COURSE DETAILS

Course Code: 3905
Course Name: Introduction to Applied and Pre-Calculus Math 20S
Credit Value: 1.0
Prerequisite: Math 10F

CONTACT INFORMATION

Room 14 McCreary School
MS Teams:
Gr 10 Applied Math
Email: jlockhart@trsd.ca
School phone: 835-2083

COURSE TECHNOLOGY

Office 365
MS Teams:
Gr 10 Applied Math
Flip Grid

COURSE TEXTBOOK

Mathematics 10, McGraw-Hill Ryerson, 2010.

SUPPLIES

- 3" – 3 ring binder
- Loose leaf
- Graph Paper
- Ruler
- Pens, Pencils, Erasers
- Scientific Calculator

Welcome to Applied Math

This course will be offered in a blended learning format, which means part of the course will be completed face-to-face in the classroom and part of the course will be completed via an online environment (Microsoft Teams). As with all things new and technological, there may be a few bumps in the road as we transition to this new learning model, but the benefits of blended learning are worth it.

The biggest challenge that many students will likely face is taking control of their own learning. A lot of the work that students complete in this class will not be submitted for grading, but that does not mean it's not important. Students need to constantly self-assess their level of understanding and adjust their approach as necessary. This may mean more or less practice questions of a particular concept, asking a classmate or the teacher for additional explanation, adding personal examples or tips to their notes, or even working ahead of group.

While students are encouraged to work at their own pace (within reason), they are also encouraged to collaborate with peers – socially distanced of course. Students will be asked to share ideas during class discussions, via Flip grid posts, in the Collaboration space in the Classroom Notebook and through the Teams general discussion and chat features. It may not be the way we've done it in the past, but that doesn't mean it can't be awesome!

Sincerely,

Mrs. Lockhart

The most DANGEROUS phrase in the language is

We've **always** done it this way.

– Grace Hopper

RULES & EXPECTATIONS

➢ Technology in the Classroom
Technology will be an integral part of
the functionality of the classroom.
Students will have access to the school
laptops, but are also welcome to bring
their own device. Improper use may
result in a loss of certain privileges.

➢ Homework
You won't have homework every
night, but when it is assigned it is
expected to be completed on time. The flexibility of the course promotes self-pacing and self-
monitoring. In order to get the greatest benefit from scheduled direct instruction, students
need to be prepared, which means having assigned work completed.

➢ Incomplete and Late Work
Work is to be completed on time and to the best of the student's ability. Late or missing
assignments will be penalized as outlined in the school student handbook, "Upon teacher
discretion a maximum of 5% may be deducted for every day the assignment is not turned in. If
the assignment is not turned in after two weeks or at the start of a new unit, the assignment
will receive a mark of zero."

➢ Re-writes for Test and Assignments
Re-writes will not be available once a summative assessment has been graded and returned to
students. If a student is unhappy with their grade they may meet with the teacher to discuss
the possibility of completing an alternative assessment. The final decision is at the discretion
of the teacher.

➢ Academic Dishonesty
Academic dishonesty (plagiarism and cheating) is a severe offence and will be dealt with
according to the policy outlined in the school handbook.

➢ Student Lates & Absences
Students who are late for class are asked to come in quietly without causing a disruption.
Students who make a habit out of being late may not be allowed into the room if class has
already begun.
If you are absent, YOU are responsible for finding out what you missed and making up all
missed work. If you have an excused absence for the day of a test, please make arrangements
to write it the day you return to school. If you skip a lab, test or quiz you will receive a zero.

