

Dr. Linda Sundbye  
Metropolitan State University of Denver

**MTH 1110 - COLLEGE ALGEBRA FOR CALCULUS ONLINE**

**SYLLABUS**

**SPRING 2024**

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<b>Date</b>	<b>Sections covered</b>
<b>Week 1</b>	<b>Introduction</b> <b>1.1 - Real Numbers and the Rectangular Coordinate System</b> <b>1.2 - Introduction to Relations and Functions</b> <b>1.3 - Linear Functions</b>
<b>Week 2</b>	<b>1.4 - Equations of Lines and Linear Models</b> <b>1.5 - Linear Equations and Inequalities</b> <b>1.6 - Applications of Linear Functions</b>
<b>Week 3</b>	<b>2.1 - Graphs of Basic Functions and Relations; Symmetry</b> <b>2.2 - Vertical and Horizontal Shifts of Graphs</b> <b>2.3 - Stretching, Shrinking, and Reflecting Graphs</b>
<b>Week 4</b>	<b>2.4 - Absolute Value Functions</b> <b>2.5 - Piecewise-Defined Functions</b>
<b>Week 5</b>	<b>Exam I covers Sections 1.1–1.6, 2.1–2.5</b> <b>Exam I will be offered February 12–14, 2024</b> <b>The exams are taken in person at the Testing Center</b> <b>Read Weeks 1–4 Online Lecture Notes in the Learning Modules</b> <b>Complete HW 4 before taking Exam I</b>
<b>Week 5</b>	<b>2.6 - Operations and Composition</b> <b>3.2 - Quadratic Functions and Graphs</b> <b>8.1 - Circles Revisited and Parabolas</b>
<b>Week 6</b>	<b>3.3 - Quadratic Equations and Inequalities</b> <b>3.4 - Applications of Quadratic Functions and Models</b> <b>4.1 - Graphs of Polynomial Functions</b>
<b>Week 7</b>	<b>4.2 - Topics in the Theory of Polynomial Functions I</b> <b>4.3 - Topics in the Theory of Polynomial Functions II</b> <b>4.4 - Polynomial Equations, Inequalities, Applications and Models</b>
<b>Week 8</b>	<b>5.1 - Rational Functions and Graphs I</b> <b>5.2 - Rational Functions and Graphs II</b>

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<b>Week 9</b>	<b>Exam II - Sections 2.6 3.2–3.4, 4.1–4.4, 5.1–5.2, 8.1</b> <b>Exam II will be offered March 11–13, 2024 at the Testing Center</b> <b>Read Weeks 5–8 Online Lecture Notes in the Learning Modules</b> <b>Complete HW 8 before taking Exam II</b>
<b>Week 9</b>	<b>5.3 - Rational Equations, Inequalities, Models, and Applications</b> <b>5.4 - Functions Defined by Powers and Roots</b>
	<b>Spring Break, March 18–22, 2024 (No Class)</b>
<b>Week 10</b>	<b>5.5 - Equations, Inequalities, and Applications Involving Root Functions</b> <b>6.1 - Inverse Functions</b>
<b>Week 11</b>	<b>6.2 - Exponential Functions</b> <b>6.3 - Logarithms and Their Properties</b>
<b>Week 12</b>	<b>6.4 - Logarithmic Functions</b> <b>6.5 - Exponential and Logarithmic Equations and Inequalities</b>
<b>Week 13</b>	<b>6.5 - Exponential and Logarithmic Equations and Inequalities</b> <b>6.6 - Further Applications and Modeling with Exponential and Logarithmic Functions</b>
<b>Week 14</b>	<b>Exam III - Sections 5.3–5.5, 6.1–6.5</b> <b>Exam III will be offered April 22–24, 2024 at the Testing Center</b> <b>Read Weeks 9–13 Online Lecture Notes in the Learning Modules</b> <b>Complete HW 13 before taking Exam III</b>
<b>Week 14</b>	<b>7.1 - Systems of Equations</b> <b>12.5 - The Binomial Theorem</b>
<b>Week 15</b>	<b>Review</b>
<b>Week 16</b>	<b>Comprehensive Final Exam at the Testing Center</b> <b>Monday, May 6 – Wednesday, May 8, 2024</b>