

MATH 117 Departmental Syllabus

MATH 117 Course Description (As posted in the Spring 2021 description on UDSIS) Designed to prepare students for MATH241. All topics included in MATH115 are covered, as well as additional topics in functions, trigonometry, linear systems, and nonlinear systems. Other topics may be added at the discretion of the instructor.

PREREQUISITE: Requires a grade of C- or better in MATH010, or a score of 65 or better in the Math Placement Test. See [See https://www.mathsci.udel.edu/courses-placement/ud-math-placement-for-more-information](https://www.mathsci.udel.edu/courses-placement/ud-math-placement-for-more-information) for more information.

RESTRICTIONS: Students who received credit in MATH231, MATH241, MATH242, or MATH243 are not eligible to take this course without permission.

TEXTBOOK: WebAssign Printed Access Card for Stewart/Redlin/Watson's Precalculus, Enhanced Edition, 7th Edition, Single-Term: ISBN: 9781337879699 (Spring 2021)

OTHER REQUIRED MATERIALS: Web Assign and scientific calculator.

TEXTBOOK SECTIONS AND/OR TOPICS

| Title (Textbook sections) | Number of 50-minute classes |
|---|-----------------------------|
| Algebra Review: Sets, interval notation, exponents, radicals (1.1 & 1.2) | 1 |
| Algebra Review: Factoring Techniques (Section 1.3) and Simplifying Rational Expressions (Section 1.4) | 1 |
| Algebra Review: Solving Equations (1.5) | 1 |
| Algebra Review: Word Problems (1.7) | 1 |
| Algebra Review: Solving Linear and Nonlinear Inequalities (Section 1.8) | 1 |
| Algebra Review: Coordinate Plane and Circles (Section 1.9) | 0.5 |
| Algebra Review: Lines and Linear Applications (Section 1.10) | 0.5 |
| Functions (Section 2.1) | 1 |
| Graphs of Functions (2.2 and 2.4) | 0.5 |
| Reading Graphs (2.3) | 1 |
| Linear Functions (2.5) | 0.5 |
| Transforming Functions (2.6) | 1.5 |
| Combining Functions (2.7) | 1 |
| One-to-one Functions and Inverse Functions (2.8) | 1 |
| Modeling with Functions (Pages 237 – 244) | 1 |
| Quadratic Functions (3.1) | 1 |
| Polynomial Functions (3.2, 3.3) | 1.5 |

| Title (Textbook sections) | Number of 50-minute classes |
|---|-----------------------------|
| Rational Functions and Inequalities (3.6, 3.7) | 1.5 |
| Systems of Equations (10.1, 10.8) | 1 |
| Trigonometric Functions: The Unit Circle (5.1) | 1 |
| Trigonometric Functions (5.2) | 1 |
| Trigonometric Graphs (5.3, 5.4) | 1.5 |
| Inverse Trigonometric Functions (5.5) | 1.5 |
| Measuring Angles (6.1) | 1 |
| Right Triangles (6.2) | 1 |
| Trigonometric Functions and Inverse Trigonometry of Angles (6.3 & 6.4) | 1.5 |
| Law of Sines and Law of Cosines (6.5 & 6.6) | 1 |
| Simplifying Trigonometric Expressions (7.1) & More Trigonometry Identities (7.2, 7.3) | 1.5 |
| Trigonometric Equations (7.4 & 7.5) | 1.5 |
| Exponential Functions (4.1 & 4.2) | 1 |
| Logarithmic Functions (4.3) | 1.5 |
| Laws of Logarithmic Functions and Exponential and Logarithmic Equations (4.4 & 4.5) | 1.5 |
| Applications of the Exponential Function (4.6) | 1 |
| Total | 36 |

GRADING SCALE:

$A \geq 89.5\%$, $A- \geq 86.5\%$, $B+ \geq 83.5\%$, $B \geq 79.5\%$, $B- \geq 76.5\%$, $C+ \geq 73.5\%$, $C \geq 69.5\%$, $C- \geq 66.5\%$, $D+ \geq 63.5\%$, $D \geq 59.5\%$, $D- \geq 56.6\%$, $F < 56.6\%$.

ASSESSMENT COURSE GRADE WEIGHT: Final Exam = 20 - 25%, Two or Three Exams = 40 - 48%, Quizzes, attendance, and other class activities = 15 - 20%, Web Assign (Homework) = 12 - 15%.

Notes: Completed by Bettyann Daley, June 2021. Referenced Math 117 syllabi (Newark campus) from Spring 2021, Spring 2020 (initial syllabus), Fall 2019. Approved by the Foundational Math Committee.