

GRADUATE HANDBOOK  
FOR  
MATHEMATICS AND  
STATISTICS



DEPARTMENT OF MATHEMATICS AND  
STATISTICS

COLLEGE OF SCIENCE AND  
ENGINEERING TECHNOLOGY  
SAM HOUSTON STATE  
UNIVERSITY

# ACADEMIC PROCEDURES

## APPLICATION / ACCEPTANCE PROCEDURES

**Regular Admission.** Requirements for **regular** admission to the graduate school are set forth in the Graduate Catalog and are summarized below (see the Graduate Catalog for more detailed information):

### A. General Program Admission Requirements

1. Meet admission requirements as listed in SHSU's current graduate catalog.
2. Copies of all undergraduate and graduate transcripts. Unofficial transcripts are permitted during the application process.

### B. M.S. in Mathematics Requirements

An undergraduate degree in mathematics or a closely related required field is required. Students without a degree in mathematics should have completed, at a minimum, the following coursework in mathematics:

1. A three-course sequence in calculus, including multivariate calculus,
2. A course in linear algebra, and
3. At least one course in either abstract algebraic structures OR advanced calculus/real analysis. (Multiple courses in both subjects are strongly preferred.)

Three letters of recommendation from the applicant's undergraduate faculty are also required. An overall undergraduate GPA of 3.0 or higher is preferred for admission into the program. However, GPA is not the sole criterion for admission and exceptions can be made based on other evidence.

### C. M.A. in Mathematics Requirements

1. Calculus I, Calculus II, Calculus III, and Linear Algebra with B's or higher.
2. At least two letters of recommendation.
3. An overall undergraduate GPA of 3.0 or higher is preferred for admission into the MA Mathematics program. However, GPA is not the sole criterion for admission and exceptions can be made based on other evidence. Based on a review of an applicant's undergraduate transcript, the Department of Mathematics and Statistics may require completion of undergraduate stem courses as a condition for admission. Currently a 3.0 GPA is required for financial support.

#### **D. M.S. in Statistics and Data Science Requirements**

1. An undergraduate degree in statistics, mathematics, engineering or a closely related field. Applicants with a strong mathematical background are considered for admission.
2. Three letters of recommendation. Ideally, these letters are provided by faculty in the undergraduate major field of study that can attest to the likelihood of the applicant succeeding in a master's level graduate program.
3. Official GRE scores. GRE is recommended but not required. Although it is not required, the graduate admission committee will use it for ranking purposes.
4. Official TOEFL or IELTS scores (for international students)
5. For a final admissions decision, a holistic review of each student's application file is completed on a competitive basis by the Graduate Committee in Statistical Sciences. The Graduate Coordinator serves as the committee chair and is a non-voting member except to break a tie. Currently a 3.0 GPA is required for financial support.

**\*Probationary Admission.** An applicant whose records are complete but who do not qualify for regular admission can be granted probationary admission with departmental recommendation and approval from the Dean of the College of Science and Engineering Technology. The student may enroll in graduate courses (maximum 12 hours) to demonstrate they can perform at the graduate level. Students must earn a grade of "B" or better in each course taken under probationary status to be considered for regular admission at the discretion of the graduate committee.

**\*Preparatory Admission.** A degree-seeking applicant that does not qualify for regular admission and needs to complete one or more STEM courses may be granted preparatory admission.

\*Please note that probationary and preparatory admission does not guarantee regular admission once deficiencies are met. Only regularly admitted students are eligible for College of Science and Engineering Technology Graduate Assistantship positions.

#### **Post-Baccalaureate Admission or Non-Degree Admission.**

**Post-baccalaureate** classification is assigned to students possessing a Baccalaureate Degree that have not been regularly admitted or conditionally admitted into a graduate program and could be classified as non-degree seeking.

**Non-degree admission** may be granted to a student who does not intend to pursue a graduate degree but who wishes to take courses for professional advancement, licensure, certification, or self-education purposes, and who holds a baccalaureate degree or higher from an accredited university.

**International students** must meet the same requirements for admission and candidacy as students

from the United States. In addition, an evaluation of foreign education credentials is required (formal transcript evaluation), as well as proof of financial support. International students are eligible only for regular admission status.

