STUDENT LEARNING ASSESSMENT PROGRAM
SUMMARY FORM AY 2020-2021

Degree and Program Name: M.A. Mathematics

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PART ONE

What are the learning objectives?	How, where, and when are they assessed?	What are the expectations?	What are the results?(students) GPA 0.0 to 4.0	Committee/ person responsible? How are results shared?
1. Depth of Content Knowledge: Students will learn fundamental principles at an advanced level in selected areas of mathematics.	Uniform exit exams in required courses- MAT 5000: Mathematics Graduate Seminar Number Theory - 96490 - MAT 4910 - 600 Complex Variables - 96492 - MAT 5330 - 600 Topic: Algebraic Curves - 92286 - MAT 53351 - 604 Independent Study I - 92245 - MAT 59901 - 012	Students should obtain at least a "B" (3.00 out of a 4.00 scale) or better on the first attempt.	<u>FA 2020:</u> MAT 5000: 1 of 1 students met expectations. MAT 4910: 1 of 1 students met expectations. MAT 5330: 1 of 1 students met expectations. MAT 53351: 1 of 1 students met expectations. MAT 59901: 1 of 1 students met expectations.	Data are collected by course faculty and graduate coordinator. Results are shared with chair and graduate committee. Students who earn a "B" or lower must meet with graduate coordinator to discuss potential issues, deficiencies, and graduate school regulations that may be present moving forward.

	MAT 5000: Mathematics Graduate Seminar Abstract Algebra - 36600 - MAT 3530 - 600 Topic: Intro to Elliptic Curve - 35477 - MAT 53352 - 600		SP 2021 MAT 5000: 1 of 1 students met expectations. MAT 3530: 1 of 1 students met expectations. MAT 53352: 1 of 1 students met expectations.	
2. Critical Thinking & Problem Solving: Students will demonstrate the ability to think and write critically, as well as acquire technical and problem solving skills.	a) Evaluation of a selection of assignments from 5000+ level coursework. b) Teaching and/or providing supplemental instruction.	a) Students should obtain at least a "B" (3.00 out of a 4.00 scale) or better on coursework samples. b) Teaching evaluations should be at the satisfactory or higher level. Supplemental instruction rating should be at the satisfactory or higher level	FA 2018: a) MAT 5000: 1 of 1 students met expectations. MAT 4910: 1 of 1 students met expectations. MAT 5330: 1 of 1 students met expectations. MAT 53351: 1 of 1 students met expectations.	a) Data are collected by course faculty and graduate coordinator. Results are shared with chair and graduate committee. Students who earn a "B" or lower must meet with graduate coordinator to discuss potential issues, deficiencies, and graduate school regulations that may be present moving forward.

			MAT 59901: 1 of 1 students met expectations. b) 1 of 1 students met expectations. SP 2021: a) MAT 5000: 1 of 1 students met expectations. MAT 3530: 1 of 1 students met expectations. MAT 53352: 1 of 1 students met expectations. b) not applicable. Teaching: 1 graduate students were assigned teaching duties in FA 2020, and no graduate students were assigned teaching duties in SP 2021	b) Department chair solicits student feedback from supplemental instruction sections. Supplemental instruction ratings are shared with students in a conference with the graduate coordinator and department chair.

			Supplemental instruction – all graduate students were rated above the satisfactory level.	
3. Oral & Written Communication Skills: Students will be able to communicate advanced mathematics in both oral and written format; as well as be able to read and assimilate advanced research level mathematics from original and secondary sources.	Presentations given during the graduate seminar (taken over 2 semesters)	Students should obtain at least a "B" (3.00 out of a 4.00 scale) or better in each seminar. Each presentation should rate at least at the "Basic" level or higher for each presentation.	FA2020: 1 of 1 students exceeded expectations for seminar. 1 of 1 students rated at least "Basic" or higher for each presentation. SP 2021: 1 of 1 students exceeded expectations for seminar.	Data are collected by seminar/independent study faculty and graduate coordinator. Results are shared with chair and graduate committee. Students who earn a "B" or lower must meet with graduate coordinator to discuss potential issues, deficiencies, and graduate school regulations that may be present moving forward. Presentation results are shared with students.

4. Advanced Scholarship through Research and Creative Activity	Thesis work and presentations	Thesis was be completed in a timely manner (generally 2 semesters) and exhibit the qualities as described in the Graduate School Thesis Manual.	One students defended their Master Thesis in Summer 2021.	Thesis advisor and thesis committee are primarily responsible for assessing the quality of the thesis. Results are shared with student through the thesis presentation/defense.

PART TWO and PART THREE

(2) Describe your program's assessment accomplishments since your last report was submitted. Discuss ways in which you have responded to the CASA Director's comments on last year's report or simply describe what assessment work was initiated, continued, or completed.

(3) Summarize changes and improvements in **curriculum, instruction, and learning** that have resulted from the implementation of your assessment program. How have you used the data? What have you learned? In light of what you have learned through your assessment efforts this year and in past years, what are your plans for the future?

In general, a mathematics graduate program is able to offer a significant number of graduate assistantships. Unfortunately over the past several years our ability to offer assistantships has eroded due to lack of support from the Graduate School. **We currently do not have any Graduate Assistantship.** Furthermore, students who manage to pay for their own graduate education expenses (many will go elsewhere instead of doing so for mathematics programs) are not receiving the teaching skills required to be an effective community college instructor or teaching assistant at their Ph.D. programs. Therefore, such students are likely to be unemployable as mathematics instructors upon their graduation.

In AY 2019-2020 the department continued a Supplemental Instruction (SI) program for graduate students. SI provided additional instruction for various undergraduate courses. While the program provided graduate students with opportunities to provide instruction and be responsible for class meetings, the program will most likely not continue beyond this academic year. Instead, we will have graduate students teaching courses once again.

We have continued the one credit hour graduate seminar. During AY 2019-2020. The goal of the seminar was to develop the students'

techniques and discover their own styles of communicating advanced topics in mathematics in the classroom setting. Each student, or a group of students, in the seminar gave a presentation on some advanced topic in mathematics of interest to the participants. The topic was announced in advance which would allow the non-presenters to read and think about the upcoming presentation. Before their presentation, presenters would distribute their written notes in class not only to make the presentation easier to follow but also to develop their mathematical writing techniques and their own style of writing mathematics. In addition, if a computer code or a computer generated image were part of a presentation, the corresponding files would also be shared with class by the presenters. At any time during the presentation time if something was not entirely clear, the participants were encouraged to raise their hand and ask for clarification. At the end of a presentation the participants were encouraged to offer a different way of explaining the presented material.