This handbook is intended to be read in conjunction with the Graduate Catalog: https://catalog.tamucc.edu/graduate/ and the College of Graduate Studies Handbook http://gradcollege.tamucc.edu/current_students/masters_students.html.

MS IN MATHEMATICS STUDENT HANDBOOK

ACADEMIC YEAR 2024 – 2025

The Department of Mathematics and Statistics (MATH)
CI 301; Phone (361) 825-3754

College of Science (COS)
Texas A&M University - Corpus Christi (TAMU-CC)

Updated: July 7, 2024

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SECTION I. MESSAGE FROM THE DEAN/DEPARTMENT CHAIR/PROGRAM COORDINATOR

The Purpose of this Handbook

Welcome to the graduate handbook for the Department of Mathematics and Statistics at the Texas A&M University – Corpus Christi. This handbook is designed to serve as a resource to help with your questions about the graduate program. It is a companion for the catalog of the entry year: http://www.tamucc.edu/academics and in case of any contradiction the catalog of record is the true source of information, as well as the Graduate Studies handbook. The Graduate Studies handbook provides university-wide information relative to student resources, academic policies, financial assistance, graduation and thesis guidelines, including formatting, submission and deadlines: http://gradcollege.tamucc.edu/current_students/masters_students.html.

The sections on the thesis proposal and the project of the CC track in this handbook are particularly important; they are not covered in the Graduate Studies Handbook but a big step towards the MS in mathematics.

Program Mission

The mission of the Graduate Mathematics program is to increase understanding and the ability to apply mathematics through in-depth study, novel applications, and research. The areas of emphasis are mathematics education and applications of mathematics and statistics. The faculty engages in research and scholarly activities at the forefront of their specialties, with established and developing connections with the mathematics and education communities at large and leads students through program research activities and projects or theses. The program prepares students for careers in education, science, and industry and serves the community by providing expertise to local schools, coastal industry, and research centers.

Program Tracks

Students pursuing the Master of Science degree with a major in Mathematics will choose between an Applied and Computational Mathematics track, a Statistics track and a Curriculum Content track. The Applied and Computational Mathematics track will especially benefit individuals employed in scientific, technical, or education fields who seek advancement or additional training to enhance their knowledge and skills. The Curriculum Content track specifically addresses the needs of in-service teachers wishing to enhance their knowledge and skills in learning, teaching and understanding mathematics. In each track, a capstone product allows students to focus their coursework on broad applications. The Applied and Computational Mathematics track requires a thesis; both the Statistics track and the Curriculum Content track allow for a thesis or project. The thesis option starts with a broad foundation, and then encourages a specialized study culminating in a thesis based upon original research, supported by the mathematical literature. The thesis requirement for the master's degree will allow a person to pursue advanced graduate study, or to obtain employment in most areas that require a detailed knowledge of a specific aspect of

mathematics. The project allows a student to demonstrate particular ability with some part of the Curriculum Content or an application of statistical methods to new data. The project will be an original work supported by a mathematical literature review.

Student Learning Outcomes

Students will:

- Demonstrate a command of principles of general mathematics at the graduate level.
- Recognize mathematics outside the realm of the classroom and apply graduate level mathematical content as a matter of professional practice.
- Communicate mathematics effectively at the graduate level, in oral and written form, with appropriate use of technology.

A student graduating with a master's degree should be experienced in focused and independent research. For this reason, all three tracks leading to the MS in Mathematics include courses that provide instruction in research and generate a product of research. The product in the Applied and Computational Mathematics (ACM) track is a "thesis," while, the product may be a "thesis" or a "project" in the statistics track or the Curriculum Content (CC) track. This document will make references to either as a thesis/project, but you should keep in mind which you are doing.

It is the responsibility of the student to read and become familiar with the information in the handbook.

SECTION II. FACULTY & STAFF

Program Faculty:

Department Chair:

Alexey Sadovski, Ph.D., Professor of Mathematics, Office: CI 338, Phone: (361) 825-2477, alexey.sadovski@tamucc.edu. Research Interests: Optimal Control, Probability Theory and Statistics, Stochastic Processes, Operation Research and Decision Making, Optimization, Advanced Mathematical Modeling, Modeling of Natural Systems.

