

Senior Assessment Exam

As part of MATH 490, you will take the Senior Assessment Exam (during the final exam period), which will count for at least 25% of your course grade.

The exam will consist of 25 questions (22 multiple choice or fill in the gaps/short answer) and 2-3 “free response” questions (for example to draw the graph of a function with given properties). The questions will cover core ideas from the following courses:

MATH 102/103	(3-4)	Precalculus
MATH 206-209	(8)	Calculus
MATH 248	(2)	Discrete Mathematics
MATH 255	(2)	Linear Algebra
MATH 325	(2)	Proof and Notation
MATH 455	(2-3)	Abstract Algebra
MATH 465	(2-3)	Advanced Calculus

The number in parenthesis indicates the number of multiple choice/short answer questions from each of the courses or course sequences. The three “free response” questions may come from any of the courses.

This handout contains a description of the topics that you should be familiar with and provides sample problems for each area.

Note that **NO CALCULATORS or NOTES** will be allowed in the exam.

Assessment Exam Syllabus for College Algebra

Operations with and simplification of polynomial, rational, and radical functions and solving simple equations involving them.

Properties of exponential and logarithmic expressions

Graphs of simple polynomial, rational, radical, exponential, and logarithmic functions.

Composition of functions, inverse of functions.

Applications of the above.

Assessment Exam Syllabus for Trigonometry

Basic definitions of the six trigonometric functions and their inverses, both in terms of right triangles and as circular functions, both in terms of radian measure and degree measure. Their values for familiar angles and the relationship with isosceles right and equilateral triangles; i.e., 45° , 30° , 60° , as well as 0° , 90° , 270° .

Graphs of the basic trigonometric functions and variations on them, period and amplitude, phase shift.

Right triangle trigonometric identities, sum and difference formulas and the law of sines and the law of cosines.

Solve triangles and calculate missing but determined segments and angles of other figures.

Polar form of complex numbers, multiplication and division, DeMoivre's Theorem, roots of a complex number.