Hunter College
of the City University of New York
Department of Mathematics and Statistics
COURSE SYLLABUS
Math 12550 (Sec 01) – Precalculus with Workshop
5 Hrs – 4 Credits
Summer 2025
Time: Monday to Thursday 8:00 – 10:05 in C004 (North Basement)

Instructor (Lectures): Mr. Xiaojun Liao
Email: xliao@hunter.cuny.edu
Office Hours: Wednesday 10:10 – 11:10 in 924 East
Recitation Instructor: Mr. Xiaojun Liao
E-mail: xliao@hunter.cuny.edu

Prerequisite:
A grade of B- or better in Math 10100/Math101EN or a grade of C or better in Math10100/Math101EN with a grade of C or better in Math10150; or the appropriate score on the Compass Exam or ACCUPLACER College Level Math Exam.

After this course:
Students receiving a B- or better in this course, can take register for Math150 or Math152.
Students receiving a C/C+ in this course, must also register for Math140 as a co-requisite to Math150 or Math152.
Note, if you do not need/intend to take calculus (Math150 or Math152) you should be in Math12400.

Textbook: Required Lumen OHM (Online Homework Management) $35
Primary textbook: OpenStax *Precalculus*, Jay Abramson, et al (ISBN-10 1938168348)
https://openstax.org/details/precalculus

Secondary textbook: *Precalculus*, Stitz and Zeager
http://www.stitz-zeager.com/

Learning Outcomes:
Upon completion of the course you should be able to:
1) Identify the domain, range and properties of linear, polynomial, power, rational, radical, exponential, logarithmic, and trigonometric functions.
2) Find combinations, compositions and inverses of functions: algebraically, numerically, graphically, and in applied settings.
3) Analyze, graph, and apply transformations to for quadratic, polynomial, trigonometric, exponential, logarithmic and rational functions.
4) Identify the properties of polynomial and rational functions such as degree, maximum number of zeros, maximum number of turns, multiplicity of zeros, vertical and horizontal asymptotes, and end-behavior.
5) Solve polynomial, absolute value and rational inequalities.

6) Solve equations containing polynomial, rational, absolute value, exponential, logarithmic and trigonometric expressions.
7) Use the relationship between logarithmic and exponential functions to solve equations and problems involving growth/decay, and compound interest.
8) Convert between radians and degrees and use the unit circle to determine the six trigonometric functions of a given angle.
9) Graph the sine, cosine, and tangent functions using phase shifts, periodicity, and amplitude.
10) Verify trigonometric identities and use the sum, difference, double, and half-angle identities.
11) Write down the standard form for the circle, ellipse and hyperbola.
12) Write down the general term of a sequence and manipulate summation notation.
13) Sum up finite arithmetic and geometric series.
14) State and use the Binomial Theorem.

Attendance:
Attendance is mandatory for both lecture and recitation sessions.

Homework:
All homework is done on Lumen Learning's Online Homework System (OHM), there is an assignment for every section of the textbook, due about once a week. Always check OHM for upcoming assignments. OHM is a wonderful, modern, interactive resource, including features such as graphing applets and videos.

You can access the online homework system, in order to see the assignments for this course, and you must set up an OHM account here:

https://ohm.lumenlearning.com

The online homework system, costs $35 if purchased directly from Lumen, if purchased through the bookstore Akademos, the price may be more. **This is required to complete the course!** Select “enroll in a new course”, you will be prompted to enter the course id and the enrollment key, which for this section is:

Course Id: 90774 **Enrollment Key: 01**

*Please note that you will have to do the **“Prerequisite Material Review”** assignment with a score of 80%+ before any of the homework assignments open up.*

Recitation sessions:
Class-work must be completed and submitted during recitation sessions. Topics in recitation sessions will go in parallel to the lecture topics and will be tested on exams. Recitation topics will often "zoom in" on particular concepts mentioned during lecture. Topics may be covered during recitation, that are not covered in lecture, these topics (types of questions) will be on the exams. This is why attendance and participation of recitation sessions is required. Class-work completed during recitation will be grade as complete or incomplete. If you do not complete it during recitation, or have too many errors, your instructor may ask you to correct/complete it to receive full credit. There are 12 recitation worksheets, each worksheet counts 1% toward your course grade. You need to finish at least 10 worksheets to get full credits.

Exams:
There will be 3 in-class exams and a final. The final exam will count as 2 exams. Of these 5 parts, the lowest is dropped, and the remaining 4 parts are averaged to obtain the exam average.

Exam 1: Lecture 8 (6/09)
Exam 2: Lecture 14 (6/18)
Exam 3: Lecture 20 (7/01)
Final: Lecture 24 (7/08)

Grading Policy:
Your final average is calculated as follows:

75% Exams
10% Recitation Class-work
15% Lumen OHM Homework

To receive an incomplete, you must have taken at least three of the in-class exams, have a C average on those exams, and have a legitimate excuse for missing the final exam. To request a CR/NC you must attend class and take the exams including the final exam. The letter grade is determined as follows:

Grade	Percent
A+	97.5-100
A	92.5-97.4
A-	90.0-92.4
B+	87.5-89.9
B	82.5-87.4
B-	80.0-82.4
C+	77.5-79.9
C	70.0-77.4
D	60.0-69.9
F	0-59.9

CR/NC – grades
This course does not accept CR/NC grading system.

Tutoring:
Table tutoring and audiovisual materials are available at The Dolciani Mathematics Learning Center, located at the Silverstein Student Success Center 7th Floor Hunter East. Review materials to be prepared for this course are available for Math 12550 on the Dolciani website www.hunter.cuny.edu/dolciani by clicking on Brush-Up Skills.

Calculators:
A scientific calculator is allowed for the exams. Graphing calculators, cell phones, iPads, laptops, etc. are not permitted for the exams.

Academic Integrity:
Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

Disability:
In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/or Learning) consult the Office of AccessABILITY located in Room 1214B Hunter East to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/TTY (212-650-3230).

Hunter College Policy on Sexual Misconduct:
"In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.
a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123. CUNY Policy on Sexual Misconduct Link: http://www.cuny.edu/about/administration/offices/la/Policy-on-SexualMisconduct-12-1-14-with-links.pdf