Graduate Faculty:

Celil Ekici, Ph.D., Associate Professor of Mathematics, Office CI 312, Phone (361) 825-3485, celil.ekici@tamucc.edu Research Interests: Data Modeling and Visualization, Mathematical Modeling, Integrated STEM and Data Science Education Connections, Fourier and Functional Analysis

George Tintera, Ph.D., Associate Professor of Mathematics, Office CI 302, phone (361) 825-6028, George.tintera@tamucc.edu. Research Interests: Ring theory, Mathematical preparation of Teachers.

James Dogbey, Ph.D., Associate Professor of Mathematics Education, Office: CI 304, Phone: (361) 825-3159, james.dogbey@tamucc.edu, Research Interests: Math teachers' knowledge for teaching, assessment in math education, curriculum studies and development, developing alternatives methods of doing mathematics

Jose Guardiola, Ph.D., Professor of Statistics, Office: CI 309, Phone: (361) 8255544, jose.guardiola@tamucc.edu. Research Interests: Circular Statistics, Bayesian analysis and Spatial Statistics, Distribution Theory. Applied biomedical research.

Lei Jin, Ph.D., Professor of Statistics, Office: CI 307, Phone: (361) 825-2099, lei.jin@tamucc.edu. Research Interests: Time series, missing data and applied statistics.

Devanayagam Palaniappan, Ph.D., Professor of Mathematics, Office: EN 211, Phone: (361) 825-2221, devanayagam.palaniappan@tamucc.edu. Research Interests: Solutions of ordinary and partial differential equations, fluid mechanics, elasticity, electro- and magnetostatics, thermal systems and instability, vortex interactions, porous media.

Mallikarjunaiah S. Muddamallappa, Ph.D., Associate Professor of Mathematics, Office: CI 316, Phone: (361) 825-3187, M.Muddamallappa@tamucc.edu. Research Interests: partial differential equations, etc.

Maria Vasilyeva, Ph.D, Assistant Professor of Applied Mathematics, Office CI 340. Phone: (361) 825-2140, Maria.Vasilyeva@tamucc.edu Research Interests: Multiscale multiphysics problems, Heterogeneous media, Numerical methods, Multiscale methods, Upscaling, Machine learning

Zheng Wei, Ph.D., Assistant Professor of Data Science, Office CI 306, Phone: (361) 825-6019. email: Zheng.Wei@tamucc.edu Research interests include: Bayesian statistical methods for data science, big data and analytics; Statistical machine learning methods, Statistical methods for analyzing multiway contingency table, Stochastic Frontier Model for efficiency analysis

Other faculty members may have associate graduate faculty status; please contact the graduate coordinator if you need to know the status of a -faculty member not listed here. 6 -

Staff:

Shannon Vo, Academic Advisor III, shannon.vo@tamucc.edu

Melanie Morales, Administrative Assistant, Office: CI 301, Phone: (361) 825-3754, melanie.morales@tamucc.edu

SECTION III. LEARNING OUTCOMES

Program Admission Requirements

In addition to meeting all University requirements for admission to graduate study in degree-seeking status, applicants for the MS degree in mathematics must also submit an essay to the University's Office of Graduate Studies: The essay, 300-500 words in length, should discuss the applicant's educational and professional goals, pertinent work and undergraduate experience, and other factors relating to the chosen option for graduate study. If the applicant has a GPA below 3.0 in undergraduate mathematics courses, the essay should specifically address any factors that might have hampered the applicant's undergraduate study. One or more letters of recommendation specifically addressing an applicant's ability to do graduate level study of mathematics may be submitted to strengthen an application. The letters should be submitted directly to the Department at the time of application.

Persons seeking admission to the MS in Mathematics should first contact the program faculty and identify a faculty member willing to serve as the graduate advisor. Applicants will not be admitted to the program without a graduate advisor.

