator. Course Request Forms can be found at <https://gradschool.siu.edu/common/documents/forms/course-request.pdf>
 - e. In the event of an error message when trying to register for a course, students should contact the Office Administrator.
2. The candidacy examination should be completed either during the student's final semester of coursework or during the student's first semester after coursework is completed. The student's candidacy committee should consist of three faculty members chosen by the student's advisor with consultation from the student.
 - a. Contact the program's Office Administrator for any forms related to candidacy. The Candidacy Exam Committee Form should be completed prior to the examination. The Candidacy Exam Results Form and the Admit to Candidacy Form should be filled out upon completion of the examination. All forms should be submitted to the Office Administrator after the student has obtained their advisor's signatures.
3. Students should form their dissertation committee the semester after they are admitted to candidacy and complete the Graduate Faculty Committee Approval Form at that time. The Office Administrator can assist with the graduate faculty status of faculty members. Four committee members must be from the College of Engineering and one committee member must be from outside the College of Engineering. This form should be submitted to the Office Administrator once the student has obtained their advisor's signature. This form can be found on the Graduate School's website here: <https://gradschool.siu.edu/about-us/forms.php>
4. 24 credit hours of ENGR 600—Doctoral Dissertation are required.
5. A minimum of six (6) months should pass between the student's dissertation proposal and their dissertation defense. The Office Administrator can provide a copy of the Dissertation Proposal Approval Form.

6. Students must be registered during their final semester (the semester they intend to graduate), even if all other requirements have been met.
7. The dissertation defense is the student's final step before submitting their dissertation and graduating. The Office Administrator can provide copies of the Dissertation Approval Form and Oral Defense Form. These forms can also be found on the Graduate School website at <https://gradschool.siu.edu/about-us/forms.php>.

Course Requirement Chart



Resources

Big Dawg

Big Dawg is a high-performance computing cluster available for local research projects working with large amounts of data. This 34.7 TeraFLOP supercomputer offers computing speeds comparable to the fastest academic supercomputers in the world. SIU provides access to BigDawg to all researchers and supervised students free of charge. For more information, students should contact Chet Langin by phone (618-536-2438), email (cl.research@siu.edu), or visit <https://oit.siu.edu/rcc/>.

Engineering Computer Support Center

For assistance with computers, computer labs, software, or any other computer topics, students can find the Engineering Computer Support Center in Engineering E room 135, or contact them by phone (618-536-2153) or email (ecsc@engr.siu.edu).

Electronic Theses & Dissertations Assistance

The Graduate School offers workshops each semester to provide information for students regarding formatting, guidelines, submission dates, and more for research papers, theses, and dissertations. Students can also contact the ETD Support team for assistance (etdsupport@siu.edu) or visit the ETD website (<https://gradschool.siu.edu/current-students/thesis-dissertation-researchpaper/etd-overview.php>) for more information regarding submission and guidelines.

Graduate Catalog

The Graduate Catalog has information on all degree requirements and available courses for all of SIU's graduate programs. The current online Graduate Catalog, as well as previous digital copies, can be found by visiting <https://gradschool.siu.edu/about-us/grad-catalog/>.

Graduate School

The Graduate School website has extensive information on all aspects of being a graduate student at SIU, including digital copies of all of the Graduate School's required forms. The Graduate School's office is located on the third floor of the Student Services Building, and can be reached by phone (618-536-7791) or email (gradschl@siu.edu).

Morris Library

Morris Library has an extensive collection of books and other media to assist students and faculty with all aspects of education. Additional information is available by calling the Library's Information Desk (618-453-2818), emailing their Administrative Office (adminoffice@lib.siu.edu), or by visiting their website (<https://lib.siu.edu>).