# Course: Analytic Geometry Honors- 1206330

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse5080.aspx

## BASIC INFORMATION

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| **Course Title:** | Analytic Geometry Honors |
| **Course Number:** | 1206330 |
| **Course Abbreviated Title:** | ANLY GEO HON |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Geometry |
| **Number of Credits:** | Half credit (.5) |
| **Course length:** | Semester (S) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |

## STANDARDS (49)

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| **LACC.1112.RST.1.3:** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| **LACC.1112.RST.3.7:** | Integrate and evaluate multiple sources of information presented in |

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| | diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| **LACC.1112.WHST.1.1:** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.<br>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented. |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.9:** | Draw evidence from informational texts to support analysis, reflection, and research. |
| **MA.912.A.9.1:** | Write the equations of conic sections in standard form and general form, in order to identify the conic section and to find its geometric properties (foci, asymptotes, eccentricity, etc.).<br>Remarks/Examples |
| | Example 1: Write the following equation in standard form:<br>  <br>Identify the conic and find its foci, asymptotes, and eccentricity as |

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| | appropriate.<br><br>Example 2: Write the following equation in standard form:<br>  |
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| **MA.912.A.9.2:** | Graph conic sections with and without using graphing technology.<br>Remarks/Examples |
| | Example: Graph the following conic sections:<br>  |
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| **MA.912.A.9.3:** | Solve real-world problems involving conic sections<br>Remarks/Examples |
| | Example: The planet Earth orbits the Sun elliptically, with the sun as one of the foci. Given that the length of the major axis of this ellipse is approximately  miles and the eccentricity of the ellipse is about 0.0167, find the smallest distance and the largest distance of Earth from the Sun. |
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| **MA.912.D.10.1:** | Sketch the graph of a curve in the plane represented parametrically, indicating the direction of motion.<br>Remarks/Examples |
| | Example: Sketch the graph of the curve with parametric equations x=5-3t, y=-2 + t, and indicate the direction of motion as t increases. |
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| **MA.912.D.10.2:** | Convert from a parametric representation of a plane curve to a rectangular equation and vice-versa.<br>Remarks/Examples |
| | Example 1: A curve has parametric representation  . Find an equation for the curve in rectangular coordinates. |

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| | Example 2: Find a parametric representation for the ellipse with the rectangular equation  . |
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| **MA.912.D.10.3:** | Use parametric equations to model applications of motion in the plane.<br>Remarks/Examples |
| | Example: Suppose an object moving at constant velocity is at the point A(5,3) when time t=0 seconds, and at point B(-4, 15) when t=3 seconds. Find the velocity and speed of the object, and parametric equations for the motion of the object. |
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| **MACC.912.A-APR.1.1:** | Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.<br>Remarks/Examples |
| | **Algebra 1 - Fluency Recommendations**<br><br>Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.<br><br>Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of x. |
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| **MACC.912.A-CED.1.1:** | Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit 1**: Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs.<br><br>**Algebra 1, Unit 4**: Extend work on linear and exponential equations |

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| | in Unit 1 to quadratic equations.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to linear, quadratic, or exponential equations with integer exponents.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to exponential equations with rational or real exponents and rational functions.<br><br>ii) Tasks have a real-world context. |
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| **MACC.912.A-CED.1.2:** | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.<br>Remarks/Examples |
| | Algebra 1, Unit 1: Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs.<br><br>Algebra 1, Unit 4: Extend work on linear and exponential equations in Unit 1 to quadratic equations. |
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| **MACC.912.A-CED.1.4:** | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*<br>Remarks/Examples |
| | Algebra 1, Unit 1: Limit A.CED.4 to formulas which are linear in the variable of interest.<br><br>Algebra 1, Unit 4: Extend A.CED.4 to formulas involving squared variables. |
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| **MACC.912.N-CN.3.7:** | Solve quadratic equations with real coefficients that have complex solutions. |
| **MACC.912.A-REI.2.4:** | Solve quadratic equations in one variable. |

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| | a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.<br>b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.<br><br>Remarks/Examples |
| | **Algebra 1, Unit 4**: Students should learn of the existence of the complex number system, but will not solve quadratics with complex solutions until Algebra II.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.<br><br>Note, solving a quadratic equation by factoring relies on the connection between zeros and factors of polynomials (cluster A-APR.B). Cluster A-APR.B is formally assessed in A2.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) In the case of equations that have roots with nonzero imaginary parts, students write the solutions as a ± bi for real numbers a and b. |
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| **MACC.912.A-REI.3.7:** | Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = –3x$ and the circle $x^2 + y^2 = 3$.*<br>Remarks/Examples |
| | Algebra 1 Honors, Unit 4: Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2= 1$ |

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| | and y = (x+1)/2 leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2+4^2=5^2$.<br><br>Algebra 2, Unit 1: Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2= 1$ and y = (x+1)/2 leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2+4^2=5^2$. |
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| **MACC.912.A-SSE.1.1:** | Interpret expressions that represent a quantity in terms of its context.<br><br>a. Interpret parts of an expression, such as terms, factors, and coefficients.<br>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret*  *as the product of P and a factor not depending on P.*<br><br>Remarks/Examples |
| | **Algebra 1 - Fluency Recommendations**<br><br>A-SSE.1.1b - Fluency in transforming expressions and chunking (seeing parts of an expression as a single object) is essential in factoring, completing the square, and other mindful algebraic calculations.<br><br>**Algebra 1, Unit 1**: Limit to linear expressions and to exponential expressions with integer exponents.<br><br>**Algebra 1, Unit 4**: Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Unit 1 to rational exponents focusing on those that represent square or cube roots. |
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| **MACC.912.A-SSE.1.2:** | Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$.* |

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| | Remarks/Examples |
| | **Algebra 1, Unit 4**: Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Unit 1 to rational exponents focusing on those that represent square or cube roots.<br><br>**Algebra 2 - Fluency Recommendations**<br><br>The ability to see structure in expressions and to use this structure to rewrite expressions is a key skill in everything from advanced factoring (e.g., grouping) to summing series to the rewriting of rational expressions to examine the end behavior of the corresponding rational function.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to numerical expressions and polynomial expressions in one variable. ii) Examples: Recognize 532 + 472 as a difference of squares and see an opportunity to rewrite it in the easier-to-evaluate form (53 + 47)(53 + 47). See an opportunity to rewrite $a^2$ + 9a + 14 as (a+ 7)(a+ 2).<br><br>**Algebra 2 Assessment and Limits and Clarifications**<br><br>i) Tasks are limited to polynomial, rational, or exponential expressions. ii) Examples: see $x^4 – y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$. In the equation $x^2 + 2x + 1 + y^2 = 9$, see an opportunity to rewrite the first three terms as $(x+1)^2$, thus recognizing the equation of a circle with radius 3 and center (-1, 0). See $(x^2 + 4)/(x^2 + 3)$ as $( (x^2+3) + 1 )/(x^2+3)$, thus recognizing an opportunity to write it as $1 + 1/(x^2 + 3)$. |
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| **MACC.912.A-SSE.2.3a:** | a. Factor a quadratic expression to reveal the zeros of the function it defines. |
| **MACC.912.A-SSE.2.3b:** | b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. |
| **MACC.912.F-BF.1.1a:** | a. Determine an explicit expression, a recursive process, or steps for calculation from a context. |
| **MACC.912.F-BF.1.1b:** | b. Combine standard function types using arithmetic operations. For |

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| | example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model. |
| **MACC.912.F-BF.2.3:** | Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit** 2: Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.<br><br>While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish between the effects of the other transformations included in this standard.<br><br>**Algebra 1, Unit 5**: For F.BF.3, focus on quadratic functions, and consider including absolute value functions.<br><br>**Algebra 1 Assessment Limit and Clarifications**<br><br>i) Identifying the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x+k) for specific values of k (both positive and negative) is limited to linear and quadratic functions.<br>ii) Experimenting with cases and illustrating an explanation of the effects on the graph using technology is limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br>iii) Tasks do not involve recognizing even and odd functions.<br><br>The function types listed in note (ii) are the same as those listed in the Algebra I column for standards F-IF.4, F-IF.6, and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications** |

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| | i) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions ii) Tasks may involve recognizing even and odd functions.<br><br>The function types listed in note (i) are the same as those listed in the Algebra II column for standards F-IF.4, F-IF.6, and F-IF.9. |
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| **MACC.912.F-IF.2.4:** | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.4 and 5, focus on linear and exponential functions.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context<br>ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9. |
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# Course: Music of the World- 1300340

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3821.aspx

## BASIC INFORMATION

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| **Course Title:** | Music of the World |
| **Course Number:** | 1300340 |
| **Course Abbreviated Title:** | MUSIC WORLD |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students explore the musical traditions of 20th- and 21st-century American and global communities around the world through study of current trends, focusing on the function of music within various cultures (e.g., jazz, world drumming, mariachi, soul, gamelan, Bollywood, digital). Students examine and report on human activities involving music, technology- and culture-related influences on music, and the sounds and structures of music composition. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom. |

## STANDARDS (29)

# Course: Guitar 4 Honors- 1301350

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3898.aspx

## BASIC INFORMATION

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| **Course Title:** | Guitar 4 Honors |
| **Course Number:** | 1301350 |
| **Course Abbreviated Title:** | GUITAR 4 HON |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |
| **Version Description:** | Students with considerable experience broaden their guitar skills and knowledge, adding left- and right-hand techniques and stylistic nuances; work with classical etudes and ensemble performance literature; and become familiar with modes and jazz chords. Guitarists extend their reading and theory skills and add to their knowledge of significant musicians through history. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. |

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| **General Notes:** | **Honors and Advanced Level Course Note:** Academic rigor is more than simply assigning to students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning. |

## STANDARDS (40)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.1112.RST.2 Craft and Structure**

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| **LACC.1112.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10 |

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| | Belongs to: Craft and Structure |

## LACC.1112.SL.1 Comprehension and Collaboration

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| **LACC.1112.SL.1.2 :** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.1112.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.1112.SL.2 Presentation of Knowledge and Ideas

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| **LACC.1112.SL.2.4 :** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |
| **LACC.1112.SL.2.5 :** | Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.1112.WHST.2 Production and Distribution of Writing

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| **LACC.1112.WHST.2.4 :** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |

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| | Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Production and Distribution of Writing |

**LACC.1112.WHST.3 Research to Build and Present Knowledge**

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| **LACC.1112.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |
| **LACC.1112.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-**

# Course: Band 2- 1302310

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4006.aspx

## BASIC INFORMATION

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| **Course Title:** | Band 2 |
| **Course Number:** | 1302310 |
| **Course Abbreviated Title:** | BAND 2 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Instrumental Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | This year-long, beginning-level class, designed for students with at least one year of woodwind, brass, and/ or percussion ensemble experience, promotes the enjoyment and appreciation of music through performance of high-quality wind and percussion literature. Rehearsals focus on the development of critical listening skills, instrumental and ensemble technique and skills, expanded music literacy, and aesthetic awareness culminating in periodic public performances. |
| **General Notes:** | All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.<br><br>**Special Notes:** This course may require students to participate in extra rehearsals and performances beyond the school day. Students in this class may need to obtain (e.g., borrow, rent, purchase) an |

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| | instrument from an outside source. |

## STANDARDS (37)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

### DA.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.

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| **DA.912.F.3.8 :** | Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

### LACC.910.RST.2 Craft and Structure

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

### LACC.910.SL.1 Comprehension and Collaboration

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| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.910.WHST.3 Research to Build and Present Knowledge

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

## MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of |

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| | two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.3 :** | Analyze instruments of the world and classify them by common traits.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., classical and folk instruments from around the world |

## MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

## MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to |

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| | personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

## MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

## MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the |

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| | worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

## MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.3 :** | Analyze the evolution of a music genre.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.<br>Remarks/Examples<br>e.g., jazz, blues |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

## MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

## MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

## MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

## MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |

## MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence |

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| | information. |

## MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

**solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.2 :** | Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MACC.K12.MP.5 Use appropriate tools strategically.**

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| **MACC.K12.MP.5.1 :** | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be |

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| | helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use appropriate tools strategically. |

**MACC.K12.MP.6 Attend to precision.**

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| **MACC.K12.MP.6.1 :** | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Attend to precision. |

**MACC.K12.MP.7 Look for and make use of structure.**

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| **MACC.K12.MP.7.1 :** | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Look for and make use of structure. |

**MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.**

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| **MU.912.F.2.1 :** | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |
| **MU.912.F.2.3 :** | Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies. |

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| | Remarks/Examples |
| | e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel |
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**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples |
| | e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
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| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and |

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| | current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.2 :** | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.2 :** | Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |
| **MU.912.O.2.2 :** | Transpose melodies into different modalities through performance and composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples |

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| | e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of |

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| | skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Band 1- 1302300

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4001.aspx

## BASIC INFORMATION

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|---|---|
| **Course Title:** | Band 1 |
| **Course Number:** | 1302300 |
| **Course Abbreviated Title:** | BAND 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Instrumental Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | This year-long, entry-level class, designed for students having little or no previous band experience with woodwind, brass, and/or percussion instruments, promotes the enjoyment and appreciation of music through performance of high-quality, beginning wind and percussion literature from different times and places. Rehearsals focus on the development of critical listening/aural skills; rudimentary instrumental technique and skills, music literacy, and ensemble skills; and aesthetic musical awareness culminating in periodic public performances. |
| **General Notes:** | All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.<br><br>**Special Notes:** This course may require students to participate in extra rehearsals and performances beyond the school day. Students |

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| | in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source. |

## STANDARDS (36)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

### DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

### LACC.910.RST.2 Craft and Structure

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

### LACC.910.SL.1 Comprehension and Collaboration

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| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.910.WHST.3 Research to Build and Present Knowledge

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

## MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of |

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| | two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.3 :** | Analyze instruments of the world and classify them by common traits.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., classical and folk instruments from around the world |

## MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

## MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to |

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| | personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

## MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

## MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the |

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| | worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

## MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

## MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical |

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| | works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic |

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| | progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |

## MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

## MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Keyboard 4 Honors- 1301390

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3912.aspx

## BASIC INFORMATION

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| **Course Title:** | Keyboard 4 Honors |
| **Course Number:** | 1301390 |
| **Course Abbreviated Title:** | KEYBD 4 HONORS |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |
| **Version Description:** | Students develop highly advanced piano techniques, music literacy, solo performance skills, and related musical knowledge through a variety of advanced piano literature. Students work toward greater musical independence through accompanying other musicians, performing solos, and/or creating original music compositions. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. |
| **General Notes:** | **Honors and Advanced Level Course Note:** Academic rigor is more than simply assigning to students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas |

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| | that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning. |

## STANDARDS (50)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

LACC.1112.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.1112.RST.2 Craft and Structure**

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| **LACC.1112.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

## LACC.1112.SL.1 Comprehension and Collaboration

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| **LACC.1112.SL.1.2 :** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.1112.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.1112.SL.2 Presentation of Knowledge and Ideas

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| **LACC.1112.SL.2.4 :** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.1112.WHST.2 Production and Distribution of Writing

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| **LACC.1112.WHST.2.4 :** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Production and Distribution of Writing |

## LACC.1112.WHST.3 Research to Build and Present Knowledge

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| **LACC.1112.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating |

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| | understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |
| **LACC.1112.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |
| **MU.912.F.1.2 :** | Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.**

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| **MU.912.F.2.1 :** | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples |

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| | e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |
| **MU.912.F.2.2 :** | Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., community revitalization, industry choosing new locations, cultural and social enrichment |
| **MU.912.F.2.3 :** | Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without |

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| | direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

## MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and |

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| | current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.2 :** | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.3 :** | Analyze the evolution of a music genre.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.<br>Remarks/Examples<br>e.g., jazz, blues |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen |

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| | learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |
| **MU.912.H.3.2 :** | Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |
| **MU.912.O.2.2 :** | Transpose melodies into different modalities through performance and composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |
| **MU.912.S.1.6 :** | Synthesize music, MIDI, pod-casting, webpage-development, and/or similar technology-based skills to share knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., history of electronic music and musicians; physics of sound; signal flow; effects of MIDI on studios, instruments, musicians, and producers |
| **MU.912.S.1.7 :** | Combine and/or create virtual and audio instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of |

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| | skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Keyboard 3- 1301380

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3910.aspx

## BASIC INFORMATION

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| **Course Title:** | Keyboard 3 |
| **Course Number:** | 1301380 |
| **Course Abbreviated Title:** | KEYBD 3 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students further develop advanced knowledge of piano techniques, musical literacy, solo and ensemble performance skills, and related musical knowledge, using a variety of advanced piano literature. Students explore the historical influence keyboards have had on music performance and composition, and apply criteria to assess their own and others' piano performances. Students extend their knowledge of music technology (i.e., MIDI keyboards) and its connection to the computer and other sound-generating devices. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. |

## STANDARDS (39)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

LACC.1112.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.1112.RST.2 Craft and Structure**

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| **LACC.1112.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.1112.SL.1 Comprehension and Collaboration**

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| **LACC.1112.SL.1.2 :** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the |

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| | credibility and accuracy of each source and noting any discrepancies among the data.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.1112.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.1112.SL.2 Presentation of Knowledge and Ideas**

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| **LACC.1112.SL.2.4 :** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.1112.WHST.3 Research to Build and Present Knowledge**

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| **LACC.1112.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples |

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| | e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination**

**and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.**

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| **MU.912.F.2.1 :** | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers. |

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| | and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the |

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| | worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |
| **MU.912.H.3.2 :** | Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Keyboard 2- 1301370

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3908.aspx

## BASIC INFORMATION

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|---|---|
| **Course Title:** | Keyboard 2 |
| **Course Number:** | 1301370 |
| **Course Abbreviated Title:** | KEYBD 2 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students build on previous piano techniques and skills through reading music, acquiring and applying knowledge of music theory, and exploring the role of keyboard music in history and culture. Students learn repertoire from various styles and time periods, exploring the historical influence keyboards have had on music performance and composition. Students explore the basic tools of music technology (i.e., MIDI keyboards). Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. |

## STANDARDS (31)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or |

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| | distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.910.SL.2 Presentation of Knowledge and Ideas**

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|---|---|
| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

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|---|---|
| **LACC.910.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples |

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| | e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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|---|---|
| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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|---|---|
| | Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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|---|---|
| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples |

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| | e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
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| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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|---|---|
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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|---|---|
| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples |
| | e.g., acoustics, sound amplification, materials, mechanics |
| | |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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|---|---|
| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples |
| | e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

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**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples |

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| | e.g., singing, playing, writing |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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|---|---|
| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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|---|---|
| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Keyboard 1- 1301360

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4841.aspx

## BASIC INFORMATION

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|---|---|
| **Course Title:** | Keyboard 1 |
| **Course Number:** | 1301360 |
| **Course Abbreviated Title:** | KEYBD 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students build fundamental piano techniques while learning to read music, acquire and apply knowledge of basic music theory, and explore the role of keyboard music in history and culture. Beginning pianists develop skills in analytical listening and explore musical creativity in the form of basic improvisation and basic composition. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. |

## STANDARDS (24)

**In addition to the listed benchmarks and standards, the following mathematical practices**

**are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

LACC.910.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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|---|---|
| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence |

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| | and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.910.SL.2 Presentation of Knowledge and Ideas**

| | |
|---|---|
| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

| | |
|---|---|
| **LACC.910.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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|---|---|
| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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|---|---|
| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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|---|---|
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in**

**which they live(d).**

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|---|---|
| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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|---|---|
| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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|---|---|
| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. |

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|---|---|
| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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|---|---|
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, |

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| | technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

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| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.910.SL.2 Presentation of Knowledge and Ideas**

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

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| **LACC.910.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.3 :** | Analyze instruments of the world and classify them by common traits.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., classical and folk instruments from around the world |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.**

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| **MU.912.F.2.2 :** | Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., community revitalization, industry choosing new locations, cultural and social enrichment |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |

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| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the**

**ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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|---|---|
| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |

# Course: Music Theory 2 Honors- 1300310

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4050.aspx

## BASIC INFORMATION

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| **Course Title:** | Music Theory 2 Honors |
| **Course Number:** | 1300310 |
| **Course Abbreviated Title:** | MUS THEORY 2 HON |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Advanced Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |
| **Version Description:** | Students with prior music theory training study composition, form, and analysis, and develop individual aural skills. The aural, analytical, and cognitive skills expanded in this class inform the serious musician's performance abilities over a variety of styles and genres. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom. |
| **General Notes:** | **Honors and Advanced Level Course Note:** Academic rigor is more than simply assigning to students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning. |

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| | **Instructional Practices**<br>Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:<br><br>1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.<br>2. Making close reading and rereading of texts central to lessons.<br>3. Asking high-level, textspecific questions and requiring high-level, complex tasks and assignments.<br>4. Requiring students to support answers with evidence from the text.<br>5. Providing extensive text-based research and writing opportunities (claims and evidence). |

## STANDARDS (36)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

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| **DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our** |

**ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.910.SL.2 Presentation of Knowledge and Ideas**

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|---|---|
| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.3 :** | Analyze instruments of the world and classify them by common traits.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., classical and folk instruments from around the world |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |
| **MU.912.F.1.2 :** | Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.**

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| **MU.912.F.2.2 :** | Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., community revitalization, industry choosing new locations, cultural and social enrichment |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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|---|---|
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and |

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| | current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.2 :** | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.4 :** | Examine the effects of developing technology on composition, performance, and acquisition of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.2 :** | Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples |
| | e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking |
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**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |
| **MU.912.O.2.2 :** | Transpose melodies into different modalities through performance and composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |
| **MU.912.S.1.8 :** | Record, mix, and edit a recorded performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |

# Course: Music Theory 1- 1300300

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3817.aspx

## BASIC INFORMATION

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| **Course Title:** | Music Theory 1 |
| **Course Number:** | 1300300 |
| **Course Abbreviated Title:** | MUS THEORY 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students learn how music is constructed and developed, and acquire a basic understanding of the structural, technical, and historical elements of music. Student theorists develop basic ear-training, keyboard, and functional singing skills, and engage in the creative process through individual and collaborative projects. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom. |
| **General Notes:** | **Special Notes:**<br><br>**Instructional Practices**<br>Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also |

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| | helps student learning:<br><br>1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.<br>2. Making close reading and rereading of texts central to lessons.<br>3. Asking high-level, textspecific questions and requiring high-level, complex tasks and assignments.<br>4. Requiring students to support answers with evidence from the text.<br>5. Providing extensive text-based research and writing opportunities (claims and evidence). |

## STANDARDS (26)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

## LACC.910.RST.2 Craft and Structure

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

## LACC.910.SL.1 Comprehension and Collaboration

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| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.910.WHST.3 Research to Build and Present Knowledge

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date |

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| | Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the |

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| | quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.**

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.2 :** | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. |

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| | Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.2 :** | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to**

**document and communicate with the world.**

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.8 :** | Record, mix, and edit a recorded performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |

# Course: Guitar 3- 1301340

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3892.aspx

## BASIC INFORMATION

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| **Course Title:** | Guitar 3 |
| **Course Number:** | 1301340 |
| **Course Abbreviated Title:** | GUITAR 3 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students with previous experience strengthen their guitar skills and knowledge, adding a variety of chords; refining finger-picking and strumming patterns; reading notation in 1st, 2nd, and 5th position; and learning stylistic nuances, left-hand technique, and alternative fingering. Guitarists readily use tablature and standard notation, study the work of significant musicians, and develop significant self-assessment skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. |

## STANDARDS (26)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.1112.RST.2 Craft and Structure**

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| **LACC.1112.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.1112.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.1112.SL.1.2 :** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. |

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| | Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.1112.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.1112.SL.2 Presentation of Knowledge and Ideas**

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|---|---|
| **LACC.1112.SL.2.4 :** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.1112.WHST.3 Research to Build and Present Knowledge**

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| **LACC.1112.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |

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| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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|---|---|
| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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|---|---|
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a**

**foundation for appreciation of artistic works and respect for the creative process.**

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|---|---|
| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.**

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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|---|---|
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our**

**ability to remember, focus on, process, and sequence information.**

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|---|---|
| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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|---|---|
| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |

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| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Guitar 2- 1301330

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3889.aspx

## BASIC INFORMATION

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| **Course Title:** | Guitar 2 |
| **Course Number:** | 1301330 |
| **Course Abbreviated Title:** | GUITAR 2 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students with previous guitar experience build on their skills and knowledge, adding chords, new strumming and finger-picking patterns, movable major and minor scales, basic music theory, more complex bass lines and lead sheets, and ensemble skills for a variety of music. Beginning guitarists explore the careers and music of significant performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. |

## STANDARDS (23)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or |

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| | distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

**LACC.910.SL.2 Presentation of Knowledge and Ideas**

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|---|---|
| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

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|---|---|
| **LACC.910.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples |

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| | e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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|---|---|
| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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|---|---|
| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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| | Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.1 :** | Evaluate the social impact of music on specific historical periods.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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|---|---|
| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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|---|---|
| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10 |

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|---|---|
| | Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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|---|---|
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |

**MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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|---|---|
| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine**

**simple, then complex, skills and techniques.**

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|---|---|
| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Guitar 1- 1301320

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3886.aspx

## BASIC INFORMATION

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|---|---|
| **Course Title:** | Guitar 1 |
| **Course Number:** | 1301320 |
| **Course Abbreviated Title:** | GUITAR 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** General Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students with little or no experience develop basic guitar skills and knowledge, including simple and full-strum chords, bass lines and lead sheets, barre and power chords, foundational music literacy and theory, major scales, simple finger-picking patterns, and ensemble skills for a variety of music. Beginning guitarists explore the careers and music of significant performers in a variety of styles. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. |

## STANDARDS (22)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.**

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|---|---|
| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

**LACC.910.RST.2 Craft and Structure**

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|---|---|
| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

**LACC.910.SL.1 Comprehension and Collaboration**

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|---|---|
| **LACC.910.SL.1.1 :** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. |

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| | a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.<br>d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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|---|---|
| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of |

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| | reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

**LACC.910.WHST.3 Research to Build and Present Knowledge**

| | |
|---|---|
| **LACC.910.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

**MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.**

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|---|---|
| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

**MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.**

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|---|---|
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

**MU.912.H.1 Through study in the arts, we learn about and honor others and the worlds in which they live(d).**

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|---|---|
| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

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| | Remarks/Examples |
| | e.g., patriotic, folk, celebration, entertainment, spiritual |
| | |

**MACC.K12.MP.5 Use appropriate tools strategically.**

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| **MACC.K12.MP.5.1 :** | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use appropriate tools strategically. |

**MACC.K12.MP.6 Attend to precision.**

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| **MACC.K12.MP.6.1 :** | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and |

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| | appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Attend to precision. |

**MACC.K12.MP.7 Look for and make use of structure.**

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| **MACC.K12.MP.7.1 :** | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Look for and make use of structure. |

**MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.**

| | |
|---|---|
| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |

**MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.**

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |

**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

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**MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.**

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| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

**MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.**

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| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |

**MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.**

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, |

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| | tuning, strumming |
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# Course: Music 2- Florida's Pre-International Baccalaureate- 1300810

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4840.aspx

## BASIC INFORMATION

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| **Course Title:** | Music 2- Florida's Pre-International Baccalaureate |
| **Course Number:** | 1300810 |
| **Course Abbreviated Title:** | FL PRE-IB MUSIC 2 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Advanced Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students with extensive vocal or instrumental ensemble experience refine their critical listening, music literacy, and ensemble skills through the study, rehearsal, and performance of high-quality, advanced literature. Students in this Pre-IB class use reflection and problem-solving skills with increasing independence to improve their performance and musical expressivity. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. In addition, the purpose of this Pre-IB course is to prepare students for the International Baccalaureate Diploma Programme (DP). As such, this |

