

Mathematics Academic Learning Compact

Expected Outcomes:

Students majoring in mathematics are expected to:

1. demonstrate content knowledge in modern mathematics,
2. exercise critical thinking,
3. communicate mathematical ideas both orally and in writing, and,
4. master the techniques and methods of mathematical research at an honors college level.

To accomplish these outcomes, the mathematics program offers a wide variety of courses and seminars, in an environment that supports a close mathematical community of faculty and students that share mathematical ideas, projects, and camaraderie. Students further develop their communication and research skills as well as a critical perspective through the completion of a senior research project, conducted under the supervision of a faculty with the participation of at least two additional faculty members.

The curriculum is flexible to accommodate the needs and interests of our students. All of our classes and other educational activities build critical thinking, are rich in content and promote good communication skills through frequent student presentations.

COURSE MAPPING

COURSE	CONTENT	CRITICAL THINKING	COMMUNICATION
Calculus I and II	X	X	
Linear Algebra	X	X	
Math Seminar	X	X	X
Differential Equations	X	X	
Abstract Algebra I & II	X	X	X
Calculus III	X	X	
Real Analysis	X	X	X
Discrete Mathematics	X	X	X
Number Theory	X	X	
Probability Theory	X	X	
Graph Theory	X	X	X
Representation Theory of Groups	X	X	X
Topology	X	X	X
Complex Analysis	X	X	X

Measures to track student progress:

1. Faculty advisors will verify and certify that the student is meeting these goals on the Provisional Area of Concentration and Thesis Prospectus forms.

Specific measures to demonstrate each graduate's competencies:

1. Evaluation of senior thesis and baccalaureate examination.
2. Evaluation of independent study projects.

3. Mathematics (and related field) Graduate Record Examinations; the mathematics section of the standard GRE and related tests.
4. Acceptance into graduate and professional programs and awarding of fellowships (e.g., Fulbright, NSF, etc.).
5. Employment data can be used to assess various skills, depending on the type of job involved. All jobs would involve communication skills & critical thinking, but some jobs would also require mathematical content knowledge. This might be a way to assess students who do not go to graduate school. We may send surveys to employers (developed by institutional research), but a list of successful job placements would be useful in beginning the assessment.