➢ Extra help
Arrangements can be made for in person extra help before or after school or during lunch
hour. Students can also ask for clarification or feedback via email, MS Teams chat or discussion
post, or schedule a Teams meeting.
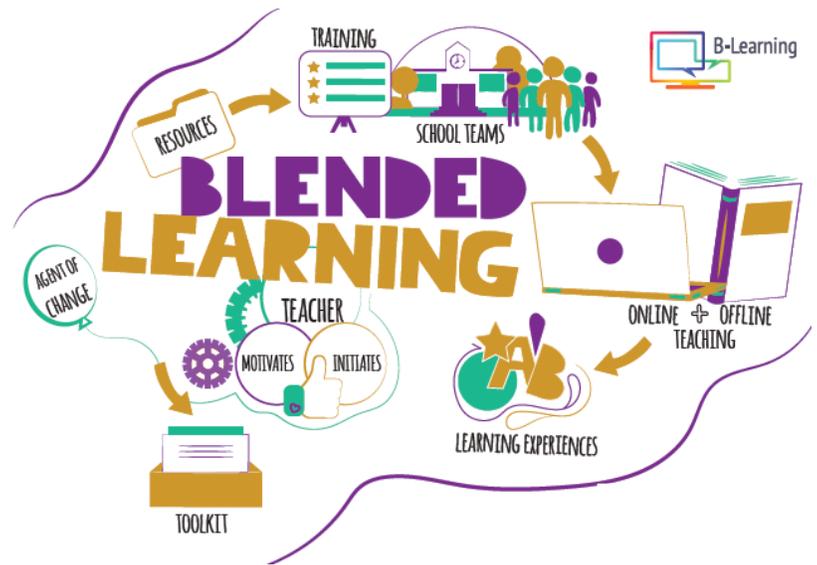
COURSE OUTLINE

Timeline	Unit & Topics
February	**Ch 1: Measurement Systems** ▪ SI and imperial measurements ▪ Measurement conversions **Ch 2: Surface Area and Volume** ▪ Surface Area ▪ Volume **Ch 3: Right Angle Trigonometry** ▪ Tan, sine and cosine ratios
March	**Ch 4: Exponents and Radicals** ▪ Roots ▪ Integral and rational exponents **Ch 5: Polynomials** ▪ Multiplying Polynomials ▪ Factoring trinomials
April	**Ch 6: Linear Relations and Functions** ▪ Graphing linear relations ▪ Properties of linear relations
May	**Ch 7: Linear Equations and Graphs** ▪ Slope-intercept form ▪ General form ▪ Slope-point form **Ch 8: Solving Systems of Linear Equations Graphically** ▪ Graphing and modelling systems
June	**Ch 9: Solving Systems of Linear Equations Algebraically** ▪ Solve by substitution ▪ Solve by elimination **Flex Time**

Unifying Concepts & General Learning Outcomes

Grade 10 Introduction to Applied and Pre-Calculus Mathematics (20S) is intended for students considering post-secondary studies that require a math prerequisite.
This pathway provides students with the mathematical understanding and critical-thinking skills that have been identified for specific post-secondary programs of study. Components of the curriculum are both context-driven and algebraic in nature.

The main goals of mathematics education are to prepare students to
✓ communicate and reason mathematically use mathematics confidently, accurately, and efficiently to solve problems
✓ appreciate and value mathematics
✓ make connections between mathematical knowledge and skills and their applications
✓ commit themselves to lifelong learning
✓ become mathematically literate citizens, using mathematics to contribute to society and to think critically about the world

Students who have met these goals
✓ gain an understanding and appreciation of the role of mathematics in society
✓ exhibit a positive attitude toward mathematics
✓ engage and persevere in mathematical problem solving
✓ contribute to mathematical discussions
✓ take risks in performing mathematical tasks
✓ exhibit curiosity about mathematics and situations involving mathematics

"You have to be ODD to be #1."

