M.A. in Mathematics Academic Assessment Plan

College of Liberal Arts and Sciences
Contact Name
Email address

Table of Contents

Academic Assessment Plan for M.A. in Mathematics

College of Liberal Arts and Sciences

A. Mission

Graduates of the Master of Arts in Mathematics Program have the mathematical knowledge and skills to work in business, industry, to teach in high schools and community colleges or to pursue further study in mathematics, science and technology. Currently there are no students in the program and there have not been any in the program since summer 2006.

This mission aligns with the department mission (http://www.math.ufl.edu/fac/organization.html) because the graduates generate, accumulate, organize, apply and disseminate knowledge in mathematics. It also supports the college mission by expanding knowledge of and practice in the mathematical sciences and in preparing graduates for an increasingly technological and changing society. It supports the university mission as one of the offerings of broad-based public education.

B. Student Learning Outcomes and Assessment Measures

SLO Type	Student Learning Outcome	Assessment Method	Degree Delivery
Knowledge	(1) Breadth: Discusses and explains mathematics in a range of areas. (2) Depth: Either solves problems in two areas from algebra/analysis/applied/topology or conducts research in mathematics at the master's level.	Review of courses during spring interview; approval of plan of study for non-thesis applied masters. First Year Exams for the non-thesis option; defense for thesis option.	Campus
Skills	(3) Writes extended mathematical prose to the precision required by the discipline and supports mathematical arguments with logical reasoning.	First Year Exams or master's thesis.	Campus
Professional Behavior	(4) Teaches mathematical courses in a professional manner, assessing the appropriate level of presentation for the students, creating an atmosphere conducive to learning, and supporting student-teacher interactions for active learning.	Observation. Measured by supervisor of graduate teaching assistants with input from relevant coordinator/observer.	Campus

C. Research

Someof our Master of Arts graduates take a non-thesis degree. Students choosing the thesis option work with their faculty advisor on a suitable mathematical topic, frequently present their on-going work in seminars to faculty and fellow graduate students, and defend their research results in the thesis defense with their supervisory committee.

D. Assessment Timeline

Program M.A. in Mathematics   College of Liberal Arts and Sciences

Assessment SLOs	Assessment 1	Assessment 2	Assessment 3	Enter more as needed
Knowledge				
SLO 1: breadth	Annual evaluation in spring term	Approval of plan of study for applied non-thesis degree		
SLO 2: depth	Survey of first year students in first fall semester at UF	First Year Exams and thesis defense		
Skills				
SLO 3: Communication	First Year Exams and thesis defense			
Professional Behavior				
SLO 4: Teaching	First review of teaching	Last review of teaching		

E. Assessment Cycle

Use this Assessment Cycle template for your plan. Add or delete rows as needed to accommodate your SLOs.

Assessment Cycle for:
Program M.A. in Mathematics   College of Liberal Arts and Sciences
Analysis and Interpretation: May of the Assessment Year.
Program Modifications: Completed by April of the year following the
                                        Assessment Year.
Dissemination: Report on Analysis and Interpretation completed by
                                        May of the Assessment Year.
                                        Report on Modifications completed by May of the
                                        year following the Assessment Year.

Year SLOs	10-11	11-12	12-13	13-14	14-15	15-16
Knowledge						
SLO 1: Breadth			x			x
SLO 2: Depth			x			x
Skills						
SLO 3: Communication			x			x
Professional Behavior						
SLO 4: Teaching			x			x

F. Measurement Tools

We survey first year students in their first semester to ascertain their mathematical readiness for our program. Progress toward breadth of knowledge is assessed during the annual spring graduate committee interview with a review of breadth and number of 6000+ courses taken. We assess how many of the four broad areas for our doctoral distribution requirements are represented in the course work of our master's students, with an expectation of a minimum of two areas, most students have three areas and some having four. For students in the applied track, we look for a complementary mix of mathematics courses and courses in allied fields when we approve a plan of study for students who seek the applied master's degree and do not choose a standard package. Depth of knowledge is assessed in the written First Year Exams for non-thesis students and in the thesis defense for thesis student. The First Year Exams are prepared and graded by a departmental committee. The supervisory committee assesses depth of knowledge the area of research for during the final defense for those taking the thesis option.

Written communication skills are assessed by departmental committees in the First Year Examinations and thesis defenses.

A student is a satisfactory teacher if the last assessment, by the supervisor of graduate teaching assistants and the relevant course coordinators(s), of teaching prior to graduation was satisfactory.

The rubric used in classroom observations was adapted from an instrument developed by lecturers in the department of mathematics without scoring levels. A version of that instrument has been distributed to graduate students for some years in the TA Training Workshop run every fall term prior to classes to prepare new TAs for their teaching duties. The graduate coordinator worked with the lecturers to convert the instrument to a rubric and in a session of the Teaching Methods worked to calibrate the rubric for uniform use.

