MATH 6A Introduction to College Mathematics for the Sciences I

Suggested number of 50-minute 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 -- focus on standard form $(x-a)^2+(y-b)^2=r^2$ and relate it to distance formula. SKIP 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; difference quotient.
- 1.5 lectures – 2.2 The graph of a function. 2.3 Properties of functions.
- 0.5 lecture - review for midterm

1.0 lecture -- Midterm around here (after 14 lectures)
- 1.0 lecture – 2.4 Library of functions; piecewise functions. (Omit greatest integer function.)
- 1.5 lecture – 2.5 Graphing; transformations.
- 1.5 lecture -- 2.6 and A.8: Mathematical Models and Problem Solving
- 1.0 lecture – 3.3 Quadratic Functions and their properties.
- 1.0 lecture – 3.5 Inequalities involving quadratic functions.
- 1.5 lectures – 4.1 Polynomial functions; graphing polynomial functions.
- 1.5 lectures – 4.2 and 4.3: Rational functions and their graphs
- 1.0 lecture – 4.4 Polynomial and rational inequalities.
- 1.0 lecture – 4.5 The real zeros of a polynomial function. (Omit Theorem for Bounds.)
- 1.0 lecture – 5.1 Composite functions.
- 1.0 lecture – 5.2 One-to-one functions; inverse functions.
- 1.0 lecture -- review for final

Final (after 14 more lectures listed)

MWF courses have 29 lectures. TTh courses have 20 80-min lectures \(\sim 30\) lectures.
Total accounted for lectures = 29 lectures including midterm.
Grading

<table>
<thead>
<tr>
<th>Points</th>
<th>% from points</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>80</td>
<td>~12%</td>
<td>Homework</td>
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<tr>
<td>100 for quizzes (drop 1 quiz of 7)</td>
<td>~15%</td>
<td>Quizzes &amp; Participation</td>
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<tr>
<td>40 for participation (2 pts/day. miss 2 days of 20 for free)</td>
<td>~6%</td>
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<tr>
<td>150</td>
<td>~22%</td>
<td>Midterm</td>
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<tr>
<td>300</td>
<td>~45%</td>
<td>Final</td>
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<tr>
<td>670</td>
<td>100%</td>
<td>Total</td>
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