**Transfer Credit.**

A total of nine (9) graduate credit hours (i.e. 50xx-level and above) may be transferred to SHSU from another accredited graduate program at the discretion of the Graduate Coordinator and the Dean. Transfer credit is not automatic and must be requested by the Graduate Coordinator using a form found on the Office of Graduate Studies website. Only courses with an earned grade of “B” or better may be used as transfer credit. Transferred courses must adhere to the six-year time frame (i.e. courses may not be older than six years at the time of completion of the degree). Exceptions to the six-year rule require approval by the Graduate Coordinator, Dean college, and Dean of Graduate Studies

**GRADUATE (TEACHING) ASSISTANTSHIPS**

A limited number of graduate assistantships are available through the Department of Mathematics and Statistics in conjunction with the College of Science and Engineering Technology. Assistantships are typically awarded for a total of four semesters if the student remains in good academic standing (minimum GPA of 3.0).

Three categories are considered when an applicant requests a graduate assistantship in the program. Upon review of all applicants, the admission subcommittee makes a recommendation to the chair of the department that an offer be made after ranking applications using these guidelines:

Excellent	Average	Poor
Marks of A and/or B in all coursework required for admission to the program.	Marks of A, B and/or C in all coursework required for admission to the program.	Marks of B, C and lower in coursework required for admission to the program.
Two or three (depending on the program) strong letters of recommendation submitted from undergraduate faculty.	Reserved letters of recommendation submitted by some or all undergraduate faculty.	Weak letters of recommendation submitted by some or all undergraduate faculty.
Strong performance in elective mathematics courses and/or mathematical research.	Average completion of elective courses in mathematics, with no strong research experience.	No undergraduate research experience is documented, with weak performance in elective courses in mathematics.

As assistantship positions become available due to a rejection of a previous offer or departure of current students from the program, the ranking built using this rubric will be used to identify the next student

granted an offer.

**All students who have been awarded a Graduate Assistantship are required to attend the Office of Graduate Studies New Graduate Student Orientation during their first semester in the program.**

## **ENROLLMENT REQUIREMENTS**

The normal course load (to be considered a full-time student) is 6-9 credit hours per full semester. Other limitations include:

1. University Graduate and Research Assistants that are employed half-time (20 hours per week) are required to carry a load of at least 6 credit hours per semester for fall and spring semesters.
2. Federal financial aid requires students to be enrolled in at least 18 credit hours per calendar year and at least 6 hours during each regular (fall and spring) semester.
3. Students who wish to use university resources, including library access and access to academic buildings and research facilities during the summer must be enrolled in at least one credit hour during the 10-week summer session or be employed by SHSU during the summer months.

## **ACADEMIC EXPECTATIONS**

All graduate students in mathematics and statistics must remain in good academic standing. From Academic Policy Statement 910312:

- A minimum grade point average of 3.0 is required in all graduate course work. All grades earned at SHSU (A, B, C, F) in courses listed for graduate credit on the student's official Degree Plan will be included in computing the grade point average. The marks of Q, W, CR, NC, IP, and X are not counted as hours attempted in computing the SHSU grade point average.
- Grades earned at another institution may not be used to remove a grade of "C" or lower earned at SHSU.
- The appropriate academic dean may place on probation, retain on probation, or terminate any student deficient in grade points.
- Graduate programs may establish additional standards for academic performance, including professional expectations in association with clinical settings, licensing, certification, and/or accreditation. Graduate programs must clearly document and make available to students any academic performance standards in writing, subject to approval by the program coordinator,

department chair/program director (when applicable), academic dean, Dean of Graduate Studies, Office of General Counsel, and Provost and Sr. Vice President for Academic Affairs. These academic performance standards shall be subject to review as a component of the seven-year graduate program review.

## **ACADEMIC PROBATION, TERMINATION, OR DISMISSAL**

A graduate student who falls below a 3.0 SHSU grade point average at the close of any semester or summer semester during which one (1) or more semester hours are attempted will be placed on probation. Two (2) summer sessions are equivalent to one (1) long semester. If an enrolled student on probation fails to achieve a minimum of a 3.0 SHSU grade point average at the close of the next semester following the start of the probation, the student will be terminated from graduate studies.

A graduate student who earns a grade of F in any graduate course at SHSU will be terminated from graduate studies.

A student who earns a grade of C in any course at SHSU (repeated or distinct course) within the academic program may have their graduate status reviewed by the appropriate graduate faculty committee, corresponding to their degree program. The committee will recommend an appropriate remediation for the student.

