

MATH 6A Introduction to College Mathematics for the Sciences I

Textbook: Sullivan: Precalculus. Tenth Edition.

Suggested number of 50minute lectures:

- 2.0 lectures – A.1 Algebra Essentials: sets, Real numbers, domain, rules of exponents, abs val, distance on numberline. Also include:
 - A.9 part 1 i.e., interval notation
 - A.10 part 1-2, 5 i.e., nth roots, rational exponents (expands on rules of exp)
- 1.0 lecture – 1.1 The distance and midpoint formulas.
- 0.5 lectures -- 1.4 circles in standard form $(x-a)^2+(y-b)^2=r^2$.
 - **Omit:** the general form $x^2+ax+y^2+by+c=0$.
- 1.5 lectures – A.3 Polynomials: FOIL, special products; divide, factor, complete the square.
- 1.5 lectures – A.5 Rational Expressions
- 1.0 lecture – A.6 Solving equations: linear, absolute value, quadratic
- 1.0 lecture – 1.2 Graphs of equations; intercepts; symmetry.
- 1.0 lecture – 1.3 Lines; linear equations.
- 1.0 lecture – A.9 Pt 2-5; solving inequalities.
- 0.5 lectures A.10 Pt 3-4 rationalize denominator and solve radical equations
- 1.0 lecture – 2.1 Functions; operations;
 - **Omit:** difference quotient.
- 2 lectures – 2.2 The graph of a function. 2.3 Properties of functions.
- *1.0 lecture Midterm around here*
- 1.0 lecture – 2.4 Library of functions; piecewise functions.
- 1.0 lecture – 2.5 Graphing; transformations.
- 1.0 lecture – 3.3 Quadratic Functions and their properties.
- 1.5 lecture 2.6 and A.8: Mathematical Models and Problem Solving
- 1.0 lecture – 3.5 Inequalities involving quadratic functions.
- 1.5 lectures – 4.1 Polynomial functions; graphing polynomial functions.
- 2 lectures – 4.2 and 4.3: Rational functions and their graphs
 - Focus on horizontal and vertical asymptotes more than oblique
- 1.0 lecture – 4.4 Polynomial and rational inequalities.
- 1.0 lecture – 4.5 The real zeros of a polynomial function.
 - **Omit:** Descartes' Rule of Signs, Rational Zeros Theorem, Theorem for Bounds on Zeros
- 1.0 lecture – 5.1 Composite functions.
- 1.0 lecture – 5.2 One-to-one functions; inverse functions.

Final (after 13 more lectures listed)

Winter 2017 courses on: MWF have 28 50-min lectures & TTh have 20 80-min lectures \approx 32 lectures.

Total accounted for lectures = 28 lectures on MWF including midterm. TTh has 3.5 extra lectures.