STUDENT LEARNING ASSESSMENT PROGRAM
SUMMARY FORM AY 2019-2020

Degree and Program Name: MA – Mathematics (Mathematics Education)

Submitted By: **Peter Wiles**

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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?	Committee/ person responsible? How are results shared?
1. Students will demonstrate an understanding of advanced mathematical content knowledge in areas as identified by AMATYC[1] and NCTM[2] standards.	1) Summative Grades from require mathematics content coursework (homework, exams, and projects). Courses: MAT 4810/5810, MAT 5635, MAT 5335, or other allowable mathematics content elective.	Coursework will be completed with a grade of at least a B. Graduate coordinator will meet with faculty assigned to teach course to discuss any perceived content deficiencies. If needed, deficiencies will be addressed through supplemental work as determined by both the graduate coordinator and faculty teaching the content course.	MAT 4750 (2 students): 1 A, 1B CSM 4873 (4 students): 1 A, 1D, 2F	Graduate mathematics faculty assigned to teach specific courses. Graduate coordinator. Results disseminated to Mathematics Education Graduate Committee
2. Students will demonstrate critical thinking and problem-solving skills	2) Assessment Rubrics for Mathematics content course Courses: MAT 4810/5810, MAT 5635, MAT 5335, or other allowable mathematics content elective	Items are scored 1-4 4 = Exceed Expectations 3 = Meets Expectatiosn 2 = Approaching Expectations 1 = Unacceptable It is expected that all students meet or exceed expectations.		Graduate mathematics faculty assigned to teach specific courses. Graduate coordinator. Results disseminated to departmental Mathematics Education Graduate Committee

	1. The graduate candidate demonstrates a depth of content knowledge in the discipline.		MAT 4750: (2 students) All Student met or exceeded expectations CSM 4873: (4 students) 3 students did not meet expectations	
	2. The graduate candidate demonstrates evidence of critical thinking and problem solving.		MAT 4750: (2 students) All Student met or exceeded expectations CSM 4873: (4 students) 3 students did not meet expectations	
	3. The graduate candidate demonstrates the ability to develop convincing arguments and critique the reasoning of others.		MAT 4750: (2 students) All Student met or exceeded expectations CSM 4873: (4 students) 3 students did not meet expectations	
	4. The graduate candidate demonstrates effective written communication skills.		MAT 4750: (2 students) All Student met or exceeded expectations CSM 4873: (4 students) 3 students did not meet expectations	
	5. The graduate candidate demonstrates the respect for the professional environment through their honesty, integrity, and professionalism.		MAT 4750: (2 students) All Student met or exceeded expectations CSM 4873: (4 students) 3 students did not meet expectations	
3. Students will practice, apply, and reflect on ethics, technology use, new pedagogical ideas, techniques and practices related to mathematics education as identified by the NCTM	1) Summative Grades from completion of required education and mathematics education coursework (homework, exams, and projects). Courses: MAT 5400, MAT 5500, MAT 5700	Coursework will be completed with a grade of at least a B. Graduate coordinator will meet with faculty assigned to teach course to discuss any perceived content deficiencies. If needed,	MAT 5700: (6 students) 5 As, 1 B	Graduate Mathematics Faculty member assigned to teach specific course. Graduate coordinator.

professional development standards		deficiencies will be addressed through supplemental work as determined by both the graduate coordinator and faculty teaching the content course.		Results disseminated to Mathematics Education Graduate Committee
	2) Assessment Rubric for Math Education Coursework Courses: MAT 5400, MAT 5500, MAT 5700	Items are scored 1-4 4 = Exceed Expectations 3 = Meets Expectatiosn 2 = Approaching Expectations 1 = Unacceptable It is expected that all students meet or exceed expectations. The graduate coordinator will meet with students showing deficiencies to develop an action plan.	MAT 5700: (6 students)	Graduate mathematics faculty assigned to teach specific courses. Graduate coordinator. Results disseminated to Mathematics Education Graduate Committee
	1. The graduate candidate demonstrates critical reflection on research and its impact on practice		All Student met or exceeded expectations	
	2. The graduate candidate demonstrates knowledge of pedagogical techniques related to student engagement, communication, and problem solving.		All Student met or exceeded expectations	
	3. The graduate candidate demonstrates knowledge of the diversity of student thinking and development.		All Student met or exceeded expectations	
	4. The graduate candidate demonstrates knowledge of the nature of mathematics proficiency		All Student met or exceeded expectations	
	5. The graduate candidate demonstrates a facility with technological tools as a means to solve problems and enhance mathematical thinking.		All Student met or exceeded expectations	

	6. The graduate candidate demonstrates effective written communication skills.		All Student met or exceeded expectations	
	7. The graduate candidate demonstrates effective oral communication skills.		All Student met or exceeded expectations	
4. Students will demonstrate effective writing skills and ethics in the field through reviewing and conducting research in the field of mathematics education	1) Completion of a literature review (in course MAT 5410) and completion of action research project for the independent study/thesis program requirement.	Literature review will compile appropriate, relevant, and recent research in the field.	1) Four literature reviews were completed as a part of MAT 5410 in Summer 2020. .	Graduate Mathematics faculty member assigned to teach MAT 5410. Graduate coordinator collects and compiles the data.
	1.The graduate candidate demonstrates a depth of understanding of the research base		All Student met or exceeded expectations	
	2.The graduate candidate demonstrates the significance of the proposed study with the context of the literature		All Student met or exceeded expectations	
	3.The graduate candidate demonstrates effective written communication		All Student met or exceeded expectations	
	4.The graduate candidate selects resources based on a coherent theme and demonstrates the ability to relate them to the topic and to other studies.		All Student met or exceeded expectations	
	2) The action research project is assessed across four categories using the 'Action Research Project Rubric' by the independent study advisor. The	Action research project will demonstrate the ability to design a study that either tests a hypothesis or measures the results of a treatment. The	2) No Action Research Projects were completed in this assessment period.	Independent Study Advisor assesses completed written manuscript