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| | course will provide academic rigor and relevance through a comprehensive curriculum based on the Next Generation Sunshine State Standards taught with reference to the unique facets of the IB. These facets include interrelatedness of subject areas, holistic view of knowledge, intercultural awareness embracing international issues, and communication as fundamental to learning. Instructional design must provide students with values and opportunities that enable them to develop respect for others and an appreciation of similarities and differences. Learning how to learn and how to critically evaluate information is as important as the content of the disciplines themselves. |
| **General Notes:** | **Special Note:** Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course". Source What is meant by "the pre-IB"? Published 12/06/2010 Updated 05/23/2011 |

## STANDARDS (41)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language**

**Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

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| **DA.912.F.3.8:** | Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment. |
| **DA.912.S.2.1:** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| **LACC.1112.SL.1.2:** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. |
| **LACC.1112.SL.1.3:** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used. |
| **LACC.1112.SL.2.4:** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. |
| **LACC.1112.SL.2.6:** | Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11–12 Language standards 1 and 3 for specific expectations.) |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.7:** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |

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| LACC.1112.WHST.3.9: | Draw evidence from informational texts to support analysis, reflection, and research. |
| MU.912.C.1.1: | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| MU.912.C.1.2: | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| MU.912.C.2.1: | Evaluate and make appropriate adjustments to personal performance in solo and ensembles. |
| MU.912.C.2.2: | Evaluate performance quality in recorded and/or live performances. |
| MU.912.C.3.1: | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music. |
| MU.912.F.1.1: | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music. |
| MU.912.F.2.1: | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Remarks/Examples<br>e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |
| MU.912.F.2.2: | Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions.<br>Remarks/Examples<br>e.g., community revitalization, industry choosing new locations, cultural and social enrichment |
| MU.912.F.2.3: | Compare the organizational structure of a professional orchestra, |

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| | chorus, quintet, or other ensemble to that of a business.<br>Remarks/Examples<br>e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel |
| MU.912.F.3.1: | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings. |
| MU.912.F.3.2: | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology. |
| MU.912.F.3.3: | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace. |
| MU.912.F.3.4: | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge. |
| MU.912.H.1.2: | Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class.<br>Remarks/Examples<br>e.g., vocal, instrumental, guitar, keyboard, electronic, handbells |
| MU.912.H.1.3: | Compare two or more works of a composer across performance media.<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| MU.912.H.1.5: | Analyze music within cultures to gain understanding of authentic performance practices. |
| MU.912.H.2.1: | Evaluate the social impact of music on specific historical periods. |
| MU.912.H.2.2: | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music. |
| MU.912.H.2.4: | Examine the effects of developing technology on composition, performance, and acquisition of music. |

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| **MU.912.O.1.1:** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Remarks/Examples<br>e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |
| **MU.912.O.2.1:** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music. |
| **MU.912.O.3.1:** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2:** | Interpret and perform expressive elements indicated by the musical score and/or conductor. |
| **MU.912.S.1.3:** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4:** | Perform and notate, independently and accurately, melodies by ear.<br>Remarks/Examples<br>e.g., singing, playing, writing |
| **MU.912.S.2.1:** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2:** | Transfer expressive elements and performance techniques from one piece of music to another. |
| **MU.912.S.3.1:** | Synthesize a broad range of musical skills by performing a varied |

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| | repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy. |
| **MU.912.S.3.2:** | Sight-read music accurately and expressively to show synthesis of skills.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.4:** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques. |
| **MU.912.S.3.5:** | Develop and demonstrate proper vocal or instrumental technique.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

# Course: Music 1- Florida's Pre-International Baccalaureate- 1300800

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4838.aspx

## BASIC INFORMATION

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| **Course Title:** | Music 1- Florida's Pre-International Baccalaureate |
| **Course Number:** | 1300800 |
| **Course Abbreviated Title:** | FL PRE-IB MUSIC 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Advanced Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Version Description:** | Students in this Pre-IB class refine their musicianship and performance skills on a specified instrument or voice. Students prepare for post-secondary and community music experiences and develop artistry independently through a variety of advanced solos, etudes, and excerpts. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental class, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.<br><br>In addition, the purpose of this Pre-IB course is to prepare students for the International Baccalaureate Diploma Programme (DP). As |

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| | such, this course will provide academic rigor and relevance through a comprehensive curriculum based on the Next Generation Sunshine State Standards taught with reference to the unique facets of the IB. These facets include interrelatedness of subject areas, holistic view of knowledge, intercultural awareness embracing international issues, and communication as fundamental to learning. Instructional design must provide students with values and opportunities that enable them to develop respect for others and an appreciation of similarities and differences. Learning how to learn and how to critically evaluate information is as important as the content of the disciplines themselves. |
| **General Notes:** | Special Note: Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course." Source: What is meant by "the pre-IB"? Published 12/06/2010 Updated 05/23/2011 |

## STANDARDS (30)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language**

**Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

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| **DA.912.S.2.1:** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| **LACC.1112.SL.1.2:** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. |
| **LACC.1112.SL.1.3:** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used. |
| **LACC.1112.SL.2.4:** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. |
| **LACC.1112.SL.2.6:** | Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11–12 Language standards 1 and 3 for specific expectations.) |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.7:** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |
| **LACC.1112.WHST.3.9:** | Draw evidence from informational texts to support analysis, reflection, and research. |

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| MU.912.C.1.1: | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| MU.912.C.1.2: | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| MU.912.C.2.1: | Evaluate and make appropriate adjustments to personal performance in solo and ensembles. |
| MU.912.C.2.2: | Evaluate performance quality in recorded and/or live performances. |
| MU.912.C.3.1: | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music. |
| MU.912.F.2.1: | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Remarks/Examples<br>e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |
| MU.912.F.3.1: | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings. |
| MU.912.F.3.3: | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace. |
| MU.912.F.3.4: | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge. |
| MU.912.H.1.1: | Investigate and discuss how a culture's traditions are reflected |

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| | through its music.<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| MU.912.H.3.1: | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Remarks/Examples<br>e.g., acoustics, sound amplification, materials, mechanics |
| MU.912.O.2.1: | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music. |
| MU.912.O.2.2: | Transpose melodies into different modalities through performance and composition. |
| MU.912.O.3.1: | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| MU.912.O.3.2: | Interpret and perform expressive elements indicated by the musical score and/or conductor. |
| MU.912.S.2.1: | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| MU.912.S.2.2: | Transfer expressive elements and performance techniques from one piece of music to another. |
| MU.912.S.3.1: | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy. |
| MU.912.S.3.2: | Sight-read music accurately and expressively to show synthesis of |

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| | skills.<br>Remarks/Examples |
| | e.g., musical elements, expressive qualities, performance technique |
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| **MU.912.S.3.4:** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques. |
| **MU.912.S.3.5:** | Develop and demonstrate proper vocal or instrumental technique.<br>Remarks/Examples |
| | e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |
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| **MACC.912.F-IF.2.5:** | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*<br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions. |
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| **MACC.912.F-IF.2.6:** | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.<br><br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.6, focus on linear functions and exponential functions whose domain is a subset of the integers. Unit 5 in this course and the Algebra II course address other types of functions.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>The function types listed here are the same as those listed in the Algebra II column for standards F-IF.4 and F-IF.9. |
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| **MACC.912.F-IF.3.7:** | Graph functions expressed symbolically and show key features of the |

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| | graph, by hand in simple cases and using technology for more complicated cases.<br><br>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.<br>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.<br>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.<br>d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.<br>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.<br><br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$ |
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| **MACC.912.F-IF.3.8a:** | a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. |
| **MACC.912.F-IF.3.9:** | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$ |

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| | **Algebra 1, Unit 5**: For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic. Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.6.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>The function types listed here are the same as those listed in the Algebra II column for standards F-IF.4 and F-IF.6. |
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| **MACC.912.F-LE.1.3:** | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.<br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.LE.3, limit to comparisons between linear and exponential models.<br><br>Algebra 1, Unit 5: Compare linear and exponential growth to quadratic growth. |
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| **MACC.912.G-SRT.1.1:** | Verify experimentally the properties of dilations given by a center and a scale factor:<br><br>a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. |

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| | b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. |
| **MACC.912.N-CN.1.1:** | Know there is a complex number i such that $i^2 = -1$, and every complex number has the form a + bi with a and b real. |
| **MACC.912.N-CN.1.2:** | Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. |
| **MACC.912.N-CN.1.3:** | Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers. |
| **MACC.912.N-RN.1.1:** | Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define*  *to be the cube root of 5 because we want*  =  *to hold, so*  *must equal 5.*<br>Remarks/Examples |
| | Algebra 1, Unit 2: In implementing the standards in curriculum, these standards should occur before discussing exponential functions with continuous domains. |
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| **MACC.912.N-RN.1.2:** | Rewrite expressions involving radicals and rational exponents using the properties of exponents.<br>Remarks/Examples |
| | Algebra 1, Unit 2: In implementing the standards in curriculum, these standards should occur before discussing exponential functions with continuous domains. |
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| **MACC.912.N-RN.2.3:** | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.<br>Remarks/Examples |
| | Algebra 1 Unit 5: Connect N.RN.3 to physical situations, e.g., finding the perimeter of a square of area 2. |
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# Course: Chorus Register-specific 4 Honors-1303390

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4108.aspx

## BASIC INFORMATION

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| **Course Title:** | Chorus Register-specific 4 Honors |
| **Course Number:** | 1303390 |
| **Course Abbreviated Title:** | CHORUS REG-SPEC 4 H |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Music **SubSubject:** Choral Music |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |
| **Version Description:** | Students build and refine technical and expressive skills through the study, rehearsal, and performance of high-quality literature for singers in a similar vocal range. As singers explore three- and four-part literature in its historical and cultural context, they develop advanced musicianship and choral ensemble skills. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. |
| **General Notes:** | **Honors and Advanced Level Course Note:** Academic rigor is more |

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| | than simply assigning to students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning. |

## STANDARDS (46)

**In addition to the listed benchmarks and standards, the following mathematical practices are required content:**

MACC.K12.MP.5.1: Use appropriate tools strategically.
MACC.K12.MP.6.1: Attend to precision.
MACC.K12.MP.7.1: Look for and make use of structure.

**In addition to the listed benchmarks and standards, the following clusters and Language Arts standards are required content:**

LACC.1112.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

### DA.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.

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| **DA.912.S.2.1 :** | Sustain focused attention, respect, and discipline during class, rehearsal, and performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

### LACC.1112.RST.2 Craft and Structure

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| **LACC.1112.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

## LACC.1112.SL.1 Comprehension and Collaboration

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| **LACC.1112.SL.1.2 :** | Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.1112.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.1112.SL.2 Presentation of Knowledge and Ideas

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| **LACC.1112.SL.2.4 :** | Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |
| **LACC.1112.SL.2.5 :** | Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## LACC.1112.WHST.3 Research to Build and Present Knowledge

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| **LACC.1112.WHST.3.7 :** | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |

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| | Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |
| **LACC.1112.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

## MU.912.C.1 Cognition and reflection are required to appreciate, interpret, and create with artistic intent.

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| **MU.912.C.1.1 :** | Apply listening strategies to promote appreciation and understanding of unfamiliar musical works.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., listening maps, active listening, checklists |
| **MU.912.C.1.2 :** | Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent.<br>Remarks/Examples<br>e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title |
| **MU.912.C.1.4 :** | Compare and perform a variety of vocal styles and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Cognition and reflection are required to appreciate, interpret, and create with artistic intent. |

## MU.912.C.2 Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth.

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| **MU.912.C.2.1 :** | Evaluate and make appropriate adjustments to personal performance in solo and ensembles.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, |

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| | problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.2 :** | Evaluate performance quality in recorded and/or live performances.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |
| **MU.912.C.2.3 :** | Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Assessing our own and others' artistic work, using critical-thinking, problem-solving, and decision-making skills, is central to artistic growth. |

## MU.912.C.3 The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts.

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| **MU.912.C.3.1 :** | Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. |

## MU.912.F.1 Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking.

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| **MU.912.F.1.1 :** | Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Creating, interpreting, and responding in the arts stimulate the imagination and encourage innovation and creative risk-taking. |

## MU.912.F.2 Careers in and related to the arts significantly and positively impact local and global economies.

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| **MU.912.F.2.1 :** | Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills |

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| **MU.912.F.2.2 :** | Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Careers in and related to the arts significantly and positively impact local and global economies.<br>Remarks/Examples<br>e.g., community revitalization, industry choosing new locations, cultural and social enrichment |

## MU.912.F.3 The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts.

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| **MU.912.F.3.1 :** | Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.2 :** | Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.3 :** | Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |
| **MU.912.F.3.4 :** | Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. |

## MU.912.H.1 Through study in the arts, we learn about and honor others and the

**worlds in which they live(d).**

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| **MU.912.H.1.1 :** | Investigate and discuss how a culture's traditions are reflected through its music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., patriotic, folk, celebration, entertainment, spiritual |
| **MU.912.H.1.3 :** | Compare two or more works of a composer across performance media.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d).<br>Remarks/Examples<br>e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto |
| **MU.912.H.1.4 :** | Analyze how Western music has been influenced by historical and current world cultures.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |
| **MU.912.H.1.5 :** | Analyze music within cultures to gain understanding of authentic performance practices.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through study in the arts, we learn about and honor others and the worlds in which they live(d). |

**MU.912.H.2 The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged.**

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| **MU.912.H.2.2 :** | Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |
| **MU.912.H.2.3 :** | Analyze the evolution of a music genre.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts reflect and document cultural trends and historical events, and help explain how new directions in the arts have emerged. |

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| | Remarks/Examples |
| | e.g., jazz, blues |
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**MU.912.H.3 Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.**

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| **MU.912.H.3.1 :** | Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples |
| | e.g., acoustics, sound amplification, materials, mechanics |
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| **MU.912.H.3.2 :** | Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.<br>Remarks/Examples |
| | e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking |
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**MU.912.O.1 Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.**

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| **MU.912.O.1.1 :** | Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Understanding the organizational structure of an art form provides a foundation for appreciation of artistic works and respect for the creative process.<br>Remarks/Examples |
| | e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble |

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## MU.912.O.2 The structural rules and conventions of an art form serve as both a foundation and departure point for creativity.