Applicants are expected to enter the program with adequate academic preparation for their chosen option, as detailed in the degree requirements below. If the graduate committee determines that an applicant's preparation is deficient, the individual will be required to complete course work to remedy these deficiencies. Such course work will be regarded as leveling work and will not count as credit towards the total required for completion of the MS degree in mathematics.

a. Applicants for the Applied and Computational Mathematics track should have the equivalent of an undergraduate mathematics major, or an undergraduate mathematics minor and a minor in science. Specific leveling course work is MATH 3315, Differential Equations; MATH 3311, Linear Algebra; MATH 3470, Calculus III; and MATH 4301, Introduction to Analysis. Students with no computer programming experience may find themselves at a disadvantage in certain courses without an introductory programming course.
b. Applicants for the statistics track should have the equivalent of an undergraduate mathematics, statistics, science or other related majors (minors). Specific leveling course work is MATH 3311, Linear Algebra; MATH 3470, Calculus III; and MATH 3342, Applied Probability and Statistics or 3345, Statistical Modeling and Data Analysis. Students with no computer programming experience may find themselves at a disadvantage in certain courses without an introductory programming course.
c. Applicants for the Curriculum Content track should have an interest in the teaching and learning of mathematics. Applicants seeking initial certification should consult the SMTE Coordinator or College of Education to make plans for certification. Applicants planning to teach at the post-secondary level should work closely with an advisor to plan electives and additional, appropriate course work.

Specific leveling course work within Mathematics is MATH 2305, Discrete Mathematics; MATH 2413, Calculus I; and MATH 3311, Linear Algebra.

Program Admission Deadlines

https://www.tamucc.edu/programs/graduate-programs/mathematics-ms.php has all the pertinent information including the deadlines. See also http://gradcollege.tamucc.edu/new_students/ for FAQs on the admission process and international admissions.

Admission Review Process/ Timeline

Once all the documents are complete, they will be forwarded to the Mathematics Department, allowing the graduate faculty members to consider whether they recommend admission. This process will generally take about two weeks.

SECTION IV. ACADEMIC PROGRESSION

Program Degree Requirements

The course of study for the MS program in mathematics consists of the components listed below. Graduation requirements are slightly different for the Applied and Computational Mathematics, Curriculum Content and Applied Statistics options.

Applied and Computational Mathematics track

	Sem. Hrs.
1. Core courses	12
2. Electives from mathematics or closely related field	18
3. MATH 5994 - Proposal Research and MATH 5995 Thesis	6
	Total 36

1. The Core courses

- MATH 5333 - Numerical Linear Algebra **3 sem. hrs.**
- MATH 5336 - Advanced Differential Equations **3 sem. hrs.**
- MATH 5339 - Numerical Analysis **3 sem. hrs.**
- MATH 5351 - Real Analysis **3 sem. hrs.**

2. **Elective courses may be chosen from the following list.**

- MATH 5343 - Mathematical Theory of Statistics 3 sem. hrs.
- MATH 5344 - Spatial Statistics 3 sem. hrs.
- MATH 5360 - Combinatorics and Graph Theory 3 sem. hrs.
- MATH 5375 - Applied Analysis 3 sem. hrs.
- MATH 5337 - Theory and Applications of Partial Differential Equations 3 sem. hrs.
- MATH 5341 - Introduction to Statistical Methods and Data Analysis • MATH 5345 - Introduction to Statistical Computations • MATH 5342 - Linear Statistical Models 3 sem. hrs.
- MATH 5348 - Optimization 3 sem. hrs.
- MATH 5993 - Literature Review and Research
- Other courses with Department Chair Approval Note:

With prior approval from the Department Chair, a student may select offerings of MATH 5390 - Special Topics or MATH 5396 - Directed Independent Study or graduate courses from outside the Department as electives.

3. **Thesis.**

Each student in the Applied and Computational Mathematics option is encouraged to participate in the departmental seminar and may simultaneously take MATH 5994 for one to three semesters at a rate of 1 to 3 credit hours per semester. A total of three semester hours credit for MATH 5994 is required. The final time MATH 5994 is taken, the student will prepare a thesis proposal. When a student is within 18 semester hours of graduation, he or she may form a graduate committee and defend the proposal for the thesis. (Guidelines for writing the thesis, including the required format and style, are available at the department website.) Immediately upon approval of the thesis proposal, the student registers for MATH 5995, Thesis. The student continues to register for MATH 5995 each successive semester (Fall or Spring required, Summer by choice) until the thesis is completed. A student who does not complete a thesis in the semester for which he or she has registered will receive a grade of IP (In Progress). Not completing a thesis in four long semesters or failure to register for an incomplete thesis in the next long semester will terminate the thesis and will require that the entire thesis process be repeated starting with the preparation of a new thesis proposal.

