



Royal West Academy

Course Outline

Course: Mathematics 506 Scientific

Teacher: V. Gagliano Room: 312

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Texts/workbooks: Math Help Services and Course Pack

Course description: Grade 11 Cultural Math covers the following topics: Optimization, Functions, Trigonometry, Conics and vectors.

Remediation: Day 1 – Lunch; Day 5: Lunch

Materials Required Pens, ruler, pencils, eraser, highlighter, scientific calculator (NOT GRAPHIC) (ideally with display), copy book for homework solutions, Course Pack will be distributed (binder or folder to store homework)

Communication with Students/Parents: Communication via E-mail, google classroom and Mozaik.. Announcement will be posted on google classroom and grades will be posted on Mozaik.

Parents and students are responsible for daily check to their email and class portals. Parents are to go on classroom portal and MHS to follow student progression.

Evaluation

TERM 1 (20% of year-end grade): August 30 th – November 2 nd	Evaluation Methods	Timeline
Competency 1: Solves a situational problem	Situational problem assessments and/or assignments	Generally, two to three per term
Competency 2: Uses mathematical reasoning	Class tests, assignments and/or homework	Weekly to Bi-weekly

TERM 2 (20% of year-end grade): November 3 rd – February 2 nd	Evaluation Methods	Timeline
Competency 1: Solves a situational problem	Situational problem assessments and/or assignments	Generally, two to three per term
Competency 2: Uses mathematical reasoning	Class tests, assignments and/or homework Mid-Year Exam	Weekly to Bi-weekly January 24th -20th. Worth 50% of C2

TERM 3 (60% of year-end grade): February 5 th – June 21 st	Evaluation Methods	Timeline
Competency 1: Solves a situational problem	Situational problem assessments and/or assignments	Generally, two to three per term
Competency 2: Uses mathematical reasoning	Class tests, assignments and/or homework Final Exam	Weekly to Bi-weekly

Note: Competency 1 is worth 30% of each term, Competency 2 is worth 70% of each term.

Evaluation methods, frequencies and values are subject to change.

End of the Year Results

Competency 1 (30% of final math mark)					Competency 2 (70% of final math mark)				
Term 1	Term 2	Term 3	=	TBD % of Final C1 Mark	Term 1	Term 2	Term 3	=	TBD% of Final C2 Mark
20%	20%	60%			20%	20%	60 %		
Final Exam (June)			=	TBD% of Final C1 Mark	Final Exam (June)			=	TBD% of Final C2

Additional Information / Specifications

Classwork: Notes will be handed out by topic and to be stored in students folder/binders. Notes will also be posted on google classroom. Students are responsible for keeping track of assessments dates and deadlines. Students **may** be granted extensions in the event of extenuating circumstances if they request one from the teacher **at least 2 days** in advance. Late submission of work will result in a 0%.

Absent from class: Students are responsible for all material covered when they are absent from class.

Absent for a test: Students must have a valid reason to miss a test. A note explaining the absence from the evaluation may be required when the student returns to school. A student who is absent because of an ECA activity must notify the teacher ahead of time. Repeated absences will be reported to the administration. ****All missed tests will be rewritten at the teacher's convenience. It is the student's responsibility to contact the teacher.**** If the following procedures are not followed a mark of 0 will be given for the test or evaluation.

Remediation: If results show that a student is experiencing difficulties, they may be obligated to attend remediation.

Math resources

- <http://www.khanacademy.org> → A website containing small videos on many different subjects, including mathematics.
- <http://learnquebec.ca> → An online website including slide shows on many different subjects and online tutoring. You need a password, provided by the homeroom teacher or the administration. There are also online tutoring sessions.
- <https://www.cemc.uwaterloo.ca/courseware> → It contains good math videos and practice exercises.
- Peer tutoring: A tutoring service organised by Mrs. DiPietro (room 226) where students tutor other students.

Summer School

In the event of a failed course, it is possible that the student may be required to attend summer school.

Topics:**Chapter 1 – Functions**

- The role of parameters
- Inverse of a function
- Piecewise functions
- Properties of radicals
- Square root functions
- Finding the rule and solving a square root function
- Properties of absolute values
- Absolute value functions
- Finding the rule and solving an absolute value function
- Rational functions
- Finding the rule and solving a rational function
- Operations on, and composition of functions

Chapter 2 – Systems of Equations and Inequalities

- Solving systems of equations
- Inequalities in the 1st degree with two variables
- System of inequalities
- Polygon of constraints
- Optimizing function
- Optimal solutions
- Solving an optimization problem

Chapter 3 – Exponential and Logarithmic Functions

- Laws of exponents and exponential notation
- Exponential function
- Finding the rule of an exponential function
- Logarithms and properties of logs
- Logarithmic function
- Finding the rule of a logarithmic function
- Solving an exponential equations and inequalities
- Solving a logarithmic equations and inequalities

Chapter 4 – Vectors

- Scalar quantity and vector quantity
- Properties of vectors
- Relations between vectors
- Vector projection
- Addition and subtraction of vectors
- Multiplication of a vector by a scalar
- Linear combinations
- Scalar product of two vectors
- Chasles relation

Chapter 5 – Trigonometric functions

- Radian
- Unit circle
- Periodic functions
- Sinusoidal functions
- Finding the rule of a sinusoidal functions
- Tangent functions
- Finding the rule of a tangent function
- Solving first degree trigonometric equations and inequalities
- Trigonometric identities (Pythagorean)

Chapter 6 – Conics

- Geometric loci
- Circle and finding its equation
- Interior or exterior region of a circle
- Ellipse and finding its equation
- Interior or exterior region of an ellipse
- Hyperbola and finding its equation
- Interior or exterior region of a hyperbola
- Parabola and finding its equation
- Interior or exterior region of a parabola
- Intersection points of a line and a conic or a parabola and another conic

*Subjected to change order.