

Northwestern Connecticut Community College

Course Syllabus

Course Title: Precalculus

Course #: MAT* 186

Course Description: 4 credits

An exploration of functions and their graphs. Polynomial, rational, exponential, logarithmic, and trigonometric functions and their behaviors in a two-dimensional graphing system will be examined and used to model real life situations. The use of a graphing calculator is an integral part of this course.

Pre-requisite: C or better in Math 137 or equivalent.

Goals:

1. To enhance and solidify students' knowledge of concepts learned in previous mathematics courses.
2. To provide students with the mathematical tools necessary to pursue the study of calculus and other advanced math courses, and to represent functions both algebraically and graphically using a technology tool.
3. To use technology tools to analyze and apply functions to real world situations.

Outcomes: Upon completion of this course, the students will have demonstrated his/her ability to:

1. Use slope and other linear attributes to analyze and graph linear functions.
2. Apply the Distance and Midpoint Formulas.
3. Identify various functions and use transformations to create new functions.
4. Use composition and the algebra of functions to combine functions
5. Find the inverse of a function
6. Perform basic operations with complex numbers.
7. Identify, solve and graph quadratic functions and equations.
8. Divide polynomials and utilize the Remainder and Factor Theorems
9. Find the zeros of polynomial functions
10. Simplify, analyze, and graph rational functions and inequalities
11. Simplify, analyze, and graph exponential and logarithmic functions
12. Utilize properties of logarithms to simplify exponential and logarithmic equations
13. Define and evaluate trigonometric functions using the unit circle and right triangle trigonometry
14. Graph and transform all six trigonometric functions
15. Find the inverse of a trigonometric function
16. Verify trigonometric identities
17. Apply the Sum and Difference and Half and Double Angle Formulas
18. Solve trigonometric equations
19. Apply the Law of Sines and the Law of Cosines
20. Transform rectangular coordinates to polar coordinates and vice versa
21. Sketch simple polar graphs

College Policies

Plagiarism: Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanctions ranging from failure of the assignment (receiving a zero), failing the course, being removed/expelled from the program and/or the College. Please refer to your "Student Handbook" under "Policy on Student Rights," the Section entitled "Student Discipline," or the College catalog for additional information.

Americans with Disabilities Act (ADA): The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Dr. Christine Woodcock, the Counselor for Students with Disabilities. She is located at Green Woods Hall, in the Center for Student Development. Her phone number is 860-738-6318 and her email is cwoodcock@nwcc.edu.

School Cancellations: If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio and television stations and posted on the College's website at www.nwcc.edu. Students may also call the College directly at **(860) 738-6464** to hear a recorded message concerning any inclement weather closings. Students are urged to exercise their own judgment if road conditions in their localities are hazardous.

Use of Electronic Devices: Some course content as presented in Blackboard Learn is not fully supported on mobile devices at this time. While mobile devices provide convenient access to check in and read information about your courses, they should not be used to perform work such as taking tests, quizzes, completing assignments, or submitting substantive discussion posts.

Sexual Assault and Intimate Partner Violence Resource Team: NCCC is committed to creating a community that is safe and supportive of people of all gender and sexual identities. This pertains to the entire campus community, whether on ground or virtual, students, faculty, or staff.

Sexual assault and intimate partner violence is an affront to our national conscience, and one we cannot ignore. It is our hope that no one within our campus community will become a victim of these crimes. However, if it occurs, NCCC has created the SART Team - Sexual Assault and Intimate Partner Violence Resource Team - to meet the victim's needs.

SART is a campus and community based team that is fully trained to provide trauma-informed compassionate service and referrals for comprehensive care. The team works in partnership with The Susan B. Anthony Project to extend services 24 hours a day, 7 days a week throughout the year.

The NCCC team members are:

Ruth Gonzalez, Ph.D.	860-738-6315	Green Woods Hall Room 207
Susan Berg	860-738-6342	Green Woods Hall Room 223
Kathleen Chapman	860-738-6344	Green Woods Hall Room 110
Michael Emanuel	860-738-6389	Founders Hall Annex Room 308
Seth Kershner	860-738-6481	Library
Jane O'Grady	860-738-6393	Founders Hall Annex Room 212
Robin Orloski	860-738-6416	Business Office Room 201
Patricia Bouffard, Ex-Officio	860-738-6319	Founders Hall Room 103
Savannah Schmitt		Student Representative

At NCCC we care about our students, staff and faculty and their well-being. It is our intention to facilitate the resources needed to help achieve both physical and emotional health.