

### Algebra III

<b>Text:</b>	Lial, Hornsby & Schneider (1997) <i>College Algebra 7<sup>th</sup> edition</i> , Addison Wesley Educational Publishers: New York.
<b>Supplemental Materials:</b>	TI-83 or-84 graphing calculator
<b>Course Description:</b>	The purpose of this course is to further develop the skill and concepts of Algebra II as well as prepare the student for college level mathematics. It will reinforce the students' comprehension of algebraic skill and concepts, while developing an understanding of functions and relations, their graphs and their applications using numeric, graphic, and analytical approaches.
<b>Methods of Evaluation:</b>	Students can be evaluated through tests, quizzes, daily practice sets, homework problem sets, quarterly exams, semester exams and/or any other form of evaluation instrument the instructor finds applicable to the course.
<b>Pace of Instruction:</b>	First Semester: Chapters 1-4 Second Semester: Chapters 5-8
<b>Course Objectives:</b>	At the end of this course students should be able to recognize and work with the following: <ol style="list-style-type: none"><li>1. Real number, order and absolute value</li><li>2. Polynomials and the binomial theorem</li><li>3. Factor polynomials</li><li>4. Solve rational equations</li><li>5. Evaluate rational exponents</li><li>6. Radicals</li><li>7. Complex numbers</li><li>8. Solve linear equations and their applications</li><li>9. Solve quadratic equations and their applications</li><li>10. Solve inequalities</li><li>11. Solve variation problems</li><li>12. Solve absolute value equations and inequalities</li><li>13. Relations and the rectangular coordinate system</li><li>14. Functions and linear functions</li><li>15. Equations of a line</li><li>16. Graphing relations and functions</li><li>17. Other general graphing techniques</li><li>18. Quadratic functions</li><li>19. Synthetic division</li><li>20. Zeroes of polynomial functions</li><li>21. Graphs of polynomial functions</li></ol>

	<ol style="list-style-type: none"><li>22. Rational functions</li><li>23. Inverse functions</li><li>24. Exponential functions</li><li>25. Logarithmic functions</li><li>26. Evaluate logs and change-of-base</li><li>27. Solve exponential and logarithmic equations</li><li>28. Solve exponential growth and decay problems</li><li>29. Solve linear and non-linear systems</li><li>30. Matrix solutions of linear systems</li><li>31. Properties of matrices</li><li>32. Determinants</li><li>33. Cramer's rule</li><li>34. Matrix inverses</li><li>35. Systems of inequalities and linear programming</li><li>36. Parabolas</li><li>37. Ellipses</li><li>38. Hyperbolas</li><li>39. Conic sections</li><li>40. Arithmetic sequences and series</li><li>41. Geometric sequences and series</li><li>42. Basics of probability</li></ol>
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