JOHN JAY COLLEGE OF CRIMINAL JUSTICE
THE CITY UNIVERSITY OF NEW YORK
524 W 59th Street, New York, NY, 10019

# Syllabus

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## COURSE INFORMATION

**Course Title and Section:** MAT141 – 01, Pre-Calculus

**Course Dates:** 06/05/2025 - 07/10/2025

**Location and Schedule:** Tuesday, Wednesday, and Thursday, 9.00am-11.40am, New Building 1.114

**Office Hours:** Wednesdays, 12pm-1pm, 6.65.22 NB. Or by appointment.

**Course Description:** This course examines elementary functions and their role in the study of polynomial, rational, exponential, logarithmic, and trigonometric functions. Topics are presented from a function perspective graphically, numerically, analytically, and verbally. Topics include a review of college algebra, functions, trigonometric functions, analytical trigonometry, conic sections, and miscellaneous topics. This course prepares students for the study of calculus and further develops their mathematical maturity.

**Required Text and Course Materials:** *Algebra and Trigonometry*, 4th Edition, Stewart-Redlin-Watson, ISBN: 9781337771917.

**Learning Outcomes**: The main goal of this course is that students completing this course will understand both analytic and graphical approaches to solutions of problems that can be expressed algebraically. Students will demonstrate the ability to:

- Perform operations with functions.
- Be able to use the unit circle to evaluate trigonometric functions.
- Be able to show trigonometric identities are valid.
- Be able to solve exponential, logarithmic, and trigonometric equations.
- Use trigonometric methods in applications.

**Course Prerequisites:** Placement examination, or MAT 105 (College Algebra) or the equivalent.

## GRADING

**Exams:** There will be *two* in-class exams and a *final exam*. The final exam score will count twice, and your lowest exam score will be dropped (if the final exam is the lowest exam score, then it will only count once).

**Homework:** There will be *five* homework assignments, posted online on Brightspace. Students must bring their handwritten submissions, on-paper, to class on the due date.

**Extra Credit:** An extra credit assignment will be posted during the course once we have covered sufficient material. The extra credit will allow the student to gain a maximum of 5 extra points on their final class average.

A breakdown of how the homework and exams will affect your grade is below:

| Grade Breakdown | % of Final Grade |
|---|---|
| Homework | 30% |
| Two in-class Exams and Final Exam | 70% |

If you have any questions about how you calculate your grade, please contact the instructor!

The Final Grade Scale is below:

| Grade | | Grade | % of points |
|---|---|---|---|
| A | 93.0- 100% | C | 73.0- 77.0% |
| A- | 90.0%- 92.9% | C- | 70.0 – 72.9% |
| B+ | 87.1 – 89.9% | D+ | 67.1 – 69.9% |
| B | 83.0- 87.0% | D | 63.0- 67.0% |
| B- | 80.0- 82.9 | D- | 60.0 – 62.9% |
| C+ | 77.1 – 79.9 | F | Below 60% |

## POLICIES AND ACCOMMODATIONS

**Americans with Disabilities Act (ADA) – CUNY Accommodations Policy:** Students who believe that they may need an accommodation due to a disability are encouraged to immediately contact the Office of Accessibility Services (OAS) in Room L.66 NB (212-237-8031) or accessibilityservices@jjay.cuny.edu. Students are welcome but not required to speak with the instructor privately to discuss specific needs for the class. Students with disabilities are entitled to confidentiality over disability-related status or details. Students are not required to disclose their specific disability to their instructors or anyone else.

**Policy on Religious Accommodations:** Students requesting religious accommodations should contact the Office of the Dean of Students at deanofstudents@jjay.cuny.edu. The Dean's office will work with you and the instructor to find an acceptable accommodation. Reasonable accommodations may include, but are not limited to, permission to make up a test or lecture, time and/or space to pray, or an accommodation relating to appearance or dress.

**CUNY Policy on Academic Integrity:** Academic dishonesty is prohibited in CUNY. It includes, among other things: *cheating* (e.g. unauthorized use of an electronic device during an exam); *obtaining unfair*

*advantage* (e.g. circulating or gaining access to exam materials) and *plagiarism* (e.g. presenting or submitting someone else's work as one's own, including information on the internet). Plagiarism may be intentional or unintentional, but lack of dishonest intent does not absolve a student of responsibility for plagiarism.

It is the student's responsibility to recognize the difference between statements that are common knowledge (which do not require documentation) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited. If in doubt, it is better to include a citation.

Students who are unsure how and when to provide documentation are advised to consult with the instructor. The Library has free guides designed to help students with problems of documentation at http://guides.lib.jjay.cuny.edu/citing_sources.

John Jay's Artificial Intelligence responsible use guidelines can be found here: https://www.jjay.cuny.edu/academic-policies-and-guidelines.