Each student in the Applied and Computational Mathematics option must defend his or her thesis, ordinarily during his or her final semester. The student's graduate committee will administer the defense. For more information, see the Department's Thesis Guidelines.

Statistics track

	Sem. Hrs.
1. Core courses	12
2. Electives from mathematics or closely related field	18
3. MATH 5994 - Proposal Research and MATH 5995 Thesis or MATH 5997 - Project	6
	Total 36

1. The Core courses

MATH 5343 - Mathematical Theory of Statistics **3 sem. hrs.**

MATH 5342 - Linear Statistical Models **3 sem. hrs.**

MATH 5341 Introduction to Statistical methods and Data Analysis 3 sem. hrs.

MATH 5345 Introduction to Statistical Computations 3 sem. hrs.

2. Elective courses may be chosen from the following list.

- MATH 5333 - Numerical Linear Algebra 3 sem. hrs.
- MATH 5336 - Advanced Differential Equations 3 sem. hrs.
- MATH 5339 - Numerical Analysis 3 sem. hrs.
- MATH 5351 - Real Analysis 3 sem. hrs.
- MATH 5344 - Spatial Statistics 3 sem. hrs.
- MATH 5360 - Combinatorics and Graph Theory 3 sem. hrs.
- MATH 5375 - Applied Analysis 3 sem. hrs.
- MATH 5337 - Theory and Applications of Partial Differential Equations 3 sem. hrs.
- MATH 5348 - Optimization 3 sem. hrs.
- MATH 5993 - Literature Review and Research
- Other courses with Department Chair Approval

With prior approval from the Department Chair, a student may select offerings of MATH 5390 or MATH 5396 or a maximum of two graduate courses from outside the Department as electives.

3. Thesis or Project

All students in the Statistics track will take MATH 5994 - Proposal Research to prepare and present a proposal. These courses serve as preparation for either a thesis or project. A thesis requires a student to articulate a statistical problem, propose a novelty method, and create and develop a solution of the problem. A project requires a student to demonstrate his or her ability to undertake a significant statistical practical problem, collect and analyze data, perform the appropriate analyses and find a solution. The student should be able to communicate orally and in writing the proposed solution to the statistical problem. Mainly, the thesis option is for students who plan to continue to a PhD, and the project option is for students wanting to find a job with the MS degree.

Students writing a thesis or project will prepare a proposal in MATH 5994 . When a student is within 18 semester hours of graduation, he or she may form a graduate committee and defend the proposal. Guidelines for writing the thesis, including the required format and style, are available on the Mathematics Department website. Immediately upon approval of the proposal the student registers for MATH 5995 - Thesis or MATH 5997 - Project, as appropriate. The student continues to register for MATH 5995 - Thesis or MATH 5997 - Project each successive semester (Fall or Spring required, Summer by choice) until the thesis or project is completed. A student who does not complete a thesis or project in the semester for which he or she has registered will receive a grade of IP (In Progress). Not completing a thesis or project in four long semesters, earning a grade of U or failure to register for MATH 5995 - Thesis or MATH 5997 - Project in the next semester after receiving a grade of IP will terminate the thesis or project and will require that the entire process be repeated starting with the preparation of a new proposal.

Curriculum Content track

	Sem. Hrs.
1. Core Courses	15
2. Electives	12
3. MATH 5993 - Literature Review and Research and MATH 5994 - Proposal Research And either MATH 5995 - Thesis, or MATH 5997 - Project	6 3
	Total 36

1. The Core Courses

- MATH 5325 - Structure of Number Concepts **3 sem. hrs.**

- MATH 5326 - Structure of Patterns and Algebra **3 sem. hrs.**
- MATH 5327 - Structure of Geometry and Measurement **3 sem. hrs.**
- MATH 5328 - Structure of Probability and Statistics **3 sem. hrs.**
- MATH 5329 - Structure of Modeling with Rates of Change **3 sem. hrs.**

2. Any of the following courses may be used as an elective.

- MATH 5321 - Problem Solving and Mathematical Reasoning for Teachers **3 sem. hrs.**
- MATH 5322 - Mathematics Assessment **3 sem. hrs.**
- MATH 5323 - Mathematics instruction and Mentoring **3 sem. hrs.**
- MATH 5324 - Principles of Reforming Mathematics Instruction **3 sem. hrs.**
- MATH 5331 - Evolution of Mathematical Systems **3 sem. hrs.**
- MATH 5332 - Integrating Technology in Mathematics Education **3 sem. hrs.**

With prior approval of the Department Chair, any course with significant and appropriate mathematical content may be taken as an elective.

