Northern Gateway Public Schools

Math 20-1/20-2
Course Outline 2022 - 2023

Instructor: Miss Sydney Swainston
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Google Classroom Code: 20-1: 7ukfrm5
20-2: f6tdtu7

Text/Supplies:

- You will be invited to a google classroom that will have copies of all the teachers notes, assignments and links to extra practice.
- Supplementary material will be used where necessary.
- TI-83, TI-8, TI-inspire graphing calculator
- Fine tip whiteboard markers.

Course Description:

The Math 10C Math 20-1 Math 30-1 course sequence is designed for students with both interest and aptitude in mathematics who are intending to pursue post-secondary studies at a university with a mathematics focus. Mathematics 10–20–30 emphasizes the theoretical development of topics in algebra, geometry, trigonometry and statistics up to a level acceptable for entry into such programs. Successful completion of Math 10C is a prerequisite for this course. Additionally, successful completion of Math 20-1/-2 will allow students to enroll in Math 30-1/-2.

Course Curricular Outcomes:

Upon successful completion of this course students should…

1. Develop algebraic reasoning and number sense.
2. Develop trigonometric reasoning.
3. Develop algebraic and graphical reasoning through the study of relations.

Units of Study:

Unit 1: Sequences and Series — Sept 1 – Sept 16

- General Outcome: Develop algebraic and graphical reasoning through the study of relations.
- Specific Outcomes:
  - 1.1 Analyze arithmetic sequences and series to solve problems.
  - 1.2 Analyze geometric sequences and series to solve problems.

Unit 2: Trigonometry — Sept 19 – Oct 6

- General Outcome: Develop trigonometric reasoning.
- Specific Outcomes:
  - 2.1 Demonstrate an understanding of angles in standard position.

- 2.2 Solve problems, using the three primary trigonometric ratios for angles from 0 degrees to 360 degrees in standard position.
- 2.3 Solve problems, using the cosine and sine law, including the ambiguous case.

Unit 3: Quadratics — Oct 11 – Nov 4

- General Outcome: Develop algebraic and graphical reasoning through the study of relations.
- Specific Outcomes:
  - 3.1 Factor polynomial expressions
  - 3.2 Graph and analyze absolute value functions (limited to linear and quadratic functions) to solve problems.
  - 3.3 Analyze quadratic functions to determine:
    - vertex
    - domain and range
    - direction of opening
    - axis of symmetry
    - x and y intercepts
  - 3.4 Solve problems that involve quadratic equations

Unit 4: Rationals — Nov 7 - Nov 25

- General Outcome: Develop algebraic and graphical reasoning through the study of relations.
- Specific Outcomes:
  - 4.1 Determine the equivalent forms of rational expressions (limited to numerators and denominators that are monomials, binomials and trinomials)
  - 4.2 Perform operations on rational expressions (limited to numerators and denominators that are monomials, binomials and trinomials)
  - 4.3 Solve problems that involve rational equations (limited to numerators and denominators that are monomials, binomials and trinomials)

Unit 5: Absolute Values and Radicals — Nov 28 – Dec 9

- General Outcome: Develop algebraic reasoning and number sense.
- Specific Outcomes:
  - 5.1 Demonstrate an understanding of the absolute value of real numbers.
  - 5.2 Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands.
  - 5.3 Solve problems that involve radical equations.

Unit 6: Systems, Inequalities and Reciprocals — Dec 12 – Jan 13

- General Outcome: Develop algebraic and graphical reasoning through the study of relations.
- Specific Outcomes:
  - 6.1 Solve, algebraically and graphically, problems that involve systems of linear-quadratic and quadratic-quadratic equations in two variables.
  - 6.2 Solve problems that involve linear and quadratic inequalities in two variables.
  - 6.3 Solve problems that involve quadratic inequalities in one variable.
  - 6.4 Graph and analyze reciprocal functions (limited to the reciprocal of linear and quadratic functions)

Schedule may need to be adjusted as we work through the semester. The remainder of the semester will be spent on review for the final exam.

Examination Rules: Students are responsible to bring all materials needed for an exam to class before the exam. Students will not be allowed to share materials. Cheating during an exam will not be tolerated. A deferred exam will be given only when exceptional circumstances prevent the student from writing at the scheduled time.

All unit exams will be secured (you will not get to keep them). If you wish, you may come in during a scheduled time to go over an exam in detail. This can be done once all students have written the test.

Final Grade:

The students' final grade in this course will be based on students' achievement of curricular outcomes and demonstration of skills required for effective learning.

Grading Scheme:

Assignments	15%
Quizzes	25%
Unit tests	40%
Final Exam:	20%

Each unit may also include the following, but will be formatively assessed only: whiteboard activities, presentations, and practice exams

The final grade represents the students overall achievement of the learner outcomes and reflects the students corresponding level of achievement. Credit is given for this course if the student's grade is a 50% or higher.

NO BUS DAYS

- In the event of buses not running; I will run a drop in google scheduled during regular time. This will be time to ask questions , clarify concepts, work on assignments, have group discussions, etc. No new material covered but dependent on the frequency of this situation this could change.

APPEALS PROCESS:

Should a situation arise where a student is not satisfied with an assessment outcome, first discuss the matter with the teacher outside of class time. If the teacher and student are unable to resolve the issue, then the teacher will approach another

teacher to assess the assignment. (The teacher will not have prior knowledge of the student's name or the previous grade for the given assignment). If there is still an issue, a meeting will be set up between the student, teacher, parents and administration to resolve the matter. The commencement of an appeal must occur in a timely manner; within 48 hours of receiving the marked assignment. In return, the appeal process will be completed as soon as possible.

EXTRA HELP:

I am available to help students