A student who fails to meet any approved program-specific standards for academic performance, including professionalism standards, may be dismissed from the program and not permitted to register for courses in the program.

A student placed on probation will be removed from probation at the close of the semester or summer semester in which the SHSU grade point average achieves the required standard.

## **APPEALS PROCESS**

A student who believes they have been wrongly dismissed or terminated from graduate studies may appeal using the following procedures:

1. The student must first appeal to the graduate advisor for a resolution and must do so in writing and within ten (10) working days following the notification of probation, termination, or dismissal. The graduate advisor must respond to the appeal in writing within ten (10) working days of receipt.
2. If the appeal to the graduate advisor is not satisfactorily resolved, the student may appeal in writing to the chair of the department within ten (10) working days following the graduate advisor's decision. The department chair must respond to the appeal in writing within ten (10) working days of receipt. The student may appeal the decision of the chair in writing to the appropriate academic dean within ten (10) working days following the chair's decision. The academic dean may elect to create appeal committees at the program, department/school, or college level to hear student appeals for

readmission. These committees will be charged with making a recommendation to the academic dean. The academic dean must respond to the appeal in writing within ten (10) working days of receipt of the appeal or the committee's recommendation, if any.

3. If the appeal is not resolved with the academic dean, the student may appeal in writing to the Provost and Sr. Vice President for Academic Affairs, or their designee, within ten (10) working days following the academic dean's decision. The decision of the Provost and Sr. Vice President for Academic Affairs or their designee is final.

## SCHOLARSHIPS

Several scholarships are available to graduate students at SHSU, and most require an application submitted through the Scholarships4Kats portal (<https://shsu.academicworks.com/>). Of special note are the following scholarships from the College of Science and Engineering Technology and the Graduate School.

### College of Science and Engineering Technology Graduate Recruitment Scholarship

**The College of Science and Engineering Technology (COSET) Graduate Recruitment Scholarship is a \$1,500 competitive scholarship awarded to outstanding students entering their first semester of a COSET graduate program at SHSU and who have not been awarded a graduate assistantship.**

To be considered for the COSET Graduate Recruitment Scholarship, a student must be accepted into a graduate program in the College of Science and Engineering Technology, be entering their first semester in the program, and plan to be a full-time student. Nominations for the scholarship will be accepted from SHSU faculty, or students may self-nominate. An international student applying for the scholarship must have a transcript evaluation on file with the COSET Dean's office (transcript evaluations by qualified SHSU faculty are acceptable). Applicants will be evaluated by cumulative grade point average (GPA).

*An application can be found [here](#), and applications must be scanned and emailed to Ms. Katelyn Conner at [kconner@shsu.edu](mailto:kconner@shsu.edu) by 5:00 pm on the day of the deadline. Paper applications will not be accepted.*

The application deadlines for the Fall scholarship are **April 1st** (first round) and **July 15th** (second round), and the application deadline for the Spring scholarship is **November 15th**.

**Please note:** To be eligible for any COSET scholarship, you are required to complete the General Application in [Scholarships4Kats](#).

## College of Science and Engineering Technology Graduate Achievement Scholarship

**The College of Science and Engineering Technology (COSET) Graduate Achievement Scholarship is a \$1,500 competitive scholarship awarded to students demonstrating outstanding academic progress in a COSET graduate program.**

To be considered for the COSET Graduate Achievement Scholarship, a student must be enrolled full-time in a graduate program in the College of Science and Engineering Technology and have an SHSU graduate GPA. Students in their first semester of a COSET graduate program are not eligible for the scholarship and should consider applying for the COSET Graduate Recruitment scholarship instead. Students who are already receiving a scholarship as a bonus to their graduate assistantship (generally, those students in their first or second semester in a COSET graduate program who have been awarded a graduate assistantship), are not eligible for the scholarship. Students receiving a PhD stipend are also not eligible. Certain exceptions are permitted; interested students are highly encouraged to inquire about eligibility. Please direct inquiries to Li-Jen Lester ([lys001@shsu.edu](mailto:lys001@shsu.edu)). Complete applications require:

1. a ½-page personal statement from the applicant (that includes the applicant's Sam ID) describing their academic progress toward the degree, including planned graduation date, and progress on the thesis, capstone project, or dissertation (where applicable), and
2. a letter of evaluation from the applicant's major advisor or graduate program coordinator describing the applicant's progress toward the degree and overall performance in the graduate program.