3. Capstone Course

All students in the Curriculum Content option will take MATH 5993 - Literature Review and Research as an introduction to relevant literature, research methods, followed by MATH 5994 Proposal Research to prepare and present a proposal. These courses serve as preparation for either a thesis or project.

a. Thesis or Project. A thesis requires a student to articulate a problem in mathematics education related to significant mathematical content, propose a solution, and collect and analyze data in creating a solution of the problem. A project requires a student to demonstrate his or her ability to undertake a significant curriculum development, perform the appropriate research needed to implement the development, and communicate orally and in writing their understanding of that process.

b. Students writing a thesis or project will prepare a proposal in MATH 5994 based on work done in MATH 5993 . When a student is within 18 semester hours of graduation, he or she may form a graduate committee and defend the proposal. Guidelines for writing the thesis or project, including the required format and style, are available on the Mathematics Department website.) Immediately upon approval of the proposal the student registers for MATH 5995 - Thesis or MATH 5997 - Project, as appropriate. The student continues to register for MATH 5995 Thesis or MATH 5997 - Project each successive semester (Fall or Spring required, Summer by choice) until the thesis or project is completed. A student who does not complete a thesis or project in the semester for which he or she has registered

will receive a grade of IP (In Progress). Not completing a thesis or project in four long semesters, earning a grade of U or failure to register for MATH 5995 - Thesis or MATH 5997 - Project in the next semester after receiving a grade of IP will terminate the thesis or project and will require that the entire process be repeated starting with the preparation of a new proposal.

Each student in the Curriculum Content Option must defend his or her thesis or project, ordinarily during his or her final semester. The student's graduate committee will administer the defense.

Graduate Advisory Committee

The purpose of the committee is to provide guidance and technical advice throughout the project or thesis research and preparation. The committee chair is the principal source of such guidance. Any preliminary drafts of the manuscript are reviewed by the student and the committee chair. Normally, only the final draft of the manuscript, after the approval of the committee chair, is presented to the full committee. This committee is selected by the student and is composed of three faculty members with at least two, including the chair, from the Department of Mathematics and Statistics at TAMUCC. All members of the committee should have expertise relevant to the project or thesis, but final authority on the content of the thesis or project will lie with the chair. The chair is selected at the start of the student's program, and the full committee selected within two semesters. Form A: Thesis Advisory Committee Appointment at http://gradcollege.tamucc.edu/contact_us/forms.html needs to be filed with the College of Graduate Studies before the start of the research. Any changes to the committee require that Form D: Thesis Committee Member Change Request form, gets filed with the College of Graduate Studies.

All members of the committee approve (or sign) the proposal prior to the student's enrollment in MATH 5995 or MATH 5997 as appropriate. Any change to the thesis committee membership, after the proposal has been signed, requires approval by the remaining committee members. Corrected thesis proposal cover sheets should be suitably filed. The final approval of the thesis by the committee members takes place at a student presentation of the thesis or project in an oral defense. The defense is described later in the document. The committee chairperson is responsible for notifying the department office of the defense by providing an announcement including a title and an abstract for the thesis. All committee members are expected to attend the defense. For extraordinary circumstances, it is acceptable for a committee member to give approval to the thesis or project based on the document without attending the defense. If a committee member is unable to review the written document, he or she should be replaced as per the previous paragraph.

Proposal

The primary intent of the proposal is to assure that all involved parties understand and agree to the planned thesis or project work. Such an agreement should minimize misunderstanding as to what is required for completion of the thesis or project.

A student will develop a proposal for a thesis or project during MATH 5993/5994. The proposal will consist of a presentation, a written document and a defense.

