



**Thornton High School**  
 9351 North Washington & Thornton, CO 80229  
 Office: (720) 972-4800 & Fax: (720) 972-4999  
<http://www.thorntonh.adams12.org>



<b>School Year</b>	2017-2018	<b>Teacher Name</b>	Sonja Ludwig
<b>Office</b>	Room 500	<b>Off Hours</b>	3 <sup>rd</sup> period
<b>Phone</b>	720-972-4800	<b>Google Classroom code</b>	b8t63mw
<b>Email Address</b>	Sonja.K.Ludwig@adams12.org		

Course Name	PreIB/MYP 10 Standard Level Prep		
<b>Course Description</b>	<p>CMIC 2 continues by reviewing and extending students' abilities to recognize, describe, and use functional relationships among quantitative variables, with an emphasis on relationships that involve two or more independent variables. Students will also work on strengthening their understanding of coordinate methods for representing and analyzing properties of geometric shapes and describing geometric change. In the unit of regression and correlation students will work on understanding the characteristics and interpretation of the least square regression equations and the use of correlation to measure the strength of linear association between two variables. Within the standard of Patterns, Functions, and Algebraic Methods students will be introduced to function notation, constructing and reasoning with functions that model parabolic shapes and other quadratic relationships with more emphasis on symbolic reasoning methods and introducing common logarithms and algebraic methods for solving exponential equations. Trigonometric methods will develop student understanding of trigonometric functions and the ability to use trigonometric methods to solve triangulation and indirect measurement problems. Final units in Course 2 will increase students' abilities to understand and visualize situations involving chance by using simulation and mathematical analysis to construct probability distributions.</p> <p>CMIC 3 continues the integrated development of high school mathematics along the interwoven strands of algebra, functions, geometry, trigonometry, statistics and probability. Focused units of study connect these strands through an emphasis on reasoning and proof in geometric, algebraic, and statistical contexts and of basic principles that underlie those reasoning strategies. Inequalities and linear programming will extend students' ability to reason both algebraically and graphically with topics that include inequalities in one and two variables including absolute value and quadratic inequalities. Students will extend their understanding to similarity and congruence and use those relations to solve problems and to prove geometric assertions with and without the use of coordinates. Students will work on developing an understanding of the measurement of variability including normal distribution, standardized scores and binomial distributions. Polynomial and rational functions will extend students' abilities to represent and draw inferences using symbolic expressions and manipulations. The last units of study for this course will focus upon circles and circular functions, recursion and iteration, and finally inverse functions with a focus on logarithmic functions and their use in modeling and analyzing problem situations and data patterns.</p> <p>Integrated Math courses emphasize the teaching of mathematics as problem solving, communication, and reasoning, and emphasize the connections among mathematical topics and between mathematics and other disciplines. The multi-period sequence of Integrated Math replaces the traditional Algebra I, Geometry, Algebra II sequence of courses, and usually covers the following topics during a three- or four-year sequence: algebra, functions, geometry from both a synthetic and an algebraic perspective, trigonometry, statistics and probability, discrete mathematics, the conceptual underpinnings of calculus, and mathematical structure.</p> <p>International Baccalaureate (IB) Mathematics, Middle Years Program courses are built on a framework of five branches of mathematics: number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics. The program encourages students to develop an understanding of mathematical reasoning and processes, the ability to apply mathematics and evaluate the significance of results, the ability to develop strategies for problems in which solutions are not obvious, and the acquisition of mathematical intuition.</p>		
	<b>Unit of Study</b>	<b>Grade Level Expectations/Content Standards</b>	<b>Approximate Time Spent or Percent of time Spent</b>



<b>CMIC 2 Unit 7 -</b> Trigonometric Methods	Students will understand that trigonometric ratios for right triangles, Law of Sines, and Law of Cosines will support their understandings of functions and their interrelationships. <b>(Standards 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 4.2, 4.5)</b>	4 weeks	Quarter 1
<b>CMIC 2 Unit 5 –</b> Nonlinear Functions and Equations	Students will understand that the concepts and skills related to quadratic functions and equations expand their symbol manipulation skills to non-linear systems and logarithms. <b>(Standards 2.3, 2.4)</b>	8 weeks	Quarter 1 and 2
<b>CMIC 3 Unit 1 -</b> Reasoning and Proof	Students will understand that reasoning strategies can be used in geometric, algebraic, and statistical applications. <b>(Standards 2.1, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.5)</b>	4 weeks	Quarter 3
<b>CMIC 3 Unit 3 -</b> Similarity and Congruence	Students will understand that reasoning involving similar and congruent triangles can be used to solve problems involving shape and size. <b>(2.3, 2.4, 3.1, 4.1, 4.2, 4.3)</b>	5 weeks	Quarter 3
<b>Functions and their Transformations</b>	Students will understand the connection between equations and graphs of parent functions and what indicates particular shapes of graphs and their corresponding equations. Students will understand how functions are transformed vertically, horizontally, and dilations that go with those transformations and be able to use appropriate mathematical language to describe those transformations.	1 – 2 weeks	Quarter 3/4
<b>CMIC 3 Unit 2 –</b> Inequalities and Linear Programming	Students will understand that linear programming should be used to solve optimization problems. <b>(Standards 2.1, 2.2, 2.3, 2.4, 3.1)</b>	3 weeks	Quarter 4
<b>CMIC 3 Unit 5 –</b> Polynomials and Rational Functions	Students will understand that polynomial and rational expression and functions can be used to represent and analyze a variety of quantitative patterns and relationships. <b>(1.1, 2.1, 2.3, 2.4, 4.2, 4.4)</b>	2 – 3 weeks	Quarter 4

Grading Scale		Grade Percentages/Weights	
<b>A</b>	90-100	<b>Summative Assessments &amp; Projects</b>	<b>80%</b>
<b>B</b>	80-89	<b>Formative Assessments &amp; Projects</b>	<b>20%</b>
<b>C</b>	70-79	*Weekly progress grades are posted at <a href="https://ic.adams12.org/campus/portal/adams12.isp">https://ic.adams12.org/campus/portal/adams12.isp</a>	
<b>D</b>	60-69		
<b>F</b>	59 or below		

#### General Expectations

- Grades are based upon the demonstration of proficiency on units associated with a standard given during each formative or summative assessment. Formative grades in addition to summative unit assessments will be used to holistically determine your grade.
- **Summative: 80%** Summative measures of achievement are taken when unit master is expected. (i.e., unit tests, culmination of a project, embedded assessments, etc.)