***Applicants must email their personal statement as a Word or pdf document to Li-Jen Lester ([lys001@shsu.edu](mailto:lys001@shsu.edu)) with Graduate Achievement Scholarship in the subject line by 5:00 pm on the day of the deadline.***

***The letter of evaluation must be emailed directly from the applicant's major advisor or graduate program coordinator to Li-Jen Lester ([lys001@shsu.edu](mailto:lys001@shsu.edu)) by 5:00 pm on the day of the deadline.***

The application deadline for the fall scholarship is **July 1<sup>st</sup>**, and the application deadline for the spring scholarship is **December 1<sup>st</sup>**.

**Please note:** To be eligible for any COSET scholarship, you are required to complete the General Application in [Scholarships4Kats](#).

## The Graduate School General Scholarship

The General Graduate School Scholarship is intended for high-quality students in SHSU graduate programs. Applications for this \$1000 scholarship will be accepted for both new and current students. Students may submit new applications each semester while enrolled in graduate programs.



**Scholarship 4 Kats Portal (Search under Opportunities for The Graduate School General Scholarship after completing the General Application)**

If you have any questions regarding the General Graduate School Scholarship, please contact The Graduate School at [TheGraduateSchool@shsu.edu](mailto:TheGraduateSchool@shsu.edu).

**The Graduate School  
Graduate A.S.P.I.R.E.**

The Graduate School's A.S.P.I.R.E. scholars program provides minority graduate students with mentoring and academic success programming to promote professional development and to strengthen the graduate school experience. For more information, click [here](#).

## **COMPREHENSIVE EXAMS**

Prior to graduation, students must complete the comprehensive exams in their degree program.

### **A. M.S. in Mathematics Exams**

Students in the M.S. program in Mathematics must pass the comprehensive exams in algebra and analysis. The preparatory material for these exams is covered in the core sequences (MATH 6333 and 6334 for analysis, MATH 6335 and 6336 for algebra), but the content and format of each exam is at the discretion of the committees administering each exam. Once a student has completed one of the core sequences, they must immediately sit for the exam in that content area at the next regularly offered date. Upon completion of the exam, the graduate committee will evaluate the student's performance to determine a grade of HIGH PASS, PASS or FAIL. Any student assigned a failing grade must retake the exam within one semester or at the discretion of the graduate committee. Any student that fails a comprehensive exam a second time is immediately terminated from the program.

### **B. M.A. in Mathematics**

Students in the M.A. program in Mathematics must pass the oral comprehensive exams in algebra (covered in MATH 5386), geometry (covered in MATH 5387), analysis (covered in MATH 5388), and statistics (covered in MATH 5389), but the content and format of each exam is at the discretion of the committees administering each exam. Students schedule their exams with the graduate advisor at least three weeks in advance and after they have completed all four courses. Upon completion of the exam, the graduate committee will evaluate the student's performance to determine a grade of HIGH PASS, PASS or FAIL in each of the areas. Any student assigned a failing grade must retake the portion of the exam within one semester or at the discretion of the graduate committee.

### **C. M.S. in Statistics and Data Science**

Students in the M.S. program in Statistics and Data Science must pass the oral comprehensive examination. The materials of the oral exam are covered from the specified courses (STAT 5333, STAT 5361, STAT 5362, STAT 5364, and STAT 5368). An oral comprehensive examination is administered by the advisory committee for each degree candidate during the final semester. The oral examination must be scheduled with the Graduate Advisor at least three weeks in advance. Students must be enrolled the semester in which they take the comprehensive examination. The advisory committee will evaluate the student's performance to determine a grade of HIGH PASS, PASS or FAIL. Any student assigned a failing grade must retake the exam. Any student that fails a comprehensive exam a second time is terminated from the program.

## **THESIS REQUIREMENTS**

Within the M.S. in Mathematics and Statistics program, students may select a non-thesis or thesis concentration. All non-thesis students must complete MATH 6380 (STAT 6380) and the research requirements established in the syllabus for that course. All thesis students must complete MATH 6398 (STAT 6398) and earn three hours of credit in MATH 6099 (STAT 6099). Additionally, thesis students must complete the following requirements.