	Graduate committee reviews, but does not assess all finished action research projects.	action research project must obtain the level of 'Advanced' or higher in all four categories assessed.		Graduate coordinator collects and compiles the data.
	3) The unit lesson plan Project is assessed using the "Unit Lesson Plan Project rubric" by the independent study advisor.	Unit Lesson Plan project will demonstrate the ability of the candidate to reflect on the content learned in the program and adapt it to their instructional setting. The unit lesson plan must obtain the level of meets or exceeds expectations on all categories	3) No Unit lesson plan projects were completed in this assessment period.	Graduate Coordinator assesses completed Lesson Plan Project.
5. Students will demonstrate effective oral and written skills through a presentation of their action research projects.	1) An oral presentation of the proposal for the action research project is presented for faculty and students. It is assessed by the graduate coordinator using the "Oral Presentation of Research Proposal" Rubric	Presentation of the action research project in an appropriate venue –or- preparation of a manuscript based on the action research project for submission to an appropriate journal	1) Four students gave an oral presentation of their action research proposal.	Graduate Coordinator rates t presentation. Graduate coordinator coordinates presentations and manuscripts.
	1. The graduate candidate communicates the proposal clearly and professionally.		All Student met or exceeded expectations	
	2. The graduate candidate's research questions are measurable, clear, and concise.		All Student met or exceeded expectations	
	3. The graduate candidates proposed research is creative and significant.		All Student met or exceeded expectations	
	4. The graduate candidate's methodology is sound and provides an appropriate plan for analyzing results		All Student met or exceeded expectations	
	2) The action research project presentation or manuscript is assessed using one category on		2) No action research projects were completed in this assessment period.	

	the 'Action Research Project Rubric' by the independent study advisor. A rating of 'Advanced' or higher is expected.			

[1]AMATYC stands for American Mathematics Association of Two Year Colleges.
[2]NCTM stands for National Council of Teachers of Mathematics

(Continue objectives as needed. Cells will expand to accommodate your text.)

PART TWO

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.

We have continued to use the ongoing assessment of teacher candidates using the "Graduate Student Assessment for Mathematics content course" rubric and the "Graduate Student Assessment for Mathematics Education course" rubric. This is the first summer that we have had our MAT 5410 course completely online. This is course where students develop their literature review and proposal for their action research project. The online presentations were very successful and we hope to have a similar round of presentations for the completed projects. Since the quality of the proposals were on par with what we have seen in prior years, we believe that the action research experience will not be detrimentally effected by being moved online.

PART THREE

*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?*

One of the key issues in this assessment period was the discovery of academic dishonesty in the course CSM 4873. Three students were discovered to colluded to turn in work that was not their own, and to have solicited solutions to problems on the Internet. This was a troubling occurrence with students who have otherwise been in very good standing in the program. Since academic dishonesty is more difficult to uncover in an online setting, this has alerted us to one of the issues that we need to face as we move our program completely online. As a department, we have set out to draft our own memoranda of understanding concerning academic honesty that will be given to students to make it clear that this is an area that we are explicitly paying attention to.

Student Learning Assessment Program
Response to Summary Form
Graduate Program 2020
April 26, 2021

Department: **Mathematics and Computer Science**

Degree and Program Name: **Master of Arts Degree in Math Education Option**
Reviewer: Dr. Nikki Hillier, Graduate Assessment Coordinator, Graduate School

Category	Comments
Learning Objectives	The objectives for the program align with all the graduate learning goals established by EIU's Council on Graduate Studies.
How, Where, and When Assessed	Students are assessed throughout the program using overall grades in classes that include grade items such as homework and exams; a separate rubric for specific learning goals for certain classes; a literature review, and if completed: an action research project and/or lesson plan project.
Expectations	Expectations are included and are reasonable.
Results	The program is meeting and exceeding expectations for most learning goals, but due to a unique issue of academic integrity, most students did not meet expectations for the first two learning objectives.
How Results Will be Used	All assessments are conducted by or reported to the Graduate Coordinator. Then, results are disseminated to Departmental Mathematics Education Graduate Committee.
Recommendations	Your program offers many opportunities for student assessment, and it is helpful that the Graduate Coordinator works with graduate faculty to remedy any content deficiencies and assign supplemental work for students who need it. These efforts show a commitment to student learning. A further testament to that dedication is that you were able to detect academic dishonesty and took it seriously. The assessments you use are helpful: overall class grades, rubrics, and theses, projects, and literature reviews. You may consider having a variety of faculty complete the rubrics for the action research and lesson plan project for a well-rounded picture of learning for each student. You may also wish to consider, as other programs do, an exit interview or post-graduation survey to discover what students perceived they learned in the program. You reported that results are shared with the committee; we encourage the committee to use the results to make recommendations to improve the program. Your program uses criteria established by National Associations and Councils and without this one incident, you would be meeting all of the learning goals.

The Council on Graduate Studies approved of revised learning goals on December 8, 2020, which included the addition of an Ethical and Professional Responsibility learning goal. Please consult with your graduate faculty members to determine how to incorporate this learning goal into future assessment activities.