

**Department: Math**

**Course Title: Fundamentals of Algebra**

**Course #: 404**

## DESCRIPTION OF COURSE:

Students will learn and understand how to apply constants and variables in solving and graphing equations and inequalities with one and two variables. They will also learn operations with polynomials. Furthermore, students will be provided opportunities to apply fundamental algebraic operations to real-life situations. Individually or in groups, students will discuss and solve problems with appropriate technology. Students will demonstrate their knowledge and understanding through cooperative learning activities, projects, class discussions, homework and tests involving problem-solving skills. **Students are hand selected to be enrolled in this class.**

| REQUIRED TOPICS OF STUDY                              | SUGGESTED INSTRUCTIONAL TIME | STANDARDS/ ASSESSMENT ANCHORS      |
|-------------------------------------------------------|------------------------------|------------------------------------|
| <i>Order of Operations and Properties</i>             | <i>1 Week</i>                | <i>2.8.8, 2.8.11, 2.1.8, 2.6.8</i> |
| <i>Properties and Introduction of Integers</i>        | <i>1 Week</i>                | <i>2.8.8, 2.1.8</i>                |
| <i>Operations of Integers</i>                         | <i>1 Week</i>                | <i>2.6.8, 2.1.8, 2.2.11</i>        |
| <i>Rational Numbers</i>                               | <i>1 Week</i>                | <i>2.2.8, 2.2.11, 2.1.8</i>        |
| <i>Solving Equations</i>                              | <i>1 Week</i>                | <i>2.8.11, 2.1.8, 2.8.8</i>        |
| <i>Two-Step Equations</i>                             | <i>1.5 Weeks</i>             | <i>2.8.8, 2.1.8 2.5.11</i>         |
| <i>Advanced Equations</i>                             | <i>2 Weeks</i>               | <i>2.8.8, 2.1.8</i>                |
| <i>Statistics and Geometry</i>                        | <i>1 Week</i>                | <i>2.6.8, 2.1.8, 2.5.11</i>        |
| <i>Percents</i>                                       | <i>1 Week</i>                | <i>2.1.8</i>                       |
| <i>Percents of change and statistics</i>              | <i>1 Week</i>                | <i>2.2.8, 2.7.11</i>               |
| <i>Introduction to the coordinate plane</i>           | <i>1 Week</i>                | <i>2.8.11</i>                      |
| <i>Functions and Relations</i>                        | <i>1.5 Weeks</i>             | <i>2.8.11, 2.6.8</i>               |
| <i>Slope and slope intercept form</i>                 | <i>1.5 Weeks</i>             | <i>2.8.11</i>                      |
| <i>Applications of Linear Equations</i>               | <i>1.5 Weeks</i>             | <i>2.8.11</i>                      |
| <i>Graphing Linear Equations</i>                      | <i>1.5 Weeks</i>             | <i>2.8.8</i>                       |
| <i>Parallel and perpendicular lines</i>               | <i>1 Week</i>                | <i>2.8.11</i>                      |
| <i>Solving inequalities using add/sub</i>             | <i>1 Week</i>                | <i>2.9.11, 2.8.8</i>               |
| <i>Solving Multi-step Inequalities</i>                | <i>1.5 Weeks</i>             | <i>2.8.8, 2.8.11, 2.7.11</i>       |
| <i>Inequalities involving absolute value</i>          | <i>1.5 Weeks</i>             | <i>2.8.8, 2.6.8, 2.8.11</i>        |
| <i>Graphing Inequalities</i>                          | <i>1.5 Weeks</i>             | <i>2.8.11</i>                      |
| <i>Solving systems of equations using elimination</i> | <i>1.5 Weeks</i>             | <i>2.8.11</i>                      |
| <i>Operations of monomials</i>                        | <i>1.5 Weeks</i>             | <i>2.1.8</i>                       |
| <i>Adding and Subtracting Polynomials</i>             | <i>1.5 Weeks</i>             | <i>2.1.8</i>                       |
| <i>Multiplying polynomials</i>                        | <i>1.5 Weeks</i>             | <i>2.1.8</i>                       |
| <i>Factoring using GCF</i>                            | <i>1.5 Weeks</i>             | <i>2.8.11</i>                      |

## INSTRUCTIONAL RESOURCES:

*Text: Glencoe: Algebra 1 1998*

*Outside Reading: Devlin, Keith. Life by the Numbers New York: John Wiley & Sons, 1998*

Scientific Calculator

Handouts

Course Title/ct  
3/07 FOR HS