### **A. Thesis Prospectus**

A student opting for the thesis concentration, in consultation with their research advisor, select a subject of investigation and determine the required resources for the proposed research. A thorough literature review and preliminary exploration of the research topic should be completed before the end of the second semester, along with the selection of an Advisory Committee. Before completing the comprehensive exams, the student will prepare an oral presentation and schedule a seminar with the graduate coordinator where all graduate students and faculty in the department are invited to attend and ask questions. Immediately following the presentation, the Advisory Committee may wish to provide guidance regarding the expected results that could lead to successful defense of the thesis. When appropriate, the graduate faculty may also recommend oral examinations in one or both comprehensive exams in lieu of the standard written exams.

The student will then prepare a written thesis prospectus which will specify the thesis topic, detail the purpose of the proposed investigation, describe the proposed method(s) of investigation, indicate the relationship of the study to relevant research findings in the student's area of concentration, and provide any preliminary results obtained in the investigation. The written prospectus should include an abstract of the goals for the successful completion of the research. This document must be submitted to the graduate coordinator, the student's research advisor, and the COSET Dean's office for final approval.

### **B. Continuous Enrollment**

In the student's third semester, they should enroll in MATH 6398 (STAT 6398), the first thesis research course. Per University policy, once a student enrolls in a thesis course (MATH/STAT 6398 or MATH/STAT 6099), the student must continue to enroll in at least 1 credit hour of a thesis course

each semester until the student graduates. For example, once a student enrolls in MATH 6398 (STAT 6398), the student must enroll in MATH 6099 (STAT 6099) the following semester and continue to enroll in at least once credit of MATH 6099 (STAT 6099) every semester until graduation. The student may opt to select the 1-credit hour section of MATH 6099 (STAT 6099) after a 3-credit hour section of MATH 6099 (STAT 6099) has been completed.

### **C. Thesis Document and Defense**

The thesis requirement consists of an original written document over the student's research findings completed in compliance with the project's prospectus. In addition, the student is subject to a thesis defense wherein the candidate for the degree of Master of Science defends their research results to their Advisory Committee. This presentation must be made available to the public during normal working hours. Following the public presentation, the Advisory Committee may wish to ask the candidate further questions and provide any corrections needed for the written document to be approved. At the time of the defense, a Report of Thesis Examination form (available on the COSET website) will be completed and submitted to the COSET Dean's office regardless of outcome (Pass/Fail). This form must be signed by all members of the advisory committee. Those students that fail must retake the exam within one semester or at the discretion of the Advisory Committee. Students that fail the thesis examination a second time are terminated from the program.

Thesis guidelines, including formatting and submission deadlines, as well as relevant policies, procedures and issues of compliance (e.g. IRB or IACUC approval) are available at <https://www.shsu.edu/dept/graduate-studies/theses-and-dissertations.html>. The One to One program is also available to master's students engaged in thesis research to aid with utilizing library resources: <https://library.shsu.edu/services/onetoone/index.html>.

Assistance with writing and formatting should be coordinated with the research advisor and graduate coordinator, who maintains a LaTeX style file and guide. All theses in mathematics should be written using the LaTeX document system. After final approval of the written document, the thesis is submitted electronically using the Vireo Electronic Submittal System. This provides the student with several different services by which they can request a printed and bound copy if desired.

A reasonable final draft of the thesis may not be submitted to the student's Advisory Committee later than two weeks prior to the scheduled defense unless all members of the committee agree. This is meant to allow ample time for the committee to read and edit the thesis as they see fit. Graduate students must obtain approval from all thesis committee members prior to scheduling their thesis defense.

### **D. Thesis Publication**

Once the thesis has been approved by all Advisory Committee members, an electronic route sheet should be started. This route sheet is available on the Graduate School's Thesis and Dissertation website: <https://www.shsu.edu/dept/graduate-studies/theses-anddissertations.html> At the same time, a copy of the Advisory Committee thesis page with signatures of all Advisory Committee members must be submitted to the COSET Dean's office, along with an electronic copy of the student's thesis.

The COSET Dean's office will not approve the route sheet until all items have been submitted. The completed route sheet serves as proof to the Registrar that the thesis has been completed and that all thesis requirements have been met for graduation. If all or parts of the thesis will be submitted for publication in a refereed journal, the student may wish to place an embargo that allows the thesis to be withheld from being published digitally for a limited time in SHSU's Institutional Repository and ProQuest. An embargo is not required. Students wishing to request an embargo must submit an Embargo Request Form in order to be approved.