- The presentation should be brief and for a mathematical audience outlining the background of the proposed research, a statement of the problem and a general indication of the analysis and solution.

- The written proposal should be prepared with the advisor and given to the committee a week prior to the defense.
- The student will meet with the committee for questioning and defense of the proposal. The advisor and the students will take notes from the committee about what changes, if any, are needed to ensure that the investigation can be completed as proposed.

The written proposal may follow a specified style format (e. g., APA or other specific journal format) and may contain the following:

A. Cover page--Figure 1 on the next page shows a sample sheet.
B. Abstract--A clear and concise (at most one page) overview of the planned thesis or project activity.
C. Introduction—Introduction of the area and/or issue to be explored, purpose statement and research or guiding questions
D. Related work and justification--A statement describing selected previous work by others in the thesis or project topic. In addition, a short discussion as to why the proposed work should be considered as a significant component leading to the student's receipt of a master's degree in Mathematics.
E. Planned actions--A statement of the steps required to finish the work. A timeline should be included.
F. End results intended--A general, but clear, statement of what will be produced.
G. Bibliography – include all sources consulted in generating the proposal.

Formal approval of the proposal is indicated by signatures on the cover page. If a committee chair and student agree that the direction of research is on an appropriate course different from the one proposed the student is encouraged to submit a revised proposal to be approved by the committee. The original proposal is then discarded.

As described in the section on the Sequence of Courses, not maintaining continuous enrollment in the thesis or project course is cause for canceling the original proposal. A new proposal, with approval and filing in the same manner as the first, is needed to continue the research.

Notes:

(1) The proposal is to be submitted on high quality, white, 8 1/2" x 11" paper.

(2) The text of the proposal must be of letter quality type of size 10-12 points.

Below is a **sample** cover page for the thesis proposal:
(Left and top margins *1.5 inches*)

Project/Thesis Title

(*3 blank lines*)

A PROPOSAL for a THESIS/PROJECT in MATHEMATICS
(*2 blank lines*)

by

(*2 blank lines*)

STUDENT NAME

(*2 inches*)

APPROVED: _____ Date:_____
Dr. ****** *******, Chair

_____
Dr. ****** *******, Member

_____
Dr. ****** *******, Member

_____
Dr. ****** *******, Chair
Department of Mathematics and Statistics

(approx. 2 inches)

Style: _____

Degree Plan

See the relevant section University Graduate Handbook. The degree plan must be completed before the student has completed 18 credit hours. Please contact the academic advisor in the college (Ronnie Emmanuel) about the degree plan.

Culminating Event/Exit Requirements

The culminating event is the Thesis/Project Defense and subsequent submission of all required forms as well as the successful submission of the thesis/project document.

Notification of Intent to Graduate

Graduation upon completion of the course requirements is NOT automatic. The semester before graduation is anticipated, students should obtain an application from the Office of Admissions and Records by the deadline date indicated in the University Class Schedule. Deadline dates are also available on the Texas A&M University-Corpus Christi website.

SECTION V. COURSE OFFERING SEQUENCE

ACM track:

FALL	SPRING	SUMMER I	SUMMER II
Even years: 5342 - Linear Statistical Models 5339 Numerical Analysis Odd years: 5341 Introduction to Statistical Methods and Data Analysis 5333 Numerical Linear Algebra 5344 Spatial Statistics	Even years: 5345 Introduction to Statistical Computations. 5337 Theory and Applications of Partial Differential Equations 5351 Real Analysis Odd Years: 5343 - Mathematical Theory of Statistics 5336 Advanced Differential Equations 5375 Applied Analysis		

On demand: MATH 5318 - Introduction to Bayesian Statistics MATH 5360 - Combinatorics and Graph Theory MATH 5348 - Optimization

Statistics track:

FALL	SPRING	SUMMER I	SUMMER II
Even years: 5342 - Linear Statistical Models 5339 Numerical Analysis Odd years: 5341 Introduction to Statistical Methods and Data Analysis 5333 Numerical Linear Algebra 5344 Spatial Statistics	Even years: 5345 Introduction to Statistical Computations. 5337 Theory and Applications of Partial Differential Equations 5351 Real Analysis Odd Years: 5343 - Mathematical Theory of Statistics 5336 Advanced Differential Equations 5375 Applied Analysis		
On demand: MATH 5318 - Introduction to Bayesian Statistics MATH 5360 - Combinatorics and Graph Theory MATH 5348 - Optimization			