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| **MU.912.O.2.1 :** | Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |
| **MU.912.O.2.2 :** | Transpose melodies into different modalities through performance and composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The structural rules and conventions of an art form serve as both a foundation and departure point for creativity. |

## MU.912.O.3 Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.

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| **MU.912.O.3.1 :** | Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world.<br>Remarks/Examples<br>e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration |
| **MU.912.O.3.2 :** | Interpret and perform expressive elements indicated by the musical score and/or conductor.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Every art form uses its own unique language, verbal and non-verbal, to document and communicate with the world. |

## MU.912.S.1 The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.

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| **MU.912.S.1.1 :** | Improvise rhythmic and melodic phrases over harmonic progressions.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in |

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| | the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., using text or scat syllables |
| **MU.912.S.1.2 :** | Compose music for voices and/or acoustic, digital, or electronic instruments.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art. |
| **MU.912.S.1.3 :** | Arrange a musical work by manipulating two or more aspects of the composition.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., texture, mode, form, tempo, voicing |
| **MU.912.S.1.4 :** | Perform and notate, independently and accurately, melodies by ear.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.<br>Remarks/Examples<br>e.g., singing, playing, writing |

## MU.912.S.2 Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.

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| **MU.912.S.2.1 :** | Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information.<br>Remarks/Examples<br>e.g., memorization, sequential process |
| **MU.912.S.2.2 :** | Transfer expressive elements and performance techniques from |

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| | one piece of music to another.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Development of skills, techniques, and processes in the arts strengthens our ability to remember, focus on, process, and sequence information. |

## MU.912.S.3 Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.

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| **MU.912.S.3.1 :** | Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.2 :** | Sight-read music accurately and expressively to show synthesis of skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., musical elements, expressive qualities, performance technique |
| **MU.912.S.3.3 :** | Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.4 :** | Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.<br>Cognitive Complexity: N/A l Date Adopted or Revised: 12/10<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques. |
| **MU.912.S.3.5 :** | Develop and demonstrate proper vocal or instrumental technique.<br>Cognitive Complexity: N/A l Date Adopted or Revised:<br>Belongs to: Through purposeful practice, artists learn to manage, master, and refine simple, then complex, skills and techniques.<br>Remarks/Examples<br>e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming |

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| MACC.912.S-ID.2.6a: | a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. |
| MACC.K12.MP.1.1: | **Make sense of problems and persevere in solving them.**<br><br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. |
| MACC.K12.MP.2.1: | **Reason abstractly and quantitatively**.<br><br>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units |

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| | involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. |
| MACC.K12.MP.3.1: | **Construct viable arguments and critique the reasoning of others.**<br><br>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. |
| MACC.K12.MP.4.1: | **Model with mathematics.**<br><br>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able |

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| | to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. |
| MACC.K12.MP.5.1: | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. |
| MACC.K12.MP.6.1: | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a |

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| | degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. |
| MACC.K12.MP.7.1: | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. |
| MACC.K12.MP.8.1: | **Look for and express regularity in repeated reasoning.**<br><br>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the |

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| | reasonableness of their intermediate results. |

## RELATED GLOSSARY TERM DEFINITIONS (14)

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| **Asymptote:** | A straight line associated with a curve such that as a point moves along an infinite branch of the curve the distance from the point to the line approaches zero and the slope of the curve at the point approaches the slope of the line. |
| **Axes:** | The horizontal and vertical number lines used in a coordinate plane system. |
| **Constant:** | Any value that does not change. |
| **Equation:** | A mathematical sentence stating that the two expressions have the same value. Also read the definition of equality. |
| **Length:** | A one-dimensional measure that is the measurable property of line segments. |
| **Model:** | To represent a mathematical situation with manipulatives (objects), pictures, numbers or symbols. |
| **Parametric equations:** | A set of equations that express a set of quantities as explicit functions of a number of independent variables, known as "parameters." For example, one set of parametric equations for a circle are given by x=rcost and y=rsint, where r is the radius of the circle. |
| **Plane:** | An infinite two-dimensional geometric surface defined by three non-linear points or two distance parallel or intersecting lines. |
| **Point:** | A specific location in space that has no discernable length or width. |
| **Representations:** | Physical objects, drawings, charts, words, graphs, and symbols that help students communicate their thinking. |
| **Conic section:** | The family of curves including circles, ellipses, parabolas, and hyperbolas. All of these geometric figures may be obtained by the |

# Course: Trigonometry Honors- 1211300

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3621.aspx

## BASIC INFORMATION

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| **Course Title:** | Trigonometry Honors |
| **Course Number:** | 1211300 |
| **Course Abbreviated Title:** | TRIG HON |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Trigonometry |
| **Number of Credits:** | Half credit (.5) |
| **Course length:** | Semester (S) |
| **Course Type:** | Core |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |

## STANDARDS (40)

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| **LACC.1112.RST.1.3:** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or |

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| | technical context relevant to grades 11–12 texts and topics. |
| **LACC.1112.RST.3.7:** | Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| **LACC.1112.WHST.1.1:** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.<br>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented. |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.9:** | Draw evidence from informational texts to support analysis, reflection, and research. |
| **LACC.910.SL.1.1:** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.<br><br>a. Come to discussions prepared, having read and researched |

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| | material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.<br>d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. |
| **LACC.910.SL.1.2:** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. |
| **LACC.910.SL.1.3:** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. |
| **LACC.910.SL.2.4:** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. |
| **MACC.912.F-TF.1.1:** | Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. |
| **MACC.912.F-TF.1.2:** | Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle. |
| **MACC.912.F-TF.1.3:** | Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x, where x is any real number. |

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| MACC.912.F-TF.1.4: | Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions. |
| MACC.912.F-TF.2.5: | Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. |
| MACC.912.F-TF.2.6: | Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed. |
| MACC.912.F-TF.2.7: | Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. |
| MACC.912.F-TF.3.8: | Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios. |
| MACC.912.F-TF.3.9: | Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems. |
| MACC.912.G-SRT.3.7: | Explain and use the relationship between the sine and cosine of complementary angles. |
| MACC.912.G-SRT.3.8: | Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. |
| MACC.912.G-SRT.4.10: | Prove the Laws of Sines and Cosines and use them to solve problems. |
| MACC.912.G-SRT.4.9: | Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side. |
| MACC.912.N-CN.1.3: | Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers. |
| MACC.912.N-CN.2.4: | Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. |
| MACC.912.N-CN.2.5: | Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}\, i)^3 = 8$ because $(-1 + \sqrt{3}\, i)$ has modulus 2 and argument 120°. |

# Course: Advanced Topics in Mathematics (formerly 129830A)- 1298310

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3643.aspx

## BASIC INFORMATION

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| **Course Title:** | Advanced Topics in Mathematics (formerly 129830A) |
| **Course Number:** | 1298310 |
| **Course Abbreviated Title:** | ADV TOPICS IN MATH |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Liberal Arts Mathematics |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |

## STANDARDS (66)

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| **LACC.1112.RST.1.3:** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |

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| **LACC.1112.RST.3.7:** | Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| **LACC.1112.WHST.1.1:** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.<br>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented. |
| **LACC.1112.WHST.1.2:** | Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.<br><br>a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.<br>b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.<br>c. Use varied transitions and sentence structures to link the |

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| | major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.<br>d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.<br>e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.9:** | Draw evidence from informational texts to support analysis, reflection, and research. |
| **LACC.910.SL.1.1:** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.<br><br>a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.<br>d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. |

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| **LACC.910.SL.1.2:** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. |
| **LACC.910.SL.1.3:** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. |
| **LACC.910.SL.2.4:** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. |
| **MACC.912.A-REI.3.8:** | Represent a system of linear equations as a single matrix equation in a vector variable. |
| **MACC.912.A-REI.3.9:** | Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater). |
| **MACC.912.F-BF.1.1:** | Write a function that describes a relationship between two quantities.<br><br>a. Determine an explicit expression, a recursive process, or steps for calculation from a context.<br>b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*<br>c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit 2**: Limit to F.BF.1a, 1b, and 2 to linear and exponential functions.<br><br>**Algebra 1, Unit 5**: Focus on situations that exhibit a quadratic relationship. |

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| | **Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, quadratic functions, and exponential functions with domains in the integers.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context<br>ii) Tasks may involve linear functions, quadratic functions, and exponential functions. |
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| **MACC.912.F-BF.1.2:** | Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.<br>Remarks/Examples |
| | Algebra 1 Honors, Unit 4: In F.BF.2, connect arithmetic sequences to linear functions and geometric sequences to exponential functions.<br><br>Algebra 2, Unit 3: In F.BF.2, connect arithmetic sequences to linear functions and geometric sequences to exponential functions. [Please note this standard is not included in the Algebra 1 course; the remarks should reference Algebra 1 Honors/Unit 4 and Algebra 2/Unit 3 Instructional Notes.] |
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| **MACC.912.F-BF.2.3:** | Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*<br><br>Remarks/Examples |
| | **Algebra 1, Unit** 2: Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.<br><br>While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish |

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| | between the effects of the other transformations included in this standard.<br><br>**Algebra 1, Unit 5**: For F.BF.3, focus on quadratic functions, and consider including absolute value functions.<br><br>**Algebra 1 Assessment Limit and Clarifications**<br><br>i) Identifying the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x+k) for specific values of k (both positive and negative) is limited to linear and quadratic functions.<br>ii) Experimenting with cases and illustrating an explanation of the effects on the graph using technology is limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br>iii) Tasks do not involve recognizing even and odd functions.<br><br>The function types listed in note (ii) are the same as those listed in the Algebra I column for standards F-IF.4, F-IF.6, and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions ii) Tasks may involve recognizing even and odd functions.<br><br>The function types listed in note (i) are the same as those listed in the Algebra II column for standards F-IF.4, F-IF.6, and F-IF.9. |
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| **MACC.912.F-BF.2.4:** | Find inverse functions.<br><br>a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. *For example, f(x) =2 $x^3$ or f(x) = (x+1)/(x–1) for x ≠ 1.*<br>b. Verify by composition that one function is the inverse of another.<br>c. Read values of an inverse function from a graph or a table, given that the function has an inverse.<br>d. Produce an invertible function from a non-invertible function |

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| | by restricting the domain.<br><br>Remarks/Examples |
| | Algebra 1 Honors, Unit 4: For F.BF.4a, focus on linear functions but consider simple situations where the domain of the function must be restricted in order for the inverse to exist, such as $f(x) = x^2$, $x>0$.<br><br>Algebra 2, Unit 3: For F.BF.4a, focus on linear functions but consider simple situations where the domain of the function must be restricted in order for the inverse to exist, such as $f(x) = x^2$, $x>0$. |
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| **MACC.912.F-BF.2.5:** | Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents. |
| **MACC.912.F-IF.3.7:** | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.<br><br>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.<br>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.<br>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.<br>d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.<br>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.<br><br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$ |
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| **MACC.912.F-IF.3.8:** | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.<br><br>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.<br>b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as y =*  *, y =*  *, y =*  *, y =*  *, and classify them as representing exponential growth or decay.*<br><br>Remarks/Examples<br>Algebra 1, Unit 5: Note that this unit, and in particular in F.IF.8b, extends the work begun in Unit 2 on exponential functions with integer exponents. |
| **MACC.912.F-IF.3.9:** | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*<br><br>Remarks/Examples<br>**Algebra 1, Unit 2**: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$<br><br>**Algebra 1, Unit 5**: For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic. Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.<br><br>**Algebra 1 Assessment Limits and Clarifications** |

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| | i) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.6.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>The function types listed here are the same as those listed in the Algebra II column for standards F-IF.4 and F-IF.6. |
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| **MACC.912.F-TF.1.3:** | Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi–x$, $\pi+x$, and $2\pi–x$ in terms of their values for x, where x is any real number. |
| **MACC.912.F-TF.1.4:** | Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions. |
| **MACC.912.F-TF.2.5:** | Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. |
| **MACC.912.F-TF.2.6:** | Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed. |
| **MACC.912.F-TF.2.7:** | Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. |
| **MACC.912.F-TF.3.8:** | Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios. |
| **MACC.912.F-TF.3.9:** | Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems. |
| **MACC.912.G-GMD.1.1:** | Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit* |

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| | *arguments.* |
| **MACC.912.G-GMD.1.2:** | Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures. |
| **MACC.912.G-GPE.1.1:** | Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. |
| **MACC.912.G-GPE.1.2:** | Derive the equation of a parabola given a focus and directrix. |
| **MACC.912.G-GPE.1.3:** | Derive the equations of ellipses and hyperbolas given the foci and directrices. |
| **MACC.912.N-CN.1.3:** | Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers. |
| **MACC.912.N-CN.2.4:** | Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. |
| **MACC.912.N-CN.2.5:** | Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(–1 + √3\ i)^3 = 8$ because $(–1 + √3\ i)$ has modulus 2 and argument 120°. |
| **MACC.912.N-CN.2.6:** | Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints. |
| **MACC.912.N-CN.3.7:** | Solve quadratic equations with real coefficients that have complex solutions. |
| **MACC.912.N-CN.3.8:** | Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x – 2i)$. |
| **MACC.912.N-CN.3.9:** | Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. |
| **MACC.912.N-VM.3.10:** | Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse. |
| **MACC.912.N-VM.3.11:** | Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors. |

