**Tentative list of dated assignments (for 15-week course)**:

|  |  |  |
| --- | --- | --- |
| Approximate Time | Section | Assignment |
| 5 Hours | 1.1 | 1, 2, 3, 7, 15, 18, 19, 20 |
| 3.1 | 1 – 25 odd |
| 3.2 | 1 – 41 odd, 55 – 79 odd, 91 – 95 odd |
| 6 Hours | 5.3 | 1 – 45 odd, 71 – 77 odd |
| 5.4 | 1 – 33 odd, 49 – 69 odd |
| 5.5 | 1 – 61 odd |
| 5.6 | 1 – 33 odd, 43 – 65 odd, 73 – 77 odd |
| 5.7 | 1 – 11 odd, 15 – 27 odd, 43 – 57 odd |
| 7 Hours | 5.8 | 1 – 23 odd, 29 – 47 odd, 81, 85, 87 |
| 6.1 | 1 – 65 odd |
| 6.2 | 1 – 53 odd |
| 6.5 | 1 – 45 odd |
| 6.6 | 27, 29, 37, 43, 53 |
|  | 5.1 (optional review) | 1 – 85 odd |
|  | 5.2 (optional review) | 1 – 33 odd |
| 7 Hours | 7.1 | 1 – 75 odd |
| 7.2 | 1 – 63 odd |
| 7.3 | 1 – 67 odd |
| 7.4 | 1 – 63 odd |
| 7.5 | 1 - 19 odd |
| 7.6 | 1 – 13 odd, 23 – 35 odd |
| 7.7 | 1 – 65 odd |
| 8 hours | 8.1 | 1 – 29 odd, 35, 37, 41, 49, 51, 57, 59 |
| 8.2 | 1 – 35 odd |
| 8.6 | 1 – 35 odd, 45, 47, 53 |
| 9.1 | 1 – 23 odd |
| 9.3 | 1, 5, 17, 19, 21, 23, 29, 31, 33 |
| 9.4 | 1 – 51 odd |
| 10.1 | 13 – 31 odd |

**Course Objectives**

 Students will be able to:

1. identify functions and use function notation
2. determine the domain and range of a function
3. factor, add, subtract, multiply, and divide functions
4. graph linear, quadratic, exponential and logarithmic functions
5. solve quadratic equations by 1) factoring, 2) completing the square, 3) the quadratic formula, and 4) graphing the function
6. solve applications of quadratic equations
7. perform operations on radical expressions
8. perform operations on complex numbers
9. solve radical equations
10. simplify, factor, add, subtract, multiply, and divide rational expressions
11. solve rational equations
12. determine the domain and range of exponential and logarithmic function
13. recognize and graph conic sections

**Major Topics**

1. Functions and Relations
2. Introduce function notation
3. Identify the domain and range of a function
4. Perform operations on functions

II . Quadratic Functions

1. Graph quadratic functions, identifying domain and range and using function notation
2. Solve quadratic equations using the square root method, factoring, completing the square and the quadratic formula
3. Perform operations on complex numbers
4. Solve quadratic equations (including equations with complex number roots)
5. Use optimization and simulation methods
6. Solve radical equations

III. Polynomial, Radical, and Rational Functions and Equations

1. Perform operations on polynomial expressions and factor
2. Graph power and polynomial functions, identifying domain and range and using function notation
3. Simplify radicals and expressions with rational exponents
4. Perform operations on rational expressions
5. Solve rational equations

IV. Exponential and Logarithmic Functions and Equations

1. Graph exponential functions, identifying domain and range and using function notation
2. Graph logarithmic functions, identifying domain and range and using function notation
3. Evaluate exponential and logarithmic functions

 V. Conic Sections

1. Graphs parabolas and circles
2. Write equation of parabolas and circles