

## Math Analysis- Semester 1

|  | Topic  | Recommended HW | Strategies** | CC |
|--|--|----------------|--------------|----|
| <b>Module 0-<br/>Intro to class<br/>(Review)</b> | Intro to Class                                       |                |              |    |
|  | 1.1 Functions, Scatter, piecewise                    |                |              |    |
|  | 1.4 Slope, Graph, parallel, perpendic, forms of line |                |              |    |
|  | 1.5 Linear Models                                    |                |              |    |
|  | Factoring review                                     |                |              |    |
|  | Exponents  |                |              |    |

|   |   |  |  |                    |
|---|---|--|--|--------------------|
| <b>Module 1-<br/>Linear and<br/>Quadratic<br/>Equations</b> | 2-1 Solving Equations Graphically             |  |  | A-REI- 7, 11       |
|   | 2-2 Solving Quadratic Equations Algebraically |  |  | A-REI-4ab, A-SSE-2 |
|   | 2-3 Applications of Equations                 |  |  | A-CED- 1, 2, 3, 4  |
|   | 2-4 Other equations                           |  |  | A-REI- 2, 3.1      |
|   | 2-5 Inequalities                              |  |  | A-REI-11           |
|   | Review  |  |  |                    |
|   | Unit Test                                     |  |  |                    |
|   | 3-1 Functions                                 |  |  | F-IF-1,2           |
|   | 3-2 Graphs of Functions                       |  |  | F-IF-4, 5, 7b      |
|   | 3-3 Quadratic Functions                       |  |  | F-LE-6             |
|   | 3-4 Graphs and Transformations                |  |  | F-BF-3             |
|   | 3-5 Operations on Functions                   |  |  | F-BF-1bc           |
|   | 3-6 Inverse Functions                         |  |  | F-BF-4abcd         |
|   | 3-7 Rates of Change                           |  |  | F-IF-6             |
|   | Review  |  |  |                    |
|   | Unit Test                                     |  |  |                    |

### Benchmark #1- Assessment Window

|  |   |  |  |                     |
|--|---|--|--|---------------------|
| <b>Module 2-<br/>Other<br/>Functions</b> | 4-1 Polynomial Functions                          |  |  | A-APR-1, 2, 6       |
|  | 4-2 Real Zeros                                    |  |  | A-APR-3             |
|  | 4-3 Graphs of Polynomial Functions                |  |  | F-IF-7c             |
|  | 4.3A-Models of polynomials                        |  |  | F-LE-3              |
|  | 4-4 Rational Functions                            |  |  | A-APR-7, F-IF-7d    |
|  | 4-5 Complex Numbers                               |  |  | N-CN- 1,2,3,5,7     |
|  | 4-6 Fundamental Theorem of Algebra                |  |  | N-CN-8, 9           |
|  | Review  |  |  |                     |
|  | Unit Test   |  |  |                     |
|  | 5-1 Radicals and Rational Exponents               |  |  | N-RN-1,2            |
|  | 5-2 Exponential Functions                         |  |  | F-IF-7e,8b F-LE-2   |
|  | 5-4 Common and Natural Logarithmic Functions      |  |  | F-BF5               |
|  | 5-5 Properties and Laws of Logarithms             |  |  | F-LE-4.1, 4.2, 4.3  |
|  | 5-5A  |  |  | F-LE-4.2            |
|  | 5-6 Solving Exponential and Logarithmic Equations |  |  | F-LE-4.3            |
|  | 5-3 Applications of Exponential Functions         |  |  | F-LE-1abc, A-SSE-3c |
|  | 5-7 Models  |  |  | F-LE-4,5            |
|  | Review  |  |  |                     |
| Unit Test                                |   |  |  |                     |

### Benchmark #2- Assessment Window

|                                 |  |  |                 |
|---------------------------------|--|--|-----------------|
| 6-1 Right Triangle Trigonometry |  |  | G-SRT-6, 7, 8.1 |
| 6-2 Trigonometric Applications  |  |  | G-SRT-8         |