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| MACC.912.N-VM.3.12: | Work with 2 × 2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area. |
| MACC.912.N-VM.3.6: | Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network. |
| MACC.912.N-VM.3.7: | Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled. |
| MACC.912.N-VM.3.8: | Add, subtract, and multiply matrices of appropriate dimensions. |
| MACC.912.N-VM.3.9: | Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties. |
| MACC.912.S-CP.2.6: | Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model. |
| MACC.912.S-CP.2.7: | Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model. |
| MACC.912.S-CP.2.8: | Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B\|A) = P(B)P(A\|B), and interpret the answer in terms of the model. |
| MACC.912.S-CP.2.9: | Use permutations and combinations to compute probabilities of compound events and solve problems. |
| MACC.912.S-MD.1.1: | Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. |
| MACC.912.S-MD.1.2: | Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. |
| MACC.912.S-MD.1.3: | Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.* |
| MACC.912.S-MD.1.4: | Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the* |

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| | *number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?* |
| **MACC.912.S-MD.2.5:** | Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.<br><br>a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*<br>b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.* |
| **MACC.912.S-MD.2.6:** | Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). |
| **MACC.912.S-MD.2.7:** | Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). |
| **MACC.K12.MP.1.1:** | **Make sense of problems and persevere in solving them.**<br><br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the |

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| | approaches of others to solving complex problems and identify correspondences between different approaches. |
| MACC.K12.MP.2.1: | **Reason abstractly and quantitatively**.<br><br>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. |
| MACC.K12.MP.3.1: | **Construct viable arguments and critique the reasoning of others.**<br><br>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read |

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| | the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. |
| MACC.K12.MP.4.1: | **Model with mathematics.**<br><br>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. |
| MACC.K12.MP.5.1: | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, |

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| | and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. |
| MACC.K12.MP.6.1: | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. |
| MACC.K12.MP.7.1: | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. |

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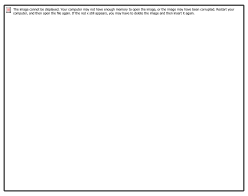
| **MACC.K12.MP.8.1:** | **Look for and express regularity in repeated reasoning.**<br><br>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. |



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| **MACC.912.N-CN.2.6:** | Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints. |
| **MACC.912.N-VM.1.1:** | Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., ***v***, ***\|v\|***, ***\|\|v\|\|***, ***v***). |
| **MACC.912.N-VM.1.2:** | Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point. |
| **MACC.912.N-VM.1.3:** | Solve problems involving velocity and other quantities that can be represented by vectors. |
| **MACC.912.N-VM.2.4:** | Add and subtract vectors.<br><br>a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.<br>b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.<br>c. Understand vector subtraction **v** – **w** as **v** + (–**w**), where –**w** is the additive inverse of **w**, with the same magnitude as **w** and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise. |
| **MACC.912.N-VM.2.5:** | Multiply a vector by a scalar.<br><br>a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as c  =  .<br>b. Compute the magnitude of a scalar multiple c**v** using \|\|c**v**\|\| = \|c\|v. Compute the direction of c**v** knowing that when \|c\|v ≠ 0, the direction of c**v** is either along **v** (for c > 0) or against **v** (for c < 0). |
| **MACC.K12.MP.1.1:** | **Make sense of problems and persevere in solving them.** |

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| | whether the results make sense, possibly improving the model if it has not served its purpose. |
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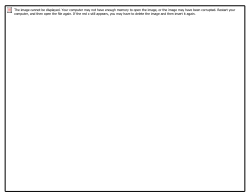

# Course: Probability & Statistics with Applications Honors- 1210300

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3614.aspx

## BASIC INFORMATION

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| **Course Title:** | Probability & Statistics with Applications Honors |
| **Course Number:** | 1210300 |
| **Course Abbreviated Title:** | PROB, STAT W/APPLS H |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Probablility and Statistics |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Type:** | Core |
| **Course Level:** | 3 |
| **Status:** | Draft - Board Approval Pending |
| **Honors?** | Yes |

## STANDARDS (49)

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| **LACC.1112.RST.1.3:** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| **LACC.1112.RST.2.4:** | Determine the meaning of symbols, key terms, and other domain- |

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| | specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| **LACC.1112.RST.3.7:** | Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| **LACC.1112.WHST.1.1:** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.<br>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented. |
| **LACC.1112.WHST.2.4:** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| **LACC.1112.WHST.3.9:** | Draw evidence from informational texts to support analysis, reflection, and research. |
| **LACC.910.SL.1.1:** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. |

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| | a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.<br>d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. |
| **LACC.910.SL.1.2:** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. |
| **LACC.910.SL.1.3:** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. |
| **LACC.910.SL.2.4:** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. |
| **MACC.912.S-CP.1.1:** | Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). |
| **MACC.912.S-CP.1.2:** | Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. |
| **MACC.912.S-CP.1.3:** | Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the |

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| | conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. |
| **MACC.912.S-CP.1.4:** | Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* |
| **MACC.912.S-CP.1.5:** | Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.* |
| **MACC.912.S-CP.2.6:** | Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model. |
| **MACC.912.S-CP.2.7:** | Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model. |
| **MACC.912.S-CP.2.8:** | Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B\|A) = P(B)P(A\|B), and interpret the answer in terms of the model. |
| **MACC.912.S-CP.2.9:** | Use permutations and combinations to compute probabilities of compound events and solve problems. |
| **MACC.912.S-IC.1.1:** | Understand statistics as a process for making inferences about population parameters based on a random sample from that population. |
| **MACC.912.S-IC.1.2:** | Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?* |
| **MACC.912.S-IC.2.3:** | Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. |
| **MACC.912.S-IC.2.4:** | Use data from a sample survey to estimate a population mean or |

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| | proportion; develop a margin of error through the use of simulation models for random sampling. |
| MACC.912.S-IC.2.5: | Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. |
| MACC.912.S-IC.2.6: | Evaluate reports based on data. |
| MACC.912.S-ID.1.1: | Represent data with plots on the real number line (dot plots, histograms, and box plots).<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| MACC.912.S-ID.1.2: | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| MACC.912.S-ID.1.3: | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| MACC.912.S-ID.1.4: | Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. |
| MACC.912.S-ID.2.5: | Summarize categorical data for two categories in two-way frequency |

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| | tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. |
| **MACC.912.S-ID.2.6:** | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.<br><br>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*<br>b. Informally assess the fit of a function by plotting and analyzing residuals.<br>c. Fit a linear function for a scatter plot that suggests a linear association.<br><br>Remarks/Examples |
| | Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.<br><br>S.ID.6b should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Exponential functions are limited to those with domains in the integers.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks are limited to exponential functions with domains not in the integers and trigonometric functions. |
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| **MACC.912.S-ID.3.7:** | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.<br>Remarks/Examples |

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| | Build on students' work with linear relationships in eighth grade and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure of how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9. |
| | |
| **MACC.912.S-ID.3.8:** | Compute (using technology) and interpret the correlation coefficient of a linear fit.<br>Remarks/Examples |
| | Build on students' work with linear relationships in eighth grade and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure of how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9. |
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| **MACC.912.S-ID.3.9:** | Distinguish between correlation and causation.<br>Remarks/Examples |
| | Build on students' work with linear relationships in eighth grade and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure of how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9. |
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| **MACC.912.S-MD.1.1:** | Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. |
| **MACC.912.S-MD.1.2:** | Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. |
| **MACC.912.S-MD.1.3:** | Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.* |

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| **MACC.912.S-MD.1.4:** | Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?* |
| **MACC.912.S-MD.2.5:** | Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.<br><br>a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*<br>b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.* |
| **MACC.912.S-MD.2.6:** | Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). |
| **MACC.912.S-MD.2.7:** | Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). |
| **MACC.K12.MP.1.1:** | **Make sense of problems and persevere in solving them.**<br><br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize |

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| | and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. |
| MACC.K12.MP.2.1: | **Reason abstractly and quantitatively**.<br><br>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. |
| MACC.K12.MP.3.1: | **Construct viable arguments and critique the reasoning of others.**<br><br>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense |

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| | and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. |
| MACC.K12.MP.4.1: | **Model with mathematics.**<br><br>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. |
| MACC.K12.MP.5.1: | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using |

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| | estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. |
| MACC.K12.MP.6.1: | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. |
| MACC.K12.MP.7.1: | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and |

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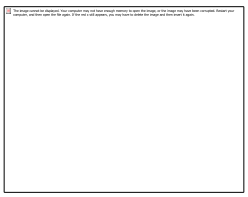
| | use that to realize that its value cannot be more than 5 for any real numbers x and y. |
| MACC.K12.MP.8.1: | **Look for and express regularity in repeated reasoning.**<br><br>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. |



# Course: Liberal Arts Mathematics 2- 1208300

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4870.aspx

## BASIC INFORMATION

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| **Course Title:** | Liberal Arts Mathematics 2 |
| **Course Number:** | 1208300 |
| **Grade Level(s):** | 9, 10, 11, 12 |
| **Course Abbreviated Title:** | LIB ARTS MATH 2 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Liberal Arts Mathematics |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Type:** | Core |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |

## STANDARDS (71)

**LACC.910.RST.1 Key Ideas and Details**

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| **LACC.910.RST.1.3 :** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date |

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| | Adopted or Revised: 12/10<br>Belongs to: Key Ideas and Details |

## LACC.910.RST.2 Craft and Structure

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

## LACC.910.RST.3 Integration of Knowledge and Ideas

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| **LACC.910.RST.3.7 :** | Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Integration of Knowledge and Ideas |

## LACC.910.SL.1 Comprehension and Collaboration

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| **LACC.910.SL.1.1 :** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.<br><br>a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. |

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| | d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## MA.912.F.3 Loans and Financing

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| **MA.912.F.3.14 :** | Compare the total cost for a set purchase price using a fixed rate, adjustable rate, and a balloon mortgage.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Find the total cost for a $225,000 mortgage for the following options: |

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| | a) 30 year fixed rate mortgage with a rate of 6.35 %<br>b) 3/1 ARM with a rate of 6.75% with a maximum adjustment of 2 points per year with a cap of 6 points for 30 years c) 10 year balloon mortgage with a 30 year amortization schedule with a rate of 5.5%<br><br>Next describe the benefits and detriments of each mortgage option. |
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| **MA.912.F.3.2 :** | Analyze credit scores and reports.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Explain how each of the following categories affects a credit score: 1) past payment history, 2) amount of debt, 3) public records information, 4) length of credit history, and 5) the number of recent credit inquiries. |
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| **MA.912.F.3.1 :** | Compare the advantages and disadvantages of using cash versus a credit card.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Compare paying for a tank of gasoline in cash or paying with a credit card over a period of time. |
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| **MA.912.F.3.10 :** | Calculate the effects on the monthly payment in the change of interest rate based on an adjustable rate mortgage.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: You would like to borrow $245,000 using a 30-year, 1-year ARM indexed to the 1-year Treasury security with a 2.75 percent margin and 2/6 caps (2 percent per year and 6 percent lifetime). The initial interest rate on this loan is 2.75 percent. The lender is charging you 1.50 points and $1,200 in miscellaneous fees |

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| | to close the loan.<br><br>a) What is the initial payment on this mortgage?<br>b) If the 1- year Treasury security is yielding 2.25 percent at the first adjustment date, what is your payment on this loan during the second year?<br>c) Suppose that the 1-year Treasury is yielding 2.75 percent at the second adjustment<br>date. What is the new payment on this loan during the third year?<br>d) Assuming that you pay of the loan at the end of the third year, what yield did the lender earn on this loan?<br><br>Now resolve all four parts of the last problem assuming that the loan has a 20 percent payment cap instead of 2/6 interest rate caps.<br>a) What is the initial payment on this mortgage?<br>b) If the 1- year Treasury security is yielding 2.25 percent at the first adjustment date, what is your payment on this loan during the second year?<br>c) Suppose that the 1-year Treasury is yielding 2.75 percent at the second<br>adjustment date. What is the new payment on this loan during the third year?<br>d) Assuming that you pay of the loan at the end of the third year, what yield did the lender earn on this loan? |
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| **MA.912.F.3.11 :** | Calculate the final pay out amount for a balloon mortgage.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: If you have a 5-year balloon mortgage with a 15 year amortization schedule, a rate of 6.5%, and a $100,000 loan what would the remaining balance be after the end of the fifth year? |
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| **MA.912.F.3.12 :** | Compare the cost of paying a higher interest rate and lower points versus a lower interest rate and more points.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing |

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| | Remarks/Examples |
| | Example: Assuming all of the following were originally 15 year mortgages, which fixed rate mortgage cost the mortgagor the least?<br><br>a) 7.375% interest + 0 points paid off in 10 years<br>b) 7.375% interest + 0 points paid off in 7 years<br>c) 7 % interest + 3 points paid off in 10 years<br>d) 7 % interest + 3 points paid off in 7 years |
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| **MA.912.F.3.13 :** | Calculate the total amount paid for the life of a loan for a house including the down payment, points, fees, and interest.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Calculate the total amount paid for a $100,000 house with a 15 year fixed rate loan at 5.65% if the mortgagor pays a $25,000 down payment; 2 points; 1% origination fee; maximum brokerage fee on a net loan; and State Documentary Stamps on the deed at a tax rate of $.70 per $100, the mortgage note at a tax rate of $.35 per $100, a and Intangible Tax at a rate of .002. |
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| **MA.912.F.3.3 :** | Calculate the finance charges and total amount due on a credit card bill.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Calculate the finance charge each month and the total amount paid for 5 months if you charged $500 on your credit card but you can only afford to pay $100 each month. Your credit card has a monthly periodic finance rate of .688% and an annual finance rate of 8.9%. |
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| **MA.912.F.3.4 :** | Compare the advantages and disadvantages of deferred payments.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Compare paying on a college loan between a Stafford |

