



NORTHERN ILLINOIS UNIVERSITY

**College of Liberal Arts
and Sciences**

Department of Mathematical Sciences

Assessment Plan

Mathematical Sciences Ph.D. 2007

**Report to the University Assessment Panel
Ph.D. degree in Mathematical Sciences**

Program Objectives

The majority of the graduates of our program seek teaching positions in 4-year degree granting institutions. For these graduates the primary assessment metric is job placement and, ultimately, success in obtaining tenure. A smaller proportion enter government service and private industry. Here too the assessment metric is, essentially, success in obtaining appropriate employment and promotion in the chosen field.

Learning Outcomes

Graduates of the program will be prepared for successful careers, largely in degree granting institutions by having:

- 1) A broad knowledge of mathematics in general; and
- 2) A detailed knowledge of the subfield containing their specialty.

All of our graduates will have

- 3) A capacity for abstract reasoning which is adequate for their chosen career.
- 4) An ability to pursue independent research to a degree which is consonant with their career path.
- 5) A capacity to understand the use of mathematics outside the traditional university setting.
- 6) A detailed knowledge of one area of mathematics.

Explanation of methods

The following table identifies the methods used, together with descriptions to achieve the outcomes

Method	Description	Timeline	Person Responsible	Objectives Addressed
Interviews with the Graduate Director	Interviews conducted to survey how well previous courses prepared them for their present courses.	Spring semester	Director of Graduate Studies	1,2,3
AIC Director's Report	Each year the AIC Directors reports to the Graduate Studies Committee the activities relating the placement of students in internships, their performance and preparedness as perceived by their external supervisor.	Annually	AIC Director	5,6
Oral Candidacy Examinations	After completing the core courses and reading courses in the subfield contained their proposal dissertation area, students undergo an oral examination by a committee of specialist with in the Mathematics Department. A member of the Graduate Studies Committee attends the examination and reports to the committee.	After a student completion of the core and assigned reading courses	Director of Graduate Studies	2,3,4
Annual evaluations from the dissertation advisors	Advisors evaluate their student's progress towards completion of the dissertation and list seminars and colloquia given. The reports are analyzed by the graduate studies committee.	Late in the Fall semester	Director of Graduate Studies	3,4
Dissertation Defense	An external examiner is appointed to each student's examination committee for the dissertation defense. The external examiner evaluates the student's dissertation and submits a report to the department chair.	At the time of the defense	Chair	3,4
Alumni Survey	Two, five and ten years after graduation alumni are invited to respond to a survey in which they are questioned about their experiences at NIU and how well they feel that the program prepared them for their subsequent careers. The questionnaire is compiled in consultation with the graduate student advising committee.	In the appropriate summers	Director of Graduate Studies	Program Objectives
Placements of Graduates	The Graduate Director keeps a record of the placement of graduates of the program in initial employment.	Evaluated by the Director of Graduate Studies in the Spring Semester	Director of Graduate Studies	Program Objectives

Outcomes by Method

	Interviews with Grad. Director	AIC Director's Report	Qualifying Exams	External Examiners Report	Job Placement	Alumni Survey
Broad Knowledge of Mathematics in general	X		X			
Detailed knowledge of subfield				X	X	X
Capacity for abstract reasoning			X	X		
Ability for Independent Research				X	X	X
Appreciation of Mathematics outside the traditional setting		X				
Detailed knowledge of one field outside traditional setting		X			X	