

Learning Outcomes and Curriculum Map, Undergraduate Degree Programs

Department of Mathematics and Applied Mathematical Sciences

VERSION 2024-2025

PROGRAM-WIDE STUDENT LEARNING OUTCOMES

- 1: Graduates demonstrate a command of fundamental concepts of calculus and linear algebra to acquire a solid foundation for advanced courses.
- 2: Graduates demonstrate a command of concepts from advanced courses in mathematics to acquire depth of knowledge.
- 3: Graduates can construct a rigorous mathematical argument to prove or disprove mathematical statements.
- 4: Graduates can use technology to do calculations, create visualizations, and test hypotheses.
- 5: Graduates can effectively communicate mathematical ideas to a variety of audiences.
- 6: Graduates can apply mathematical methods to solve problems in other disciplines.

CODES	I: INTRODUCED				E: EMPHASIZED				R: REINFORCED (AFTER EMPHASIS)				*: STUDENT WORK IDENTIFIED FOR USE IN PROGRAM ASSESSMENT												
	COLORS				BLACK: ALL MAJORS				RED: BS - PURE MATH				BLUE: BS - APPLIED MATH				GREEN: BA								
	141	142	180	215	243	244	307	316	322	362	381	382	420	435	436	437	438	441	442	447	451	452	462	471	481
OUTCOME 1	I*	E*		E*	E*	R R				R						R	R	R R	R R		R	R	R	R R	R
OUTCOME 2			I	I	I		I I	E E	E	E		E		E*	E*	E*	E*	E* E*	E* E*	E*	E*	E*	E*	E* E*	E*
OUTCOME 3	I	I	E*	I	I		I* I*	R* E*	E			E		E*	E*	R*	R*	R* R*						R* R*	
OUTCOME 4	I	I		I	I				E*							I*	I*	I* I*	E* E*	R*					E*
OUTCOME 5				I			E* E*	E* E*	E*		E*	E*	E*	E*	E*	R	R	R R	E* E*	R	R	R	R	R R	
OUTCOME 6	I	I	I	I	I	E*				E*						E*	E*	E* E*	R* R*	E*	E*	R*			E*

NOTE: Within the mathematics degree programs, once the core courses of MTH 141, 142, 215, 243 are completed, most higher-numbered courses are electives with few additional prerequisites. In particular, courses without consecutive numbers are not generally taken in numerical order. Notable exceptions include MTH 316 for BA,BS (pure) and MTH 435-436 and 437-438 for BS (pure, applied). Note also that students in the BA and BS tracks typically take different courses.