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| | loan or a PLUS loan two years after graduation |
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| **MA.912.F.3.5 :** | Calculate deferred payments.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: You want to buy a sofa that cost $899. Company A will let you pay $100 down and then pay the remaining amount over 3 years at 22% interest. Company B will not make you pay a down payment and they will defer payments for one year. However, you will accrue interest at a rate of 20 % interest during that first year. Starting the second year you will have to pay the new amount for 2 years at a rate of 26 % interest. Which deal is better and why? Calculate the total amount paid for both deals. Example: An electronics company advertises that you don't have to pay anything for 2 years. If you bought a big screen TV for $2999 on January 1st what would your balance be two years later if you haven't made any payments assuming an interest rate of 23.99%? What would your monthly payments be to pay the TV off in 2 years? What did the TV really cost you? |
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| **MA.912.F.3.6 :** | Calculate total cost of purchasing consumer durables over time given different down payments, financing options, and fees.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Find the actual cost of a car and interest charged with a showroom price of $15,999, down payment of $1,600, rate of interest of 12%, and 30 monthly payments. |
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| **MA.912.F.3.7 :** | Calculate the following fees associated with a mortgage:<br>• discount points<br>• origination fee<br>• maximum brokerage fee on a net or gross loan<br>• documentary stamps<br>• prorated expenses (interest, county and/or city property |

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| | taxes, and mortgage on an assumed mortgage)<br><br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example:<br>1) Calculate the total amount of fees on a $230,000 mortgage if the lender: charges 2 points and a 0.5% origination fee.<br>2) Calculate the maximum brokerage fee on a net loan of $184,000,<br>3) A seller has agreed to pay the Documentary Stamps on a property worth $150,000 (selling price). The purchaser is responsible for the Documentary Stamps on the $75,000 mortgage being assumed and the new $25,000 second mortgage. Calculate all applicable amounts.<br>4) A $185,340 loan carries at a 5.625% annual interest rate. Using the 365 day method, how much interest would a buyer owe for the 22 days remaining for a May closing. |
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| **MA.912.F.3.8 :** | Substitute to solve a variety of mortgage formulas, including but not limited to Front End Ratio, Total Debt-to-Income Ratio, Loan-to-Value Ratio (LTV), Combined Loan-to-Value Ratio (CLTV), and Amount of Interest Paid Over the Life of a Loan.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |
| | Example: Mr. Lindsey purchased a home for $129,000. It was appraised at $95,000. He was assuming a $52,000 first mortgage, and he obtained a 2nd mortgage for the lenders maximum CLTV of 90%. What would be the amount of the down payment? Example: Calculate the interest scheduled to be paid over the life of a $190,000 mortgage loan with a term of 30 years and fixed monthly payment of $1250.50. |
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| **MA.912.F.3.9 :** | Calculate the total amount to be paid over the life of a fixed rate loan.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Loans and Financing<br>Remarks/Examples |

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| | Example: Calculate the total amount to be paid for a $275,000 loan at 5.75% interest over 30 years |
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## LACC.910.WHST.1 Text Types and Purposes

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| **LACC.910.WHST.1.1 :** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.<br>c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented.<br><br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Text Types and Purposes |

## LACC.910.WHST.2 Production and Distribution of Writing

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| **LACC.910.WHST.2.4 :** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Production and Distribution of Writing |

## LACC.910.WHST.3 Research to Build and Present Knowledge

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

## MA.912.F.4 Individual Financial Planning

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| **MA.912.F.4.1 :** | Develop personal budgets that fit within various income brackets.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Develop a budget worksheet that includes typical expenses such as housing, transportation, utilities, food, medical expenses, and miscellaneous expenses. Add categories for savings toward your own financial goals, and determine the monthly income needed, before taxes, to meet the requirements of your budget. |
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| **MA.912.F.4.2 :** | Explain cash management strategies including debit accounts, checking accounts, and savings accounts.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Explain the difference between a checking account and a savings account. Why might you want to have both types of accounts? Why might you want to have only one or the other type? Why is it rare to find someone who has a savings account but no checking account? |
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| **MA.912.F.4.3 :** | Calculate net worth.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Jose is trying to prepare a balance sheet for the end of the year. His balances and details for the year are given in the table below. Write a balance sheet of Jose's liabilities and assets, and compute his net worth. |
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| **MA.912.F.4.4 :** | Establish a plan to pay off debt.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Suppose you currently have a balance of $4500 on a credit card that charges 18% annual interest. What monthly payment would you have to make in order to pay off the card in 3 years, assuming you do not make any more charges to the card? |
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**MACC.912.A-APR.2 Understand the relationship between zeros and factors of polynomials**

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| **MACC.912.A-APR.2.2 :** | Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Understand the relationship between zeros and factors of polynomials |
| **MACC.912.A-APR.2.3 :** | Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.<br><br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Understand the relationship between zeros and factors of polynomials<br>Remarks/Examples |
| | **Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to quadratic and cubic polynomials in which linear and quadratic factors are available. For example, find the zeros of $(x - 2)(x^2 - 9)$.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks include quadratic, cubic, and quartic polynomials and polynomials for which factors are not provided. For example, find the zeros of $(x^2 - 1)( x^2 + 1)$ |
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**MACC.912.A-APR.3 Use polynomial identities to solve problems**

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| **MACC.912.A-APR.3.4** : | Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Use polynomial identities to solve problems |

## MACC.912.A-APR.4 Rewrite rational expressions

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| **MACC.912.A-APR.4.6** : | Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Rewrite rational expressions<br>Remarks/Examples<br>**Algebra 2 - Fluency Recommendations**<br><br>This standard sets an expectation that students will divide polynomials with remainder by inspection in simple cases. |

## MACC.912.A-REI.2 Solve equations and inequalities in one variable

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| **MACC.912.A-REI.2.4** : | Solve quadratic equations in one variable.<br><br>a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.<br>b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Solve equations and inequalities in one variable |

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| | Remarks/Examples |
| | **Algebra 1, Unit 4**: Students should learn of the existence of the complex number system, but will not solve quadratics with complex solutions until Algebra II.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.<br><br>Note, solving a quadratic equation by factoring relies on the connection between zeros and factors of polynomials (cluster A-APR.B). Cluster A-APR.B is formally assessed in A2.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) In the case of equations that have roots with nonzero imaginary parts, students write the solutions as a ± bi for real numbers a and b. |
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## MACC.912.A-REI.3 Solve systems of equations

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| **MACC.912.A-REI.3.7 :** | Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line y = –3x and the circle $x^2 + y^2 = 3$.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Solve systems of equations<br>Remarks/Examples |
| | Algebra 1 Honors, Unit 4: Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2= 1$ and y = (x+1)/2 leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2+4^2=5^2$.<br><br>Algebra 2, Unit 1: Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2= 1$ |

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| | and y = (x+1)/2 leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2+4^2=5^2$. |
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## MACC.912.A-SSE.1 Interpret the structure of expressions

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| **MACC.912.A-SSE.1.2 :** | Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret the structure of expressions<br>Remarks/Examples |
| | **Algebra 1, Unit 4**: Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Unit 1 to rational exponents focusing on those that represent square or cube roots.<br><br>**Algebra 2 - Fluency Recommendations**<br><br>The ability to see structure in expressions and to use this structure to rewrite expressions is a key skill in everything from advanced factoring (e.g., grouping) to summing series to the rewriting of rational expressions to examine the end behavior of the corresponding rational function.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to numerical expressions and polynomial expressions in one variable. ii) Examples: Recognize 532 + 472 as a difference of squares and see an opportunity to rewrite it in the easier-to-evaluate form (53 + 47)(53 + 47). See an opportunity to rewrite $a^2$ + 9a + 14 as (a+ 7)(a+ 2).<br><br>**Algebra 2 Assessment and Limits and Clarifications**<br><br>i) Tasks are limited to polynomial, rational, or exponential expressions. ii) Examples: see $x^4 – y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as ($x^2$ |

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| | $-y^2)(x^2 + y^2)$. In the equation $x^2 + 2x + 1 + y^2 = 9$, see an opportunity to rewrite the first three terms as $(x+1)^2$, thus recognizing the equation of a circle with radius 3 and center (-1, 0). See $(x^2 + 4)/(x^2 + 3)$ as $( (x^2+3) + 1 )/(x^2+3)$, thus recognizing an opportunity to write it as $1 + 1/(x^2 + 3)$. |
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**MACC.912.A-SSE.2 Write expressions in equivalent forms to solve problems**

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| **MACC.912.A-SSE.2.3:** | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.<br><br>a. Factor a quadratic expression to reveal the zeros of the function it defines.<br>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.<br>c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression*  *can be rewritten as*  ≈  *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Write expressions in equivalent forms to solve problems<br>Remarks/Examples |
| | **Algebra 1, Unit 4**: It is important to balance conceptual understanding and procedural fluency in work with equivalent expressions. For example, development of skill in factoring and completing the square goes hand-in-hand with understanding what different forms of a quadratic expression reveal.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context. As described in the standard, there is an interplay between the mathematical structure of the expression and the structure of the situation such that choosing and producing an equivalent form of the expression reveals |

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| | something about the situation.<br><br>ii) Tasks are limited to exponential expressions with integer exponents.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context. As described in the standard, there is an interplay between the mathematical structure of the expression and the structure of the situation such that choosing and producing an equivalent form of the expression reveals something about the situation.<br><br>ii) Tasks are limited to exponential expressions with rational or real exponents. |
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| **MACC.912.A-SSE.2.4 :** | Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.*<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Write expressions in equivalent forms to solve problems |

**MACC.912.F-IF.3 Analyze functions using different representations**

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| **MACC.912.F-IF.3.7 :** | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.<br><br>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.<br>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.<br>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.<br>d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.<br>e. Graph exponential and logarithmic functions, showing |

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| | intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 10/10<br>Belongs to: Analyze functions using different representations<br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$ |
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| **MACC.912.F-IF.3.8 :** | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.<br><br>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.<br>b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as y =*  , *y =*  , *y =*  , *y =*  , *and classify them as representing exponential growth or decay.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Analyze functions using different representations<br>Remarks/Examples |
| | Algebra 1, Unit 5: Note that this unit, and in particular in F.IF.8b, extends the work begun in Unit 2 on exponential functions with integer exponents. |
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| **MACC.912.F-IF.3.9 :** | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or |

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| | by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Analyze functions using different representations<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$<br><br>**Algebra 1, Unit 5**: For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic. Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.6.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>The function types listed here are the same as those listed in the Algebra II column for standards F-IF.4 and F-IF.6. |
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**MACC.912.F-LE.1 Construct and compare linear, quadratic, and exponential models and solve problems**

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| **MACC.912.F-LE.1.1 :** | Distinguish between situations that can be modeled with linear functions and with exponential functions.<br><br>a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.<br>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.<br>c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Construct and compare linear, quadratic, and exponential models and solve problems |
| **MACC.912.F-LE.1.2 :** | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Construct and compare linear, quadratic, and exponential models and solve problems<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: In constructing linear functions in F.LE.2, draw on and consolidate previous work in Grade 8 on finding equations for lines and linear functions (8.EE.6, 8.F.4).<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to constructing linear and exponential functions in simple context (not multi- step).<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks will include solving multi-step problems by constructing linear and exponential functions. |
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| **MACC.912.F-LE.1.3 :** | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Construct and compare linear, quadratic, and exponential models and solve problems<br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.LE.3, limit to comparisons between linear and exponential models.<br><br>Algebra 1, Unit 5: Compare linear and exponential growth to quadratic growth. |
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| **MACC.912.F-LE.1.4 :** | For exponential models, express as a logarithm the solution to  = d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Construct and compare linear, quadratic, and exponential models and solve problems |

## MACC.912.F-LE.2 Interpret expressions for functions in terms of the situation they model

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| **MACC.912.F-LE.2.5 :** | Interpret the parameters in a linear or exponential function in terms of a context.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret expressions for functions in terms of the situation they model<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: Limit exponential functions to those of the form $f(x) = b^x + k$.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Exponential functions are limited to those with domains in the integers. |

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| | **Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks are limited to exponential functions with domains not in the integers. |
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**MACC.912.G-GPE.1 Translate between the geometric description and the equation for a conic section**

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| **MACC.912.G-GPE.1.1**<br>: | Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Translate between the geometric description and the equation for a conic section |
| **MACC.912.G-GPE.1.2**<br>: | Derive the equation of a parabola given a focus and directrix.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Translate between the geometric description and the equation for a conic section |

**MACC.912.G-GPE.2 Use coordinates to prove simple geometric theorems algebraically**

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| **MACC.912.G-GPE.2.4**<br>: | Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use coordinates to prove simple geometric theorems algebraically<br>Remarks/Examples |
| | **Geometry - Fluency Recommendations**<br><br>Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields. |
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| **MACC.912.G-GPE.2.5**: | Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use coordinates to prove simple geometric theorems algebraically<br>Remarks/Examples |
| | **Geometry - Fluency Recommendations**<br><br>Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields. |
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**MACC.912.N-CN.1 Perform arithmetic operations with complex numbers.**

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| **MACC.912.N-CN.1.1**: | Know there is a complex number i such that $i^2 = -1$, and every complex number has the form a + bi with a and b real.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Perform arithmetic operations with complex numbers. |
| **MACC.912.N-CN.1.2**: | Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Perform arithmetic operations with complex numbers. |

**MACC.912.N-CN.3 Use complex numbers in polynomial identities and equations.**

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| **MACC.912.N-CN.3.7**: | Solve quadratic equations with real coefficients that have complex solutions.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Use complex numbers in polynomial identities and equations. |

**MACC.912.N-RN.1 Extend the properties of exponents to rational exponents.**

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| **MACC.912.N-RN.1.1**: | Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of |

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| | rational exponents. *For example, we define*  *to be the cube root of 5 because we want*  =  *to hold, so*  *must equal 5.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Extend the properties of exponents to rational exponents.<br>Remarks/Examples |
| | Algebra 1, Unit 2: In implementing the standards in curriculum, these standards should occur before discussing exponential functions with continuous domains. |
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| **MACC.912.N-RN.1.2 :** | Rewrite expressions involving radicals and rational exponents using the properties of exponents.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Extend the properties of exponents to rational exponents.<br>Remarks/Examples |
| | Algebra 1, Unit 2: In implementing the standards in curriculum, these standards should occur before discussing exponential functions with continuous domains. |
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**MACC.912.N-RN.2 Use properties of rational and irrational numbers.**