CC track (Core courses):

FALL	SPRING	SUMMER I	SUMMER II
Even years: MATH 5325 Structure of Number Concepts Odd years: MATH 5329 Structure of Modeling with Rates of Change	Even years: MATH 5328 Structure of Probability and Statistics Odd Years: MATH 5326 Structure of Patterns and Algebra	MATH 5327 Structure of Geometry and Measurement	

SECTION VI. PROGRAM SPECIFIC INFORMATION

Program/College Awards

Every year the departmental Awards committee can select an outstanding student from each program track for recognition within the department on a permanent plaque.

Conferences to Attend

Attending or presenting at a conference is always a good idea. The university may have some travel funds available for presentations at conferences or subsidize travel to regional conferences.

SECTION VII. REQUIREMENTS THAT EXCEED THE COLLEGE OF GRADUATE STUDIES REQUIREMENTS OR EXAMPLES, E.G., THESIS ABSTRACTS

The Manuscript, Contents and Format

There are two types of manuscripts in the Mathematics Graduate Program at TAMUCC, thesis and project. The two do not differ in style or format requirements, but the project manuscript may predominantly serve as documentation for a curriculum content or statistics project.

The thesis must conform to academic and institutional standards. Both documents should follow the guidelines for a thesis given at http://gradcollege.tamucc.edu/current_students/doctoral_dissertation.html. The thesis has to be submitted electronically and documents not following the guidelines will be rejected. A LaTeX thesis template including math_thesis.tex, TAMUCCthesis.sty, math_thesis.bib is available at that site. The template sets the format for the title page, the lists of tables and figures and the references and the page margins. The content of the document should still follow a style (APA or a specific math journal) that the committee agrees on.

Manuscript Review and Approval

Manuscript Review

When a student is satisfied with a draft copy of the thesis or project manuscript, it is submitted to the committee chair. It is advisable to allow other graduate students and individuals to proofread the draft before submitting it to the committee chair. The student should include documentation of the chosen format style.

The committee chair will critically examine the manuscript for mathematical or curricular content, soundness of reasoning, accuracy, grammar and organization. The committee chair will return the corrected manuscript with suggested changes and request a revised copy. Once revised, it is always advisable to return the corrected copy with the revised copy for the next review. The process of submission of the manuscript and revision will continue until the committee chair is satisfied with all aspects.

Don't be surprised or despondent if the submitted manuscript undergoes several drafts. Even full professors are used to numerous editorial changes when submitting manuscripts for publication. It is important to submit the manuscript to the committee chair in the best possible form, because it is part of the learning process, avoids frustration on the part of your committee chair, and will expedite your getting the manuscript accepted in a timely manner. Write concisely, and be sure to spell check and grammar check your paper, but do not depend on the computer to make all the proper corrections.

Upon the direction of the committee chair, the student will submit a copy of the approved draft to each graduate committee member, along with documentation of the chosen style format. Each committee member will edit the manuscript. Do not expect next day service on return of the manuscript, so be sure to allow time to revise and resubmit the manuscript to the committee members. If significant changes are required, the student should discuss them with the committee chair. If there are differences in opinions from

committee members, the chair of the committee will determine the final outcome of any concerns. **Approval**

Once the draft manuscript is approved by all members of the master's committee, the department or the master's committee chair announce the date of the defense of the thesis or project. For a thesis this is the time to file the Form B: Preliminary Agreement to Schedule the Thesis Defense/Final Examination, which must be filed with the College of Graduate Studies no later than **five (5)** business days prior to defense.

Defense of the Thesis or Project

The defense is a formal presentation of the student's research to an audience of at least the graduate committee, but may also include mathematics faculty, students and the public. The oral/graphic presentation should be approximately 30 minutes long and allow additional time for questions from the audience. After the presentation, student is given by a closed-door examination by the committee. Finally, the committee must meet in a closed-door session before announcing any result of the defense. Form C: Thesis Defense & Written Thesis Report is to be filled for the results.

