

MATHEMATICS 20-1 COURSE OUTLINE

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GOOGLE CLASSROOM: <https://classroom.google.com> (access code: **ycq737f**)

NATURE OF THE COURSE

Mathematics 20-1 is a course designed for students wishing to study at a post-secondary level in a science or mathematics related field. It is an intensive course that integrates many of the previous skills learned in prior courses as well as many new skills that will be necessary for future studies.

OUTCOME-BASED ASSESSMENT:

This year, we will be using outcome-based assessment and achievement indicators for Math 20-1. You will be assessed according to the following Learning Outcomes, as outlined in the Program of Studies.

Mathematical Processes

P1: Processes: Communication, Connections, Mental Math & Estimation, Problem Solving, Reasoning, Technology, Visualizations

Algebra & Number

AN1 & RF2: Demonstrate an understanding of the absolute value of real numbers. Graph and analyze absolute value functions (limited to linear and quadratic functions) to solve problems.

AN2: Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands.

AN3: Solve problems that involve radical equations (limited to square roots).

AN4: Determine equivalent forms of rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).

AN5: Perform operations on rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).

AN6: Solve problems that involve rational equations (limited to numerators and denominators that are monomials, binomials or trinomials).

Trigonometry

T1: Demonstrate an understanding of angles in standard position [0° to 360°].

T2: Solve problems, using the three primary trigonometric ratios for angles from 0° to 360° in standard position.

T3: Solve problems, using the cosine law and sine law, including the ambiguous case.

Relations & Functions

RF1: Factor polynomial expressions.

RF3: Analyze quadratic functions in vertex form

RF4: Analyze quadratic functions in general form to identify characteristics of the corresponding graph

RF5: Solve problems that involve quadratic equations

RF6: Solve, algebraically and graphically, problems that involve systems of linear-quadratic and quadratic-quadratic equations in two variables

RF7: Solve problems that involve linear and quadratic inequalities in two variables.

RF8: Solve problems that involve quadratic inequalities in one variable.

RF9: Analyze arithmetic sequences and series to solve problems

RF10: Analyze geometric sequences and series to solve problems.

RF11: Graph and analyze reciprocal functions (limited to the reciprocal of linear and quadratic functions).

COURSE SCHEDULE		
TOPIC	OUTCOMES	MONTH
Radical Expressions (non calculator)	AN2	Sept
Trigonometry	T1, T2, T3	Sept
Cumulative Exam #1		
Sequences and Series	RF9, RF10	Oct
Factoring	RF1	Oct/Nov
Quadratics	RF3, RF4, RF5	Nov
Cumulative Exam #2		
Rational Expressions	AN4, AN5, AN6	Nov
Absolute Value	AN1, RF2	Nov/Dec
Systems and Inequalities	RF7, RF8	Dec
Cumulative Exam #3		
Review	Review	Jan
FINAL EXAM		

ASSESSMENT:

- Outcome-Based Assessment (75% of total mark): Each learning outcome listed above will be assessed at least twice according to the achievement indicators on the right
- Cumulative Assessments: (25% of the total mark). student will complete three cumulative assessments and a final exam.

OUTCOME GRADING	
Indicator	Equivalent %
Mastery	100%
Advancing	85%
Progressing	75%
Emerging	65%
Beginning	55%
Limited	45%
Not Meeting	25%
Insufficient	0%

HOMEWORK:

- Students will be assigned homework regularly and completion will be recorded in the gradebook. By completing the homework, students will be prepared for Outcome Assessments and Exams.

COURSE MATERIALS:

- **Calculators:** a graphing calculator is required for this course. TI 84 is preferred but Casio is also appropriate. Calculators that can express the EXACT value of a square root are not permitted.
- **Math 20-1 Workbook...** replacement cost \$20

EXPECTATIONS:

1. **Course Expectations:** Mathematics 20-1 is an academic math course. It is expected that students have a final grade in Math 10C of 65% or above in order to enter this course and have a reasonable expectation of success in Math 20-1.

2. **Attendance:** ALL classes are important, whether we are doing a lesson, activity, quiz, test or review. Every missed class is a missed opportunity to learn and will result in students putting in ample amounts of their own time to catch up. Students are to tell the teacher IN ADVANCE of field trips, vacations, tournaments, etc. and then to arrange a time to meet with the teacher prior to the absence in order to stay on top of the lessons. With the exception of an illness documented by a parent, students who miss class and do not inform the teacher ahead of time will be expected to catch up on their own.

3. **Class Time:** Students are expected to be ready to start at the beginning of class, required to work until the end of class, and any remaining work is to be finished at home. Mathematics is a skill, and practice is needed to become proficient. If finished early, the student is required to review previous material.

4. **Math Help:** Extra help is available during after school or by request. Any student not achieving at least 70% is strongly encouraged to access extra help on a regular basis.

5. **Office Hours:** By appointment.

6. **Homework:** Any work not completed in class must be done outside class time. Lesson questions are assigned at the end of each topic to allow students a risk-free practice space. Workbook will be presented to the teacher at the time requested. Assignments that are deemed incomplete will not receive a mark until completed, A unit outline and deadlines are recorded on Moodle and/or Power School.

7. **Academic Misconduct:** Any student claiming another person's work as their own will receive a zero and be referred to administration. This includes, but is not limited to: copying from solution books, use of PhotoMath app, copying other students' workbooks, releasing test questions.

8. Missing Exams: Students must write all exams. Students who miss exams or will receive a mark of zero, unless the teacher has been notified by phone or voice mail prior to the exam regarding the situation. Students will regularly be asked to write their exam prior to an extended absence. A doctor's note or certificate may be requested by the teacher for illness the day of the exam. Missed exams with cause will be written the next available day. School policy is in effect for missing quizzes or exams.

9. Unit Test Re-writes: While there are no rewrites of Unit test, students have the opportunity to improve their unit mark on the cumulative test. If the associated section of the cumulative exam is a higher mark than the unit test, the unit test will be replaced with the cumulative section mark.

10. Corrections for half marks: Students may make corrections to any of their completed PRACTICE TEST ASSIGNMENTS for half the missing marks. Corrections are due prior to the next time the homework book/review is taken in, and must be made next to the original question in a different colour. It is to the student's advantage to attempt every assigned question.

11. Appropriate use of technology: Cell phones and other personal devices are NOT permitted during instructional time. Ear phones may be used for music during individual work time.

12. Healthy Snacks: Water and healthy snacks are permitted. High sugar beverages, candy, chips are not permitted in class.