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| **MACC.912.N-RN.2.3 :** | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use properties of rational and irrational numbers.<br>Remarks/Examples |
| | Algebra 1 Unit 5: Connect N.RN.3 to physical situations, e.g., finding the perimeter of a square of area 2. |
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**MACC.912.S-CP.1 Understand independence and conditional probability and use them to interpret data**

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| **MACC.912.S-CP.1.4 :** | Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. |

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| | Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand independence and conditional probability and use them to interpret data |
| **MACC.912.S-CP.1.5 :** | Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand independence and conditional probability and use them to interpret data |

## MACC.912.S-IC.1 Understand and evaluate random processes underlying statistical experiments

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| **MACC.912.S-IC.1.1 :** | Understand statistics as a process for making inferences about population parameters based on a random sample from that population.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Understand and evaluate random processes underlying statistical experiments |
| **MACC.912.S-IC.1.2 :** | Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand and evaluate random processes underlying statistical experiments |

## MACC.912.S-IC.2 Make inferences and justify conclusions from sample surveys, experiments, and observational studies

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| **MACC.912.S-IC.2.3 :** | Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how |

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| | randomization relates to each.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make inferences and justify conclusions from sample surveys, experiments, and observational studies |
| **MACC.912.S-IC.2.4 :** | Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make inferences and justify conclusions from sample surveys, experiments, and observational studies |
| **MACC.912.S-IC.2.5 :** | Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make inferences and justify conclusions from sample surveys, experiments, and observational studies |
| **MACC.912.S-IC.2.6 :** | Evaluate reports based on data.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make inferences and justify conclusions from sample surveys, experiments, and observational studies |

## MACC.K12.MP.1 Make sense of problems and persevere in solving them.

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| **MACC.K12.MP.1.1 :** | **Make sense of problems and persevere in solving them.**<br><br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw |

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| | diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Make sense of problems and persevere in solving them. |

**MACC.K12.MP.2 Reason abstractly and quantitatively.**

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| **MACC.K12.MP.2.1 :** | **Reason abstractly and quantitatively**.<br><br>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Reason abstractly and quantitatively. |

**MACC.K12.MP.3 Construct viable arguments and critique the reasoning of others.**

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| **MACC.K12.MP.3.1 :** | **Construct viable arguments and critique the reasoning of others.**<br><br>Mathematically proficient students understand and use stated |

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| | assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Construct viable arguments and critique the reasoning of others. |

**MACC.K12.MP.4 Model with mathematics.**

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| **MACC.K12.MP.4.1 :** | **Model with mathematics.**<br><br>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a |

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| | practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Model with mathematics. |

**MACC.K12.MP.5 Use appropriate tools strategically.**

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| **MACC.K12.MP.5.1 :** | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use appropriate tools strategically. |

## MACC.K12.MP.6 Attend to precision.

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| **MACC.K12.MP.6.1 :** | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Attend to precision. |

## MACC.K12.MP.7 Look for and make use of structure.

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| **MACC.K12.MP.7.1 :** | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. |

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| | Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Look for and make use of structure. |

**MACC.K12.MP.8 Look for and express regularity in repeated reasoning.**

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| **MACC.K12.MP.8.1 :** | **Look for and express regularity in repeated reasoning.**<br><br>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Look for and express regularity in repeated reasoning. |

## RELATED GLOSSARY TERM DEFINITIONS (13)

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| **Difference:** | A number that is the result of subtraction |
| **Discount:** | An amount that is subtracted from the regular price of an item. |
| **Formula:** | A rule that shows the relationship between two or more quantities; |

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| | involving numbers and/or variables. |
| **Gross:** | A quantity made of 144 items. |
| **Length:** | A one-dimensional measure that is the measurable property of line segments. |
| **Net:** | A two-dimensional diagram that can be folded or made into a three-dimensional figure. |
| **Percent:** | Per hundred; a special ratio in which the denominator is always 100. The language of percent may change depending on the context. The most common use is in part-whole contexts, for example, where a subset is 40 percent of another set. A second use is change contexts, for example, a set increases or decreases in size by 40 percent to become 140% or 60% of its original size. A third use involves comparing two sets, for example set A is 40% of the size of set B, in other words, set B is 250 percent of set A. |
| **Point:** | A specific location in space that has no discernable length or width. |
| **Rate:** | A ratio that compares two quantities of different units. |
| **Set:** | A set is a finite or infinite collection of distinct objects in which order has no significance. |
| **Table:** | A data display that organizes information about a topic into categories using rows and columns. |
| **Ratio:** | The comparison of two quantities, the ratio of a and b is a:b or a to b or a/b, where $b \neq 0$. |
| **Term:** | A number, variable, product, or quotient in an expression (e.g. $5x^2$, -2y, 8). A term is not a sum or difference (For example, 5x2 + 6 has two terms, 5x2 and 6.) |

# Course: Liberal Arts Mathematics 1- 1208290

**Direct link to this page:**http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4869.aspx

## BASIC INFORMATION

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|---|---|
| **Course Title:** | Liberal Arts Mathematics 1 |
| **Course Number:** | 1208290 |
| **Grade Level(s):** | 9, 10, 11, 12 |
| **Course Abbreviated Title:** | LIB ARTS MATH 1 |
| **Course Path:** | **Section:** Grades PreK to 12 Education Courses **Grade Group:** Grades 9 to 12 and Adult Education Courses **Subject:** Mathematics **SubSubject:** Liberal Arts Mathematics |
| **Number of Credits:** | One credit (1) |
| **Course length:** | Year (Y) |
| **Course Type:** | Core |
| **Course Level:** | 2 |
| **Status:** | Draft - Board Approval Pending |

## STANDARDS (71)

**LACC.910.RST.1 Key Ideas and Details**

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| **LACC.910.RST.1.3 :** | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date |

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| | Adopted or Revised: 12/10<br>Belongs to: Key Ideas and Details |

## LACC.910.RST.2 Craft and Structure

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| **LACC.910.RST.2.4 :** | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Craft and Structure |

## LACC.910.RST.3 Integration of Knowledge and Ideas

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| **LACC.910.RST.3.7 :** | Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Integration of Knowledge and Ideas |

## LACC.910.SL.1 Comprehension and Collaboration

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| **LACC.910.SL.1.1 :** | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.<br><br>a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.<br>b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.<br>c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. |

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| | d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.2 :** | Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |
| **LACC.910.SL.1.3 :** | Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Comprehension and Collaboration |

## LACC.910.SL.2 Presentation of Knowledge and Ideas

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| **LACC.910.SL.2.4 :** | Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Presentation of Knowledge and Ideas |

## MA.912.F.4 Individual Financial Planning

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| **MA.912.F.4.11 :** | Purchase stock with a set amount of money, and follow the process through gains, losses, and selling.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: At the beginning of the year, Mary invests $3000, buying $1500 of Stock A at $30 per share, $1000 of Stock B at $40 per |

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| | share, and putting $500 in a money market account paying 5% interest. At the end of the year, stock A is priced at $34 per share, and stock B is priced at $38 per share. What is the overall rate of return for the year on Mary's investments? |
| | |
| **MA.912.F.4.12 :** | Compare and contrast income from purchase of common stock, preferred stock, and bonds.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Explain the difference between common and preferred stock. What are some reasons people might choose common stock over preferred stock? Which type of stock is more prevalent in the market today?<br><br>Example: Compare corporate bonds, government bonds, and common stock as investments with respect to the following attributes: rates of return, price risk, default risk, and taxability of earnings |
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| **MA.912.F.4.10 :** | Analyze diversification in investments.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning |
| **MA.912.F.4.13 :** | Given current exchange rates be able to convert from one form of currency to another.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 09/07<br>Belongs to: Individual Financial Planning<br>Remarks/Examples |
| | Example: Suppose you are traveling in Europe, and while there you withdraw 150 Euros to pay for expenses. If the exchange rate at the time was $1.27 per Euro, how much money (in dollars) was charged to your bank account? |
| | |
| **MA.912.F.4.14 :** | Use data to compare historical rates of return on investments with investment claims to make informed decisions and identify potential fraud.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07 |

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| | Belongs to: Individual Financial Planning |

## LACC.910.WHST.1 Text Types and Purposes

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| **LACC.910.WHST.1.1 :** | Write arguments focused on *discipline-specific content.*<br><br>a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.<br>b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.<br>c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.<br>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.<br>e. Provide a concluding statement or section that follows from or supports the argument presented.<br><br>Cognitive Complexity: Level 4: Extended Thinking &Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Text Types and Purposes |

## LACC.910.WHST.2 Production and Distribution of Writing

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| **LACC.910.WHST.2.4 :** | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Production and Distribution of Writing |

## LACC.910.WHST.3 Research to Build and Present Knowledge

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| **LACC.910.WHST.3.9 :** | Draw evidence from informational texts to support analysis, reflection, and research. |

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| | Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Research to Build and Present Knowledge |

## MA.912.F.1 Simple and Compound Interest

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| **MA.912.F.1.1 :** | Explain the difference between simple and compound interest.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Simple and Compound Interest<br>Remarks/Examples |
| | Example: Compare the similarities and differences for calculating the final amount of money in your savings account based on simple interest or compound interest. |
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| **MA.912.F.1.2 :** | Solve problems involving compound interest.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Simple and Compound Interest<br>Remarks/Examples |
| | Example: Find the amount of money on deposit at the end of 5 years if you started with $500 and it was compounded quarterly at 6 % interest. Example: Joe won $25,000 in the lottery. How many years will it take at 6% interest compounded yearly for his money to double? |
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| **MA.912.F.1.3 :** | Demonstrate the relationship between simple interest and linear growth.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Simple and Compound Interest<br>Remarks/Examples |
| | Example: Find the account balance at the end of each month for a 5 month span for $1500 @ 3 % interest based on simple interest for 1 year. Graph this scenario and explain if this is a linear or exponential problem. |
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| **MA.912.F.1.4 :** | Demonstrate the relationship between compound interest and exponential growth.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07 |

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| | Belongs to: Simple and Compound Interest<br>Remarks/Examples |
| | Example: Using an exponential function, find the account balance at the end of 4 years if you deposited $1300 in an account paying 3.5% interest compounded annually. Graph the scenario. |
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## MA.912.F.2 Net Present and Net Future Value (NPV and NFV)

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| **MA.912.F.2.1 :** | Calculate the future value of a given amount of money with and without technology.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Net Present and Net Future Value (NPV and NFV)<br>Remarks/Examples |
| | Example: Suppose you have $750 on January 1, 2007. If you deposit this in an account paying 5% interest, compounded quarterly, how much money will be in the account on January 1, 2012? Example: Suppose you deposit $400 into an account at the beginning of each year, starting Jan 1, 2007. If the account pays 6% interest, compounded annually, how much will be in the account at the end of 5 years? |
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| **MA.912.F.2.2 :** | Calculate the present value of a certain amount of money for a given length of time in the future with and without technology.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Net Present and Net Future Value (NPV and NFV)<br>Remarks/Examples |
| | Example: A five year, zero-coupon bond pays 5% annual interest, and has a face value of $1,000. If the bond matures on Dec 31, 2010, what was the original purchase price of the bond? Example: Find the present value of an annuity paying $500 per year for 10 years at 6% annual interest. |
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## MA.912.F.5 Economic Concepts

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| **MA.912.F.5.1 :** | Demonstrate how price and quantity demanded relate, how price and quantity supplied relate, and how price changes or price controls affect distribution and allocation in the economy. |

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| | Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 09/07<br>Belongs to: Economic Concepts |
| **MA.912.F.5.2 :** | Use basic terms and indicators associated with levels of economic performance and the state of the economy.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 09/07<br>Belongs to: Economic Concepts |

## MACC.912.A-APR.1 Perform arithmetic operations on polynomials

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| **MACC.912.A-APR.1.1 :** | Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Perform arithmetic operations on polynomials<br>Remarks/Examples |
| | **Algebra 1 - Fluency Recommendations**<br><br>Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.<br><br>Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of x. |
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## MACC.912.A-CED.1 Create equations that describe numbers or relationships

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| **MACC.912.A-CED.1.1 :** | Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Create equations that describe numbers or relationships<br>Remarks/Examples |
| | **Algebra 1, Unit 1**: Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, |

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| | limit to situations requiring evaluation of exponential functions at integer inputs.<br><br>**Algebra 1, Unit 4**: Extend work on linear and exponential equations in Unit 1 to quadratic equations.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to linear, quadratic, or exponential equations with integer exponents.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to exponential equations with rational or real exponents and rational functions.<br><br>ii) Tasks have a real-world context. |
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| **MACC.912.A-CED.1.2:** | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Create equations that describe numbers or relationships<br>Remarks/Examples |
| | Algebra 1, Unit 1: Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs.<br><br>Algebra 1, Unit 4: Extend work on linear and exponential equations in Unit 1 to quadratic equations. |
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| **MACC.912.A-CED.1.3:** | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Create equations that describe numbers or relationships |

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| | Remarks/Examples |
| | Algebra 1, Unit 1: Limit A.CED.3 to linear equations and inequalities. |
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| **MACC.912.A-CED.1.4 :** | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Create equations that describe numbers or relationships<br>Remarks/Examples |
| | Algebra 1, Unit 1: Limit A.CED.4 to formulas which are linear in the variable of interest.<br><br>Algebra 1, Unit 4: Extend A.CED.4 to formulas involving squared variables. |
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## MACC.912.G-CO.4 Make geometric constructions

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| **MACC.912.G-CO.4.13 :** | Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make geometric constructions |
| **MACC.912.G-CO.4.12 :** | Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Make geometric constructions<br>Remarks/Examples |
| | **Geometry - Fluency Recommendations**<br><br>Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric |

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| | phenomenon and can lead to conjectures and proofs. |
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**MACC.912.G-GMD.1 Explain volume formulas and use them to solve problems**

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| **MACC.912.G-GMD.1.3 :** | Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Explain volume formulas and use them to solve problems |

