Cord Algebra 2, Mathematics in Context, 1st edition
correlation to Tennessee Algebra II Course Level Expectations

Course Level Expectations	Cord Algebra 2 Lesson(s)
Standard 1 – Mathematical Processes	
CLE 3103.1.1 Use mathematical language, symbols, definitions, proofs and counterexamples correctly and precisely in mathematical reasoning.	Mathematical language and symbols are used throughout the text. Definitions are highlighted in yellow throughout the text.
CLE 3103.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including testing cases, estimation, and then checking induced errors and the reasonableness of the solution.	Problem solving is demonstrated throughout the text in examples, problem solving features, and application questions. Problem solving features are included in Lessons 1.4, 2.2, 3.5, 4.2, 5.4, 6.2, 7.3, 8.1, 9.5, 10.4, 11.3, 12.4, 13.5, and 14.1.
CLE 3103.1.3 Develop inductive and deductive reasoning to independently make and evaluate mathematical arguments and construct appropriate proofs; include various types of reasoning, logic, and intuition.	The topics of reasoning, logic, and intuition are used throughout the text to solve the real world problems included in each lesson.
CLE 3103.1.4 Move flexibly between multiple representations (contextual, physical, written, verbal, iconic/pictorial, graphical, tabular, and symbolic), to solve problems, to model mathematical ideas, and to communicate solution strategies.	Various representations of mathematical ideas are used throughout the text in examples, exercises, labs, and application questions.
CLE 3103.1.5 Recognize and use mathematical ideas and processes that arise in different settings, with an emphasis on formulating a problem in mathematical terms, interpreting the solutions, mathematical ideas, and communication of solution strategies.	These expectations are met throughout the book, specifically in the labs and math applications included in each Chapter.
CLE 3103.1.6 Employ reading and writing to recognize the major themes of mathematical processes, the historical development of mathematics, and the connections between mathematics and the real world.	Cultural Connections are included throughout the text which focuses on mathematical themes and math in history, and are included in Lessons 1.3, 2.3, 5.3, and 7.5. Connections between math and the real world are also included in the Math Applications section of each Chapter.

CLE 3103.1.7 Use technologies appropriately to develop understanding of abstract mathematical ideas, to facilitate problem solving, and to produce accurate and reliable models.	Technology is used throughout the text in labs and could be used by students to complete some of the suggested project ideas. Specifically, technology is used in the following labs: Connecting Networks, Calculating the Value of a Used Car, Calculating Wind Chill, Communication Fractals, Toss in the Can, Transformation of a Log Function, Recreating Clear Water, Even and Odd Functions, Tennis Bowling for Rational Expressions, Paper Folding, The Circle of Your City, The Sine Curve of Biorhythms, and Swing of a Pendulum.
Standard 2 – Number & Operations	
CLE 3103.2.1 Understand the hierarchy of the complex number system and relationships between the elements, properties and operations.	Lesson 5.5
CLE 3103.2.2 Connect numeric, analytic, graphical and verbal representations of both real and complex numbers.	Lessons 1.1, 5.5
CLE 3103.2.3 Use appropriate technology (including graphing calculators and computer spreadsheets) to solve problems, recognize patterns and collect and analyze data.	Technology is used throughout the text in labs including: Connecting Networks, Calculating the Value of a Used Car, Calculating Wind Chill, Communication Fractals, Toss in the Can, Transformation of a Log Function, Recreating Clear Water, Even and Odd Functions, Tennis Bowling for Rational Expressions, Paper Folding, The Circle of Your City, The Sine Curve of Biorhythms, and Swing of a Pendulum.
CLE 3103.2.4 Understand the capabilities and limitations of technology when performing operations, graphing, and solving equations involving complex numbers.	Lesson 5.5

Standard 3 – Algebra	
CLE 3103.3.1 Understand and apply properties of rational exponents and perform basic operations to simplify algebraic expressions.	Lesson 5.3
CLE 3103.3.2 Understand, analyze, transform and generalize mathematical patterns, relations and functions using properties and various representations.	Lessons 1.4, 1.5, 4.1, 4.2, 4.3, 4.4, 4.5, 11.1, 11.2, 11.3, 11.4, 11.5
CLE 3103.3.3 Analyze and apply various methods to solve equations, absolute value, inequalities, and systems of equations over complex numbers.	Lessons 1.2, 1.3, 2.1, 2.2, 5.4, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.5, 9.5, 10.4
CLE 3103.3.4 Graph and compare equations and inequalities in two variables. Identify and understand the relationships between the algebraic and geometric properties of the graph.	Lessons 1.5, 2.1, 2.3, 2.4
CLE 3103.3.5 Use mathematical models involving equations and systems of equations to represent, interpret and analyze quantitative relationships, change in various contexts, and other real-world phenomena.	Lessons 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 5.4, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.5, 9.5, 10.4
Standard 4 – Geometry & Measurement	
CLE 3103.4.1 Understand the trigonometric functions and their relationship to the unit circle.	Lessons 12.1, 12.2, 12.3, 12.4, 13.1
CLE 3103.4.2 Know and use the basic identities of sine, cosine, and tangent as well as their reciprocals.	Lessons 13.2, 13.3, 13.4
CLE 3103.4.3 Graph all six trigonometric functions and identify their key characteristics.	Lessons 12.1, 12.3, 12.4
CLE 3103.4.4 Know and use the Law of Sines to find missing sides and angles of a triangle, including the ambiguous case.	Lesson 12.5
CLE 3103.4.5 Use trigonometric concepts, properties and graphs to solve problems.	Lessons 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 13.1, 13.2, 13.3, 13.4, 13.5

Standard 5 – Data Analysis, Statistics, & Probability	
CLE 3103.5.1 Describe, interpret, and apply quantitative data.	Lesson 1.6
CLE 3103.5.2 Evaluate and critique various ways of collecting data and using information based on data published in the media.	not covered
CLE 3103.5.3 Use data and statistical thinking to draw inferences, make predictions, justify conclusions and identify and explain misleading uses of data.	not covered
CLE 3103.5.4 Develop an understanding of probability concepts in order to make informed decisions.	Lessons 14.1, 14.2, 14.3, 14.4