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|  | MAT 1275 CO |  | MAT 1275 |
|  | Arithmetic   * Signed numbers * Absolute values * Order of Operations * Fractions | 1 | Arithmetic   * Signed numbers * Absolute values * Order of Operations * Fraction |
| 2 | Linear Expressions   * Evaluating * Adding and subtracting |  |  |
| 3 | Integer Exponents | 2 | Integer Exponents |
| 4 | Polynomials   * Evaluating * Operations (+, -, x) | 3 | Polynomials   * Evaluating * Operations (+, -, x) |
| 5 | Polynomial division   * Dividing by monomial * Long division | 4 | Polynomial division   * Dividing by monomial * Long division |
| 5 | Factoring I   * GCF * Grouping method | 5 | Factoring I and II |
| 6 | Factoring II   * Trinomials * Special products |  |  |
| 7 | Rational Expression I (no factoring)   * Simplify * Multiplication and division * Addition and subtraction * Complex fractions | 6 | Rational Expression I (no factoring)   * Simplify * Multiplication and division * Addition and subtraction * Complex fractions |
| 8 | Rational Expression II (factoring)   * Simplify * Multiplication and division * Addition and subtraction | 7 | Rational Expression II (factoring)   * Simplify * Multiplication and division * Addition and subtraction |
| 9 | Radical Expression I (numbers)   * Simplify * Operations (+, -, x, /) * Rational exponents | 8 | Radical Expression I (numbers)   * Simplify * Operations (+, -, x, /) * Rational exponents |
| 10 | Radical Expression II (variables)   * Evaluate * Simplify * Operations (+, -, x, /) * Rational exponents | 9 | Radical Expression II (variables)   * Evaluate * Simplify * Operations (+, -, x, /) * Rational exponents |
| 11 | Solving Equations and Linear Equations   * Concept of solution * Solve linear equations |  |  |
| 12 | Quadratic Equations I   * Zero product rule * Roots and factors * Square root property | 10 | Quadratic Equations I   * Zero product rule * Roots and factors * Square root property |
| 13 | Quadratic Equations II (real roots only)   * Completing square * Quadratic formula | 11 | Quadratic Equations II (real roots only)   * Completing square * Quadratic formula |
| 14 | Complex Numbers   * Definition * Operations (+, -, x, /) | 12 | Complex Numbers   * Definition * Operations (+, -, x, /) |
| 15 | Quadratic Equations III (all roots)   * Quadratic formula | 13 | Quadratic Equations III (all roots)   * Quadratic formula |
| 16 | Polynomial Equations   * Roots and factors | 14 | Polynomial Equations   * Roots and factors |
| 17 | Rational Equations | 15 | Rational Equations |
| 18 | Radical Equations | 16 | Radical Equations |
| 19 | Two variable equations and graphs   * Concepts * Introduction to graph |  |  |
| 20 | Graph of Lines   * Slope * Vertical/horizontal lines | 17 | Graph of Lines   * Slope * Vertical/horizontal lines |
| 21 | Graph of Parabolas   * Vertices * Symmetry * Shifting of graph | 18 | Graph of Parabolas   * Vertices * Symmetry * Shifting of graph |
| 22 | Graph of Circles   * Distance formula * Midpoint formula * Completing the square * Shifting of graph | 19 | Graph of Circles   * Distance formula * Midpoint formula * Completing the square * Shifting of graph |
| 23 | System of Linear Equations I   * Graphing method |  |  |
| 24 | System of Linear Equations II   * Substitution method * Elimination method | 20 | System of Linear Equations I and II   * Graphing method * Substitution method * Elimination method |
| 25 | System of Non-linear equations   * Graphing method * Algebraic method | 21 | System of Non-linear equations   * Graphing method * Algebraic method |
| 26 | Introduction to Trig functions I   * Definition in right triangle * Evaluation (acute angles only) * Pythagorean Theorem | 22 | Introduction to Trig functions I   * Definition in right triangle * Evaluation (acute angles only) * Pythagorean Theorem |
| 27 | Introduction to Trig functions II   * Radian unit * Unit Circle * Evaluation (any angles) | 23 | Introduction to Trig functions II   * Radian unit * Unit Circle * Evaluation (any angles) |
| 28 | Exponential and Log Expressions   * Evaluation | 24 | Exponential and Log Expressions   * Evaluation |
| 29-37 | **8 extra classes** | 25 | **1 extra class** |
| 38-41 | 4 reviews | 26 | One final review |
| 42-45 | 4 Exams | 27-30 | 4 exams |

**Removed from 1275CO/1275**

* System of linear equations with 3 variables
* Graph of Exp functions and graph of log functions (move to 1375)
* Graph of Sine and Cosine functions (move to 1375)
* Inverse Trig functions (move to 1375)
* Trig identities (move to 1375)
* Solving trig equations (move to 1375)
* Law of Sine and Law of Cosine (will be added to the homework of evaluation of sine and cosine in both 1275 and 1375)

**Added to 1275**

* Basic arithmetic
* Review for factoring
* Operation with polynomials
* Long division
* Polynomial equations
* Graph of linear equations
* System of 2 by 2 linear equations

**Added to 1275CO**

* Long division
* Polynomial equations

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|  | MAT 1375 |
| 1 | Basic Notation, Intervals, Introduction to Functions |
| 2 | Functions by Formulas, standard domain (MOVED Lines 🡪 1275) |
| 3 | Functions by Graphs, Introduction to Desmos |
| 4 | Basic Functions and Transformation |
| 5 | Operation on Functions, Composition, One-to-one functions |
| 6 | The Inverse of a Function |
| 7 | Polynomial functions (I) |
| 8 | Polynomial graphs (II) |
| 9 | Polynomials theory (III) |
| 10 | Graph of Rational functions I |
| 11 | ADDED: Graph of Rational functions II (asymptotes limit behavior) |
| 12 | Polynomial and Rational Inequalities, The Absolute Value Equations and Inequalities (DEEMPHASIZED absolute value equations) |
| 13 | Exponential and Logarithmic Functions |
| 14 | Properties of Log and Log equations |
| 15 | Exponential equations and applications |
| 16 | Applications of exponential functions |
| 17 | Review of Unit Circle Trigonometric (Ex: Addition of Angles and Multiple Angle Formula) |
| 18 | Graph of Trigonometric Functions |
| 19 | Inverse Trigonometric Functions |
| 20 | Solving Trigonometric Equations |
| 21 | ADDED: Trigonometric Identities |
| 22 | Vectors in the Plane |
| 23 | Complex Numbers (Polar Form) |
| 24 | Sequences and Series |
| 25 | The Geometric Series |
|  | (MOVED Binomial theorem 🡪 1275) |
| 26 | One final review |
| 27-30 | 4 exams |