MAC1140/MAC1114

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| Quarter  | Week | Major Concepts/Topics | Resources | Standard(s) |
| Sem. 1MAC1140 | Aug. 19-31 | **Introduction to Functions** * Equations One Variable
* Quadratics and Absolute Values
* Linear Functions
* Functions
* Composition of Functions
* Graphs of Relations and Functions
* Transformations of Functions
* Complex Numbers
 | 1.11.71.42.12.42.22.31.6 | M-1M-2M-5 |
| Sept. 1-25 | **Quadratic, Polynomial, and Rational Functions*** Quadratic Functions
* Quadratic Functions with Calculator
* Zeros of Polynomials
* Solving Polynomial Equations
* Graphs of Polynomial Functions
* Graphs of Rational Functions
 | 3.1A3.1B3.23.33.53.6 | M-1M-2M-3M-4M-5 |
| Sept. 26-Oct. 21 | **Exponents, Logarithms, Systems Introduction*** Review of Exponents
* Exponential Functions
* Inverse Functions
* Introduction to Logarithms
* Properties of Logarithms
* Logarithmic Equations
* Logarithmic & Exponential Equations
* Solving Systems of Equations
* Inequalities with Two Variables
 | 4R4.12.54.24.34.4A4.4B8.1/8.38.5 | M-1M-2M-4M-5 |
| Oct. 24-Nov. 18 | **Matrices*** Operations with Matrices
* Systems of Linear Equations in Three Variables
* Solving Systems of Equations with Matrices no Calculator
* Solving Systems of Equations with Matrices with Calculator and Special Cases
* Solutions of Systems of Equations using Determinants
 | 9.2/9.38.29.1A9.2B9.5/9.6 | M-1M-2M-3M-4M-5 |
| Nov. 28- Dec. 9 | **Sequences/Series & Conic Sections*** Arithmetic Sequence & Series
* Geometric Sequence & Series
* Conic Sections
	+ Parabola
	+ Circle
	+ Ellipse
	+ Hyperbola
 | 11.1/11.211.310.1-4 | M-2M-3M-4 |
| Sem. 2MAC1114 | Jan. 9-27 | **Geometry Review & Introduction to Trigonometry*** Angles
* Angle Relationships and Similar Triangles
* Definition of Trigonometric Functions
* Trigonometric Functions of Acute Angles
* Trigonometric Functions of Non-Acute Angles
* Trigonometric Values using Calculator
* Solving Right Triangles
 | 1.11.21.3/1.42.12.22.32.4 | M-1M-2M-3M-4M-5 |
| Jan. 30-Feb. 17 | **Unit Circle & Graphing Trigonometric Functions*** Radian Measure
* Application of Radian Measure
* The unit Circle and Circular Functions
* Graphs of Sine and Cosine Functions
* Translations of Sine and Cosine Functions
* Graphs of Tangent and Cotangent Functions
* Graphs of Secant and Cosecant Functions
 | 3.13.33.24.14.24.34.4 | M-1M-2M-4M-5 |
|  Feb. 20-Mar. 17 | **Trigonometric Function Identities*** Functional Identities
* Verifying Trigonometric Identities
* Sum and Difference Identities for Cosine
* Sum and Difference Identities for Sine & Tangent
* Double Angle Identities
* Half Angle Identities
 | 5.15.25.35.45.55.6 | M-1M-2M-3M-4 |
| Mar. 27-Apr. 14 | **Trigonometric Equations & Inverse Trigonometric Functions*** Trigonometric Equations Level 1
* Trigonometric Equations Level 2
* Trigonometric Equations Level 3
* Inverse Circular Functions Part 1
* Inverse Circular Functions Part 2
* Equations Involving Inverse Trigonometric Functions
 | 6.2a6.2b6.36.1a6.1b6.4 | M-1M-4M-5 |
|  Apr. 17- May 2 | **Trigonometric Function Theorems** * The Oblique Triangle and Law of Sines
* Ambiguous Case of The Law of Sines
* The Law of Cosines
* Complex Numbers
* Trigonometric(Polar) Form of Complex Numbers
* The Product and Quotient Theorems
* De Moivre’s Theorem: Powers and Roots of Complex Numbers
 | 7.17.27.38.18.28.38.4 | M-1M-2M-4M-5 |

M-1  Solve mathematical problems by using arithmetic, algebraic, or geometric skills.

M-2  Translate basic mathematical information verbally, numerally, graphically, or symbolically.

M-3  Solve mathematical problems using appropriate technology.

M-4  Interpret mathematical models such as formulas, graphs, tables or schematics.

M-5  Solve contextual problems using mathematical processes.