Wentworth
INSTITUTE OF TECHNOLOGY

Pre-Calculus Requirement for Applied Mathematics, Applied Sciences, Computer Science, Cybersecurity, Data Science and Engineering Majors

All students enrolling in applied mathematics, applied sciences, computer science, cybersecurity, data science and any engineering program at Wentworth are required to complete math through the pre-calculus level prior to the start of classes. Students who have been conditionally admitted for completion of a pre-calculus course have several options for completing this pre-requisite. Proof of successful completion of this course (with a 'C' or better) must be received by the Office of Undergraduate Admissions by **Wednesday, August 23, 2023**.

Online course offered by Wentworth

Wentworth will offer two synchronous on-line pre-calculus courses (one morning option and one evening option). The course will run from **June 23 through August 17, 2023** and will cost $500. Successful completion (a grade of 'C' or better) in this course satisfies the pre-calculus condition. Information will be sent to deposited students in May when registration is open. *Course information will also appear on your admissions portal when it becomes available.*

Pre-Calculus at a Community College or High School

Alternatively, you may complete a pre-calculus course at a community college or through a high school summer school program. Please see the reverse for the specific topics which must be covered in the course. If you have questions about whether a selected course meets the requirements, please contact the Welcome Team at (617) 989-4948 or welcome@wit.edu. You will likely be requested to submit a course description and syllabus for review.

(Over)

Required topics to be covered in a pre-calculus course:

Functions and Their Graphs

- Functions
- The Graph of Function
- Properties of Functions
- Mathematical Models: Building Functions

Systems of Equations; Polynomial and Rational Functions

- System of Linear Equations
- Systems of Linear Equations: Matrices
- Quadratic Functions and Their Properties
- Quadratic Models
- Polynomial Functions
- Properties of Rational Functions

Exponential and Logarithmic Functions

- Composite Functions
- One-to-One Functions; Inverse Functions
- Exponential Functions
- Logarithmic Functions
- Properties of Logarithms
- Logarithmic and Exponential Equations
- Compound interest
- Exponential Growth and Decay Models; Newton's Law

Trigonometric Functions and Analytic Trigonometry

- Angles and their Measure
- Computing the Values of Trigonometric Functions of Acute Angles Trigonometric Functions of General Angles
- Graphs of the Sine and Cosine Functions
- Graphs of Tangent and Cotangent
- Inverse Sine, Cosine and Tangent Functions
- Trigonometric Identities
- Trigonometric Equations