**Review and Semester 1 Final Exam**

## Math Analysis- Semester 2

| Topic                              | Recommended HW | Strategies** | CC          |
|------------------------------------|----------------|--------------|-------------|
| 6-3 Angles and Radian Measure      |                |              | F-TF-1      |
| 6-4 Trigonometric Functions        |                |              | F-TF-2,3    |
| 6-5 Basic Trigonometric Identities |                |              | F-TF-8      |
| Review                             |                |              |             |
| Unit Test                          |                |              |             |
| 7-1 Graphs of Sin, Cos and Tang    |                |              | F-TF-2.1, 4 |
| 7-3 Periodic Graphs and Amplitudes |                |              | F-TF-4, 5   |
| 7-4 Periodic Graphs and Shifts     |                |              | F-TF-4, 5   |
| Review                             |                |              |             |
| Unit Test                          |                |              |             |

**Module 3:  
Trig and  
Trig  
graphs**

### Benchmark #3- Assessment Window

|  |  |  |             |
|--|--|--|-------------|
| 8-1 Graphical Solutions to Trigonometric Equations |  |  | A-REI-7, 11 |
| 8-2 Inverse Trigonometric Functions                |  |  | F-TF-6, 7   |
| 8-3 Algebraic Solutions of Trigonometric Equations |  |  | F-TF-5      |
| 8-4 Simple Harmonic Motion and Modeling            |  |  | F-TF-5      |
| Review   |  |  |             |
| Unit Test  |  |  |             |
| 9-1 Identities and Proof                           |  |  |             |
| 9-2 Addition and Subtraction Identities            |  |  | F-TF-9      |
| 9-3 Other Identities                               |  |  | F-TF-10     |
| 9-4 Using Trig Identities                          |  |  |             |
| Review   |  |  |             |
| Unit Test  |  |  |             |

**Module 4:  
Solving  
Trig  
Equations  
and  
Identities**

### Benchmark #4- Assessment Window

|  |  |  |                |
|--|--|--|----------------|
| 10-1 Law of Cosines                                |  |  | G-SRT-10,11    |
| 10-2 Law of Sines                                  |  |  | G-SRT-9, 10,11 |
| 10-3 The Complex Plane/ Polar Form for Complex #'s |  |  | N-CN-4,6       |
| 10-4 DeMoivre's Theorem/ nth Roots of Complex #'s  |  |  |                |
| 10.5 Vectors in the Plane                          |  |  | N-VM-1,2,4,5   |
| 10.6- Applications of Vectors                      |  |  | N-VM-3         |
| Review   |  |  |                |
| Unit Test  |  |  |                |
| 11-1 Ellipses                                      |  |  | G-GPE-3, 3.1   |
| 11-2 Hyperbolas                                    |  |  | G-GPE-3, 3.1   |
| 11-3 Parabolas                                     |  |  | G-GPE-2, 3.1   |
| 11-5 Polar Coordinates                             |  |  | F-IF-11        |
| 11-6 Polar Equations of Conics                     |  |  |                |
| Review   |  |  |                |
| Unit Test  |  |  |                |

**Module 5:  
Trig  
Applicatio  
ns and  
Analytical  
Geometry**

### Benchmark #5- Assessment Window May 19-23

|                                |  |  |  |
|--------------------------------|--|--|--|
| 14-1 Limits of Functions       |  |  |  |
| 14-2 Properties of Limits      |  |  |  |
| 14-2A One sided limits         |  |  |  |
| 14-4 Continuity                |  |  |  |
| 14-5 Limits Involving Infinity |  |  |  |
| Review                         |  |  |  |
| Unit Test                      |  |  |  |

**Limits and  
Continuity-  
If there is  
additional  
time**

**Review and Semester 2 Final Exam**