**MACC.912.A-REI.1 Understand solving equations as a process of reasoning and explain the reasoning**

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| **MACC.912.A-REI.1.1 :** | Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Understand solving equations as a process of reasoning and explain the reasoning<br>Remarks/Examples |
| | **Algebra 1, Unit 1**: Students should focus on and master A.REI.1 for linear equations and be able to extend and apply their reasoning to other types of equations in future courses. Students will solve exponential equations with logarithms in Algebra II.<br><br>**Algebra 1 Assessment Limits and Clarification**<br><br>i) Tasks are limited to quadratic equations.<br><br>**Algebra 2 Assessment Limits and Clarification**<br><br>i) Tasks are limited to simple rational or radical equations. |
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| **MACC.912.A-REI.1.2 :** | Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date |

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| | Adopted or Revised: 12/10<br>Belongs to: Understand solving equations as a process of reasoning and explain the reasoning |

## MACC.912.A-REI.2 Solve equations and inequalities in one variable

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| **MACC.912.A-REI.2.3 :** | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Solve equations and inequalities in one variable<br>Remarks/Examples |
| | **Algebra 1, Unit 1**: Extend earlier work with solving linear equations to solving linear inequalities in one variable and to solving literal equations that are linear in the variable being solved for. Include simple exponential equations that rely only on application of the laws of exponents, such as $5^x=125$ or $2^x=1/16$<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.<br><br>Note, solving a quadratic equation by factoring relies on the connection between zeros and factors of polynomials (cluster A-APR.B). Cluster A-APR.B is formally assessed in A2.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) In the case of equations that have roots with nonzero imaginary parts, students write the solutions as a ± bi for real numbers a and b. |
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## MACC.912.A-REI.3 Solve systems of equations

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| **MACC.912.A-REI.3.5 :** | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple |

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| | of the other produces a system with the same solutions.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Solve systems of equations<br>Remarks/Examples |
| | Algebra 1, Unit 2: Build on student experiences graphing and solving systems of linear equations from middle school to focus on justification of the methods used. Include cases where the two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution); connect to GPE.5 when it is taught in Geometry, which requires students to prove the slope criteria for parallel lines. |
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| **MACC.912.A-REI.3.6 :** | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.<br><br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Solve systems of equations<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: Build on student experiences graphing and solving systems of linear equations from middle school to focus on justification of the methods used. Include cases where the two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution); connect to GPE.5 when it is taught in Geometry, which requires students to prove the slope criteria for parallel lines.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i)i) Tasks have a real-world context.<br><br>ii) Tasks have hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).<br><br>Note, solving a quadratic equation by factoring relies on the connection between zeros and factors of polynomials (cluster A- |

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| | APR.B). Cluster A-APR.B is formally assessed in A2.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks are limited to 3x3 systems. |
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## MACC.912.A-REI.4 Represent and solve equations and inequalities graphically

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| **MACC.912.A-REI.4.10 :** | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Represent and solve equations and inequalities graphically<br>Remarks/Examples |
| | Algebra 1, Unit 2: For A.REI.10, focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses. |
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| **MACC.912.A-REI.4.11 :** | Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Represent and solve equations and inequalities graphically<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For A.REI.11, focus on cases where f(x) and g(x) are linear or exponential.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks that assess conceptual understanding of the indicated concept may involve any of the function types mentioned in the standard except exponential and logarithmic functions. |

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| | ii) Finding the solutions approximately is limited to cases where f(x) and g(x) are polynomial functions.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks may involve any of the function types mentioned in the standard. |
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| **MACC.912.A-REI.4.12 :** | Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Represent and solve equations and inequalities graphically |

## MACC.912.A-SSE.1 Interpret the structure of expressions

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| **MACC.912.A-SSE.1.1 :** | Interpret expressions that represent a quantity in terms of its context.<br><br>a. Interpret parts of an expression, such as terms, factors, and coefficients.<br>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret as the product of P and a factor not depending on P.*<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret the structure of expressions<br>Remarks/Examples |
| | **Algebra 1 - Fluency Recommendations**<br><br>A-SSE.1.1b - Fluency in transforming expressions and chunking (seeing parts of an expression as a single object) is essential in factoring, completing the square, and other mindful algebraic calculations. |

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| | **Algebra 1, Unit 1**: Limit to linear expressions and to exponential expressions with integer exponents.<br><br>**Algebra 1, Unit 4**: Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Unit 1 to rational exponents focusing on those that represent square or cube roots. |
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**MACC.912.F-IF.1 Understand the concept of a function and use function notation**

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| **MACC.912.F-IF.1.1 :** | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Understand the concept of a function and use function notation<br>Remarks/Examples |
| | Algebra 1, Unit 2: Students should experience a variety of types of situations modeled by functions. Detailed analysis of any particular class of functions at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.<br>Draw examples from linear and exponential functions. |
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| **MACC.912.F-IF.1.2 :** | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand the concept of a function and use function notation<br>Remarks/Examples |
| | Algebra 1, Unit 2: Students should experience a variety of types of situations modeled by functions. Detailed analysis of any particular class of functions at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.<br>Draw examples from linear and exponential functions. |
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## MACC.912.G-GMD.2 Visualize relationships between two-dimensional and three-dimensional objects

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| **MACC.912.G-GMD.2.4 :** | Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Visualize relationships between two-dimensional and three-dimensional objects |

## MACC.912.G-MG.1 Apply geometric concepts in modeling situations

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| **MACC.912.G-MG.1.1 :** | Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Apply geometric concepts in modeling situations |
| **MACC.912.G-MG.1.2 :** | Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Apply geometric concepts in modeling situations |
| **MACC.912.G-MG.1.3 :** | Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios)<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Apply geometric concepts in modeling situations |

## MACC.912.F-IF.2 Interpret functions that arise in applications in terms of the context

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| **MACC.912.F-IF.2.4 :** | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret functions that arise in applications in terms of the context |

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| | Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.4 and 5, focus on linear and exponential functions.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context<br>ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9. |
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| **MACC.912.F-IF.2.5 :** | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret functions that arise in applications in terms of the context<br>Remarks/Examples |
| | Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions. |
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| **MACC.912.F-IF.2.6 :** | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. |

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| | Estimate the rate of change from a graph.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Interpret functions that arise in applications in terms of the context<br>Remarks/Examples |
| | **Algebra 1, Unit 2**: For F.IF.6, focus on linear functions and exponential functions whose domain is a subset of the integers. Unit 5 in this course and the Algebra II course address other types of functions.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br><br>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.9.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>i) Tasks have a real-world context.<br>ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.<br><br>The function types listed here are the same as those listed in the Algebra II column for standards F-IF.4 and F-IF.9. |
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## MACC.912.G-CO.1 Experiment with transformations in the plane

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| MACC.912.G-CO.1.1 : | Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.<br>Cognitive Complexity: Level 1: Recall l Date Adopted or Revised: 12/10<br>Belongs to: Experiment with transformations in the plane |
| MACC.912.G-CO.1.3 | Given a rectangle, parallelogram, trapezoid, or regular polygon, |

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| : | describe the rotations and reflections that carry it onto itself.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Experiment with transformations in the plane |
| **MACC.912.G-CO.1.4** : | Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Experiment with transformations in the plane |

## MACC.912.G-SRT.1 Understand similarity in terms of similarity transformations

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| **MACC.912.G-SRT.1.2** : | Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand similarity in terms of similarity transformations |
| **MACC.912.G-SRT.1.3** : | Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Understand similarity in terms of similarity transformations |

## MACC.912.G-SRT.2 Prove theorems involving similarity

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| **MACC.912.G-SRT.2.4** : | Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Prove theorems involving similarity |
| **MACC.912.G-SRT.2.5** : | Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.<br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Prove theorems involving similarity |

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| | Remarks/Examples |
| | **Geometry - Fluency Recommendations**<br><br>Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks. |
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**MACC.912.N-Q.1 Reason quantitatively and use units to solve problems.**

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| **MACC.912.N-Q.1.1 :** | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Reason quantitatively and use units to solve problems.<br>Remarks/Examples |
| | Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions. |
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| **MACC.912.N-Q.1.2 :** | Define appropriate quantities for the purpose of descriptive modeling.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Reason quantitatively and use units to solve problems.<br>Remarks/Examples |
| | **Algebra 1, Unit 1**: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.<br><br>**Algebra 1 Content Notes:**<br><br>Working with quantities and the relationships between them provides grounding for work with expressions, equations, and |

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| | functions.<br><br>**Algebra 1 Assessment Limits and Clarifications**<br><br>This standard will be assessed in Algebra I by ensuring that some modeling tasks (involving Algebra I content or securely held content from grades 6-8) require the student to create a quantity of interest in the situation being described (i.e., a quantity of interest is not selected for the student by the task). For example, in a situation involving data, the student might autonomously decide that a measure of center is a key variable in a situation, and then choose to work with the mean.<br><br>**Algebra 2 Assessment Limits and Clarifications**<br><br>This standard will be assessed in Algebra II by ensuring that some modeling tasks (involving Algebra II content or securely held content from previous grades and courses) require the student to create a quantity of interest in the situation being described (i.e., this is not provided in the task). For example, in a situation involving periodic phenomena, the student might autonomously decide that amplitude is a key variable in a situation, and then choose to work with peak amplitude. |
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| **MACC.912.N-Q.1.3 :** | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Reason quantitatively and use units to solve problems.<br>Remarks/Examples |
| | Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions. |
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**MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable**

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| **MACC.912.S-ID.1.1 :** | Represent data with plots on the real number line (dot plots, histograms, and box plots).<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 10/10 |

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| | Belongs to: Summarize, represent, and interpret data on a single count or measurement variable<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| **MACC.912.S-ID.1.2 :** | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Summarize, represent, and interpret data on a single count or measurement variable<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| **MACC.912.S-ID.1.3 :** | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Summarize, represent, and interpret data on a single count or measurement variable<br>Remarks/Examples |
| | In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. |
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| **MACC.912.S-ID.1.4 :** | Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.<br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10 |

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| | Belongs to: Summarize, represent, and interpret data on a single count or measurement variable |

**MACC.K12.MP.1 Make sense of problems and persevere in solving them.**

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| **MACC.K12.MP.1.1 :** | **Make sense of problems and persevere in solving them.**<br><br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Make sense of problems and persevere in solving them. |

**MACC.K12.MP.2 Reason abstractly and quantitatively.**

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| **MACC.K12.MP.2.1 :** | **Reason abstractly and quantitatively**.<br><br>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to |

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| | abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Reason abstractly and quantitatively. |

**MACC.K12.MP.3 Construct viable arguments and critique the reasoning of others.**

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| **MACC.K12.MP.3.1 :** | **Construct viable arguments and critique the reasoning of others.**<br><br>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. |

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| | Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Construct viable arguments and critique the reasoning of others. |

**MACC.K12.MP.4 Model with mathematics.**

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| **MACC.K12.MP.4.1 :** | **Model with mathematics.**<br><br>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Model with mathematics. |

**MACC.K12.MP.5 Use appropriate tools strategically.**

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| **MACC.K12.MP.5.1 :** | **Use appropriate tools strategically.**<br><br>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are |

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| | sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Use appropriate tools strategically. |

**MACC.K12.MP.6 Attend to precision.**

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| **MACC.K12.MP.6.1 :** | **Attend to precision.**<br><br>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Attend to precision. |

## MACC.K12.MP.7 Look for and make use of structure.

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| **MACC.K12.MP.7.1 :** | **Look for and make use of structure.**<br><br>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.<br><br>Cognitive Complexity: Level 2: Basic Application of Skills & Concepts l Date Adopted or Revised: 12/10<br>Belongs to: Look for and make use of structure. |

## MACC.K12.MP.8 Look for and express regularity in repeated reasoning.

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| **MACC.K12.MP.8.1 :** | **Look for and express regularity in repeated reasoning.**<br><br>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain |

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| | oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.<br><br>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning l Date Adopted or Revised: 12/10<br>Belongs to: Look for and express regularity in repeated reasoning. |

## RELATED GLOSSARY TERM DEFINITIONS (9)

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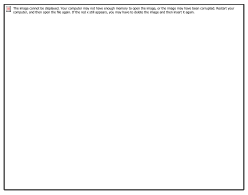
| **Attribute:** | A quality or characteristic, such as color, thickness, size, and shape. |
| **Compound Interest:** | A method of computing interest in which interest is computed from the up-to-date balance. That is, interest is earned on the interest and not just on original balance. |
| **Difference:** | A number that is the result of subtraction |
| **Face:** | One of the plane surfaces bounding a three-dimensional figure. |
| **Length:** | A one-dimensional measure that is the measurable property of line segments. |
| **Rate:** | A ratio that compares two quantities of different units. |
| **Set:** | A set is a finite or infinite collection of distinct objects in which order has no significance. |
| **Similarity:** | A term describing figures that are the same shape but are not necessarily the same size or in the same position. |
| **Exponential Function:** | A function of the form $y = ab^{cx+b} + e$, where a,b,c,d,e,x are real numbers, a, b, c are nonzero, b≠1, and b>0. |



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| | intersection of a double cone with a plane. All conic sections have equations of the form $Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$. |
| **Eccentricity:** | A number that indicates how drawn out or attenuated a conic section is  . Eccentricity is represented by the letter e (no relation to $e$ = 2.718...). The eccentricity can be interpreted as the fraction of the distance along the half of the major axis at which the focus lies: . Here, $c$ = the distance from the center to a focus, $a$ = the distance of the half of the major axis. |
| **Ellipse:** | For two given points, the foci, an ellipse is the locus of points such that the sum of the distance to each focus is constant. An ellipse has two axis of symmetry. The longer is called major axis and the shorter is called minor axis. The equation for an horizontal ellipse with center (h, k) is  , where a and b are real numbers and a is half of the major axis and b is half of the minor axis. Note that if a=b, it is a circle. |
| **Velocity:** | The time rate at which a body changes its position vector; quantity expressed by direction and magnitude in units of distance over time. |