**Incomplete Grade Policy:** Current undergraduate INC policy can be found here: http://jjay.smartcatalogiq.com/current/undergraduate-bulletin/academic-standards-and-policies/grades/.

**Attendance:** Class attendance is the student's responsibility. Lateness, excessive absences, or lack of participation will adversely affect a student's grade.

**Make-Up Exams:** When a student must miss an exam due to some educational activities such as a field trip or due to some other acceptable reason, the student must inform the instructor *before* the day of the exam and arrange for a time to take the exam. Make-up exams will be taken *before* the scheduled exam date unless there are exceptional circumstances.

## WELLNESS AND STUDENT RESOURCES

**Wellness Center:** Students experiencing any personal, medical, financial or familial distress, which may impede their ability to fulfill the requirements of this course, are encouraged to visit the Wellness Center (L.65 NB). Available resources include Counseling Services, Health Services, Food Bank, and Emergency Funding support. See https://new.jjay.cuny.edu/student-life/wellness-center.

**Academic Resources and Services:** Visit the Students' Academic Resources and Services website for a list of student academic support resources: https://new.jjay.cuny.edu/academics/academic-resources-services.

**Resources for Reporting Discrimination, Sexual Harassment, Stalking or Domestic Partner Violence:** The individuals below are available to discuss your rights and the resources available to you as well as help you explore your options for reporting sexual misconduct, harassment or discrimination of any kind. You

may report incidents that occur on or off campus, including incidents that occur online, or on messaging and social media platforms to:

1. Gabriela Leal, Title IX Coordinator, 646-557-4674, gleal@jjay.cuny.edu
2. Diego Redondo, Director of Public Safety & Risk Management, 212-237-8524, dredondo@jjay.cuny.edu
3. Danielle Officer, Interim Dean of Students, 212-237-8211, deanofstudents@jjay.cuny.edu

To speak confidentially, you may contact the Women's Center Counselor and Gender-Based Violence Prevention and Response Advocate, Jessica Greenfield at jgreenfield@jjay.cuny.edu. For more information and resources, please see CUNY's Policy on Sexual Misconduct (PSM), CUNY's Equal Opportunity and Non-Discrimination Policy, or see this page: https://new.jjay.cuny.edu/about-us/compliance-diversity/non-discrimination-equal-opportunity/training-resources.

## COURSE SCHEDULE AND OUTLINE

Please see https://www.jjay.cuny.edu/sites/default/files/2024-07/Fall-2024-Academic-Calendar-updated-7-5-24.pdf for the Fall 2024 academic calendar.

| CLASS | DATE | OUTLINE | HOMEWORK |
|---|---|---|---|
| 1 | Thurs June 5th | 2.1 Functions<br>2.2 Graphs of Functions | Homework 1 Assigned |
| 2 | Tues June 10th | 2.3 Getting Information from the Graph of a Function<br>2.4 Average Rate of Change of a Function | |
| 3 | Wed June 11th | 2.5 Linear Functions and Models<br>2.6 Transformations of Functions | - |
| 4 | Thurs June 12th | 2.7 Combining Functions<br>2.8 One-to-One Functions and Their Inverses | Homework 1 Due<br>Homework 2 Assigned |
| 5 | Tues June 17th | 4.1 Exponential Functions<br>4.2 The Natural Exponential Function | |
| 6 | Wed June 18th | EXAM 1 (Covers Lectures 1-4)<br>4.3 Logarithmic Functions | Homework 2 Due<br>Homework 3 Assigned |
| - | Thurs June 19th | NO CLASS | - |
| 7 | Tues June 24th | 4.4 Laws of Logarithms<br>6.1 The Unit Circle | |
| 8 | Wed June 25th | 6.2 Trigonometric Functions of Real Numbers<br>6.3 Trigonometric Graphs | - |
| 9 | Thurs June 26th | 6.4 More Trigonometric Graphs<br>6.5 Inverse Trigonometric Functions and their Graphs | Homework 3 Due<br>Homework 4 Assigned |
| 10 | Tues July 1st | EXAM 2 (Covers Lectures 5-10)<br>5.1 Angle Measure | |

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| 11 | Wed July 2nd | 5.2 Trigonometry of Right Triangles<br>5.3 Trigonometric Functions of Angles | - |
| 12 | Thurs July 3rd | 7.1 Trigonometric Identities<br>7.2 Addition and Subtraction Formulas | Homework 4 Due<br>Homework 5 Assigned |
| 13 | Tues July 8th | 7.3 Double-Angle, Half-Angle, Product Sum Formulas<br>Exam Review | |
| 14 | Wed July 9th | Exam Review | Homework 5 Due |
| 15 | Thurs July 10th | FINAL EXAM | |