Mathematics Teaching Assistant Classroom Observation

Observation of	Course:	Discussion section?	
Observer:	Room:	Period:	Date:
Expectation Scoring Categories: (1) **Below**, (2) **Near**, (3) **Meets**, or (4) **Exceeds**. Either circle the appropriate number or write in the blank square **ns** for not seen, **na** for not applicable.			

Preparation					
1. Is well-prepared and able to work homework problems.		1	2	3	4
2. Knows the material in the text and lectures.		1	2	3	4
3. Problem solving techniques are consistent with lecturer and text.		1	2	3	4
4. Promptly returns graded assignments.		1		3	
5. Returns assignments individually, respecting student privacy.*		1		3	
Presentation					
1. Is on time for class*		1		3	
2. Is friendly but professional in manner and demeanor*		1	2	3	4
3. Indicates topics of the day		1		3	
4. Speaks loudly and clearly		1	2	3	4
5. Communicates effectively so students can follow		1	2	3	4
6. Goes step-by-step and writes down steps		1	2	3	4
7. Uses blackboard effectively		1	2	3	4
8. Presents material at appropriate level		1	2	3	4
9. Emphasizes methods of solving problems rather than solutions		1	2	3	4
10. Emphasizes key points and concepts		1	2	3	4
11. Uses class time effectively		1	2	3	4
12. When appropriate, encourages alternate ways to solve problems		1	2	3	4
Teacher-Student Interaction					
1. Actively encourages student questions*		1	2	3	4
2. Listens to and understands student questions*		1	2	3	4
3. Responds appropriately to student questions*		1	2	3	4
4. Makes sure class hears and understands questions		1	2	3	4
5. Gives reasons for rejecting an answer*		1	2	3	4
6. Corrects misconceptions, sees that correct answer is brought out		1	2	3	4
7. Admits if doesn't know the answer or if was wrong		1	2	3	4
8. Asks questions to monitor students' understanding		1	2	3	4
9. Does not embarrass or belittle students*		1		3	
Classroom Atmosphere					
1. Establishes positive rapport, mutual respect with the students*		1	2	3	4
2. Classroom atmosphere is conducive to learning		1	2	3	4
3. Maintains eye contact		1	2	3	4
4. Keeps students' attention, including those not interacting		1	2	3	4
5. Provides opportunities for and encourages active participation		1	2	3	4
6. Indicates availability for giving individual help		1		3	

Attendance		
1. 0 to 1/3 full _____	1/3 to 2/3 full _____	2/3 to full _____
2. Most students were (a) on time;	(b) came in 0-- 15 min.	[c] some came > 15 min

last revised January 23, 2013

G. Assessment Oversight

Here, list the names and contact information of those who oversee the assessment process in your program. Add or delete rows as needed.

Name	Department Affiliation	Email Address	Phone Number
Jean A. Larson	Mathematics	jal@ufl.edu	(352) 392-0281
Rick Smith	Mathematics	rs@ufl.edu	(352) 392-0281

Figure 1. University of Florida Graduate/Professional Program Assessment Plan Review Rubric

Related resources are found at http://www.aa.assessment.edu

Program: Year:

Component	Criterion	Rating			Comments
		Met	**Partially Met**	**Not Met**	
Mission Statement	Mission statement is articulated clearly.				
	The program mission clearly supports the College and University missions, and includes specific statements describing how it supports these missions.				
Student Learning Outcomes (SLOs) and Assessment Measures	SLOs are stated clearly.				
	SLOs focus on demonstration of student learning.				
	SLOs are measurable.				
	Measurements are appropriate for the SLO.				
Research	Research expectations for the program are clear, concise, and appropriate for the discipline.				
Assessment Map	The Assessment Map indicates the times in the program where the SLOs are assessed and measured.				
	The Assessment Map identifies the assessments used for each SLO.				
Assessment Cycle	The assessment cycle is clear.				
	All student learning outcomes are measured.				
	Data is collected at least once in the cycle.				
	The cycle includes a date or time period for data analysis and interpretation.				
	The cycle includes a date for planning improvement actions based on the data analysis.				
	The cycle includes a date for dissemination of results to the appropriate stakeholders.				

Graduate Academic Assessment Plan – M.A. in Mathematics

Component	Criterion	Rating			Comments
		Met	**Partially Met**	**Not Met**	
Measurement Tools	Measurement tools are described clearly and concisely.				
	Measurements are appropriate for the SLOs.				
	Methods and procedures reflect an appropriate balance of direct and indirect methods.				
	The report presents examples of at least one measurement tool.				
Assessment Oversight	Appropriate personnel (coordinator, committee, etc.) charged with assessment responsibilities are identified				