Dr.Seuss

SUMMATIVE ASSESSMENT for GRADE 10 APPLIED MATH

Topic	Item	Weight of Item Within Topic	Option A	Option B	Option C
Problem of the Week	Every Tuesday (excluding spring break and the last week of classes) students will be given a task to complete or a problem to solve.	19 weeks @ 5.25% each	**5%**	**5%**	**5%**
Quizzes	The content in each chapter will be divided into 2-3 outcome quizzes.	20 quizzes @ 5% each	**20%**	**25%**	**20%**
Chapter Summary Notes	Students will create a one to two page study guide for each chapter.	9 chapters @11.11% each	**10%**	**10%**	**10%**
Practice Tests	At the conclusion of each chapter, students will be given a practice test.	9 chapters @11.11% each	**10%**		**15%**
Chapter Tests	This course has been divided into 9 chapters. There will be a test written for each. Each test will be weighted equally.	9 tests @ 11.11% each	**30%**	**30%**	**40%**
Video Lesson Projects	Students will create two video lessons. One during the first half of the course, and one during the second half of the course.	2 @50% each	**10%**	**20%**	
Mystery Box Cumulative Assessment	At the end of the course, students will put their math skills to the test to unlock a mystery box. Students will work independently on the math assessments and collaboratively with the clues to decode a message and unlock the box.	100%		**10%**	
Final Exam	Students will write the cumulative final exam in June. Students are encouraged to use their Chapter Summary Notes during the exam.	100%	**15%**		**10%**

All assessment items and weights are subject to change depending on the evolving situation we find ourselves in.

SUMMATIVE ASSESSMENT continued

Each summative assessment will be assessed using the following methods:

Problem of the Week
- Accuracy of solution
- Ability to explain mathematical thinking

Outcome Quizzes
- Accuracy of solution
- Work must be shown to receive full marks

Chapter Notes Summary
- Single point rubric

Chapter Tests
- Accuracy of solution
- Work must be shown to receive full marks
- Communication of mathematical thinking

Video Lesson Projects
- Single Point rubric

Mystery Box Cumulative Assessment
- Accuracy of solution
- Ability to explain mathematical thinking

FORMATIVE ASSESSMENT

A lot of the work students complete in math will be used as formative assessment, which means that the mark received on the assessment will not be included in the calculation of the final course grade. These practice opportunities are meant to assess whether or not the student has developed an appropriate level of understanding prior to being given a summative assessment which will contribute to the final grade.

Formative assessments will be evaluated and documented in Maplewood, but their weight will be set to zero thereby eliminating their impact on the grade. This system is meant to hold students accountable for their learning. If they complete the work and use the provided feedback to improve they are more likely to be successful in this course.

BEHAVIOURAL ASSESSMENT

Student behaviour will be evaluated on an ongoing basis using the criteria listed below.

PERSONAL MANAGEMENT SKILLS
Organizes material
Uses class time productively
Works independently
Completes all work on time
Persists when faced with challenges
Seeks help when needed
Demonstrates a strong work ethic
Shows patience
Demonstrates on-task behaviour
Sets personal management goals
ACTIVE PARTICIPATION IN LEARNING
Shows interest; asks questions
Takes initiative
Self-assesses work quality based on criteria
Uses feedback to improve learning
Uses criteria to provide feedback
Uses a variety of media for communication
Investigates questions, hypothesizes, analyzes
SOCIAL RESPONSIBILITY
Works and interacts well with others
Is welcoming and positive
Shares resources and equipment with others
Respects school values
Respects and follows classroom routines
Takes an equitable share in group work
Is courteous
Respects the need for safety
Sets personal management goals

A Letter to Parents – Grade 10 Applied Math

Students are encouraged to speak to me directly as soon as any questions, concerns or problems arise. Parents are also encouraged to call or email anytime you'd like to express concern or request information regarding your child's progress in the course. On that note, there may be times when I have a concern that I would like to address prior to the next report card or progress report and email is the easiest way for me to do this. If possible, please provide me with your email address below. If you do not have an email, please provide a phone number that could be used to reach you during the day. I'm looking forward to a great year.

Mrs. Lockhart

Once the student AND parent have read this course outline, complete the section below and return it to Mrs. Lockhart.

Student's name   _____

Student's signature   _____

Parent / Guardian's name(s)   _____

Parent / Guardian's signature(s)   _____

Date   _____

Parent / Guardian Email Address   _____

Parent / Guardian Day-time Phone   _____

Any initial comments or concerns   _____

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