

UNCG MATHEMATICS PLACEMENT INFORMATION SHEET

DEPARTMENT OF MATHEMATICS AND STATISTICS

Students entering the University that want to take MAT 120 (Calculus with Business Applications), MAT 190 (single semester Precalculus), or MAT 191, 292, 293 (Calculus I–III) are required to meet minimum placement criteria. The criteria can be met without coursework via the Math Placement Test (MPT), the AP Calculus exams, the CLEP exams, or the IB Mathematics exams.

Exam	Scores	Credit	Placement
Math Placement Test (MPT)	60	None	MAT 120 or MAT 190
Math Placement Test (MPT)	80	None	MAT 191
AP Calculus AB	1	None	based on MPT
AP Calculus AB	2	None	MAT 191
AP Calculus AB	3–5	MAT 191	MAT 292
AP Calculus BC	1	None	based on MPT
AP Calculus BC	2	None	MAT 120 or MAT 191
AP Calculus BC	3–5	MAT 191 and MAT 292	MAT 293
CLEP Calculus	50	MAT 191	MAT 292
CLEP College Algebra	50	MAT 115	MAT 120 or MAT 190
CLEP College Mathematics	50	MAT 112	based on MPT
CLEP Precalculus	50–64	MAT 150	MAT 120 or MAT 190
CLEP Precalculus	65	MAT 151	MAT 191
IB Mathematics SL (Studies)	5	MAT 115	MAT 120 or MAT 190
IB Mathematics SL (Methods)	5	MAT 151 or MAT 120	MAT 191
IB Mathematics HL	5	MAT 191 and MAT 292	MAT 293

MAT 112 (Contemporary Topics in Mathematics), MAT 115 (College Algebra), MAT 150 (Precalculus I), and STA 108 (Elementary Introduction to Probability and Statistics) all satisfy the General Education GMT requirement and are open to all student, regardless of placement.

The Math Placement Test (MPT) may only be taken twice per calendar year. The test is typically taken the first time during SOAR, so students should bring a calculator to SOAR and be prepared to take the Math Placement Test.

Additional information about the placement test can be found at

<http://www.uncg.edu/mat/undergraduate/mathplacetest.html> .

For more information about the UNCG Mathematics and Statistics Department, visit

<http://www.uncg.edu/mat/> .

SAMPLE MPT PROBLEMS

The list below is not comprehensive and is merely provided as a sample. The MPT will draw a random selection of problems from a large precalculus test bank. You are allowed the use of a calculator on the MPT.

- (1) Find the equation of the line that passes through the points $(1, 2)$ and $(-9, 18)$.
- (2) Find the center and the radius of the circle $x^2 + y^2 + 8y = 0$.
- (3) Find a complete factorization of $f(x) = x^4 - 2x^3 + x^2$ in terms of linear factors as guaranteed by the Fundamental Theorem of Algebra.
- (4) Solve the inequality $|3x - 4| > 5$.
- (5) Solve the inequality $\frac{x - 3}{1 - x} > 0$.
- (6) Solve the inequality $x^2 + x \leq 2$.
- (7) Find the domain and range of the function $f(x) = 1 + \frac{2}{x - 1}$.
- (8) Find the domain and range of the function $f(x) = \ln(7x + 1)$.
- (9) Find the domain and range of the function $f(x) = 3^{x-1} + 2$.
- (10) Simplify $\frac{(y^{\frac{1}{5}})^{\frac{2}{5}}}{\sqrt[5]{y}}$.
- (11) Find all zeros of $f(x) = \tan(x)$ on the interval $(-2\pi, 2\pi)$.
- (12) What is the period for $f(x) = 3 \cos(4x) + 2$?
- (13) Find all the solutions of $e^{x+3} = 4$.
- (14) Evaluate $\log_6(2) - \log_6(12)$.
- (15) Evaluate $e^{2 \ln(20)}$.
- (16) Evaluate $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$.
- (17) Express the exponential statement $m = p^k$ as a logarithmic statement.
- (18) What is the exact value of $\cos\left(\frac{5\pi}{6}\right)$?
- (19) Find the equation of a sine curve with amplitude 2, period 3π , and phase shift $\frac{3}{2}$.
- (20) Find the length of an arc of a circle subtended by a central angle of 30° if the radius of the circle is 10 feet.

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