- If no attempt to take a summative assessment has been made, a “no evidence” (NE) grade will be recorded until the assessment is completed. NE shall be defined as not attempting the assessment or not being present for the assessment. **NE will be equal to 0%.**
- In order to receive a passing grade, a student must **attempt ALL summative assessment.**  
The presence of a NE grade for any summative assessment at the end of a grading period will result in a grade of F for the course, regardless of performance on other assessments.
- **Formative: 20%** Formative assessments measure the scaffolding skills and/or content embedded in the unit. Formative assessments are taken frequently, after a student has practiced a skill or become familiar with content. Examples of formative assessments include but are not limited to exit tickets, paragraphs, oral check for understanding, warm-ups, stages in a large project, presentations, etc.
- Assessments will be graded based on teacher/district/state rubrics.
- On group projects, students will receive a grade for individual work and a group grade.
- Grades are based on achievement of Content Standards and Grade Level Expectations.

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- On group projects, students will receive a grade for individual work and a group grade.
- Grades are based on achievement of Content Standards and Grade Level Expectations.

- First and second semester final exams **ARE NOT** eligible for retake.
- A student is allowed to retake any summative assessment up to ten (school) days after the original summative assessment has been graded and communicated to the student. After the ten days, the eligibility for retake will expire unless prior arrangements have been made with the teacher.
- On the first retake, the student will need to provide a body of evidence of learning as determined by the teacher. Also, the student must fill out a Request to Retest form.

### Class Expectations

#### Homework Policy

- Typically, homework/extra practice problems will be assigned each day (Monday – Friday), except on days of a Summative Assessment or on specific days as agreed upon by the IB departments.
- The expectation is that these assigned problems will **at least be attempted before the next scheduled class day**, so that students are able to ask questions & contribute to classroom discussions.
- A DO NOW sheet will be given out on Thursday and due the next Wednesday.
- Weekly or Bi-weekly formative quizzes will be given on the homework and any content material covered in class.

#### Grading Policy

- In order to receive a passing grade, a student **must ATTEMPT ALL summative assessments.** If no attempt to take a summative assessment has been made, a “no evidence” grade will be recorded until the assessment is completed.
- “No evidence” could be defined as not attempting the assessment, not being present for the assessment, or showing no evidence of proficiency of the standard. **NE** will be equal to 0%.
- The presence of a “no evidence” (NE) **for any summative assessment at the end of a grading period will result in a grade of F for the course** regardless of performance on other assessments.
- Summative assessments must be taken within a reasonable amount of time after they are first given unless otherwise arranged with the teacher. It is the student’s responsibility to know when assessments are given and schedule a time to make them up or retake them.

### Student Expectation

The following expectations/policies describe what I expect from you.

#### Attending Skills

- We will focus on the following attending skills
  1. **BEING IN THE MOMENT**
  2. **APPROPRIATE BODY LANGUAGE**
  3. **APPROPRIATE EYE CONTACT**
  4. **APPROPRIATE FEEDBACK**
  5. **QUESTIONS TO CLARIFY OR VALIDATE**

#### Behavior Policy

- Each student is expected to behave **appropriately and respectfully** to the teacher **and** other students
- Each day you will be allowed **3 redirects** from the teacher based on your attending skills
- If the behavior continues after 3 redirects you will be required to leave the classroom



- Students will not be able to re-enter the classroom until a discussion between the teacher and student has taken place

#### **Tardy Policy**

- I will have a **tardy book** located near the entrance door of the classroom
- If you are late, you are to enter class in an appropriate manner and fill in the tardy book
- You will need to fill in your **name, date, time, and reason** for being tardy
- Excessive tardies will result in parent notification, lunch detention, Wednesday school, In-School Suspension and/or referral to dean

#### **ID Policy**

- Every student must wear their ID:
- If a student does not have their ID, a new one will be issued and either delivered or retrieved from the Attendance Office at the student's expense
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#### **Electronics Policy**

- Students will be given **one verbal warning** at the start of class each day to turn off & put away their phones/music
- Any phones/ music **out after the 1<sup>st</sup> warning will be taken & not returned to the student after class**
- The phone **can be retrieved at the end of the school day in the Attendance Office** or the student may speak with their dean to try to retrieve it earlier
- Habitual offenders (**more than 3 times per quarter**) will result in parent notification and/or referral to the dean
- You can only listen to music at the teacher's discretion & with their verbal permission

#### **Classroom Materials Policy**

- I expect you to bring the appropriate materials to class everyday (pencil, pen, paper, binder). It is not the teacher's responsibility to provide these items for you.
- A graphing calculator is **highly recommended**: TI-83 or TI-84 version preferred. 'Plus' versions are fine as well.

**GET HELP WHEN NEEDED!** Do not wait till the last minute to get help! Be a Self-Starter. Be prepared to learn when you come to class. You should have your homework completed and have questions prepared. Be Involved. Math is not a spectator sport. In order to learn mathematics, you must do mathematics.