The student must prepare and submit a formal announcement of the defense to the committee chair for approval at least one week prior to the defense date. Form B: Preliminary Agreement to Schedule the Thesis Defense must be filed. It is the student's responsibility to contact each committee member. All graduate committee members must attend the defense.

The student will be responsible for providing adequate information to the departmental staff so that staff may notify each Mathematics and Statistics faculty member, the Department of Mathematics and Statistics Chair and the Dean of the College of Science and Engineering. The staff should also arrange a time for the event and reserve the meeting room and appropriate media equipment based on the information from the student. The student must place notices on bulletin boards in appropriate places in the Center for Instruction and the University Library. This notice must be distributed at least one week before the date of the defense. The defense must also be posted on appropriate list-servs. The notice should not exceed one page in length. Graduate students are encouraged to attend as many oral defenses as possible.

Final Deposition of the Manuscript

For the thesis option, the master's committee and the department chair will sign Form C: Dissertation Defense & Written Dissertation Report Form only after the student successfully completes the defense and has made all required changes to the thesis. Making the required changes and getting all signatures will take time that needs to be planned for. Two weeks are recommended. The signed Form C must be submitted to the College of Graduate Studies two weeks before graduation.

Thesis Manuscript. The student must submit document electronically through ProQuest two weeks before graduation.

Project Manuscript.
The student is required to submit an electronic manuscript approved by the committee, to the chair of his/her master's committee at least two weeks before graduation.

Publishing Results from a Thesis or Project

The thesis is not, by definition, a "published" work. However, it is anticipated that every student will submit the contents of his or her thesis, revised in an appropriate form, to a scholarly journal for publication.
Under normal circumstances, the student and committee chair will co-author any publication or presentation that results from the thesis research. If other faculty members, professionals or students made significant contribution to the research leading to the manuscript, the students should also list those individuals as co-authors. Both the student and committee chair should agree concerning authorship. To a certain degree, the committee chair and committee have a professional responsibility to assist the student in this process.
The student and committee chairs should make official acknowledgement of any researcher or faculty member if they are not a co-author but

- The student was supported by a grant that was awarded as a result of the researcher/faculty member's authorship.
- The student received some guidance for the researcher/faculty member.

Dissemination rather than publication may be more appropriate for the content of a project. As with the thesis, the primary credits and benefits should be shared by the student and committee chair. Where appropriate, other researchers and faculty should proportionately share in the acknowledgements, benefits and credits from the dissemination.

Thesis/Project, Criteria for Rejection

Any member of the master's thesis/project committee or official representative of the Department of Mathematics and Statistics may reject a thesis or project for any of the following reasons:

- Plagiarism--an attempt by the student to submit another person's work as their own, e.g., including published work without reference.
- Final manuscript describes work that is inconsistent with the approved thesis proposal.
- Final manuscript contains serious content errors. Such errors might include faulty proofs of main theorems or lemmas, unsupported statistical conclusions, fraudulent data, or incorrect computer programs written in support of the thesis.
- Final manuscript contains an excessive number of grammatical and/or spelling errors.
- Final manuscript does not conform to the required format.

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SECTION VIII. TIMELINES

I. Overall timeline

A. Applied and Computational Mathematics track

- With advisor as appropriate MATH 5394 (1-3 credit hour)
- After MATH 5394: MATH 5995

B. Applied and Computational Mathematics track

- With advisor as appropriate MATH 5394 (1-3 credit hour)
- After MATH 5394: MATH 5995 or MATH 5997

C. Curriculum Content track

- After 18 SCH completed in program: MATH 5993
- After MATH 5993: MATH 5997 for Project or MATH 5995 for Thesis II. Final Timeline for Thesis or Project Course.

Deadline	**Action**
End of second semester	File degree plan with the College of Graduate Studies and file Form A when forming the master's committee
4 weeks before defense	Give the committee chair a near-final version of the thesis/project
3 weeks before defense	Submit final to chair of committee
2 weeks before defense	Submit final to rest of committee and dept. chair
5 days before defense	File Form B with the College of Graduate Studies and announce the defense to public
Ideally 4 weeks before graduation	Defend project or thesis (and have two weeks to make changes and get signatures)
2 weeks before graduation	File Form C with the College of Graduate Studies and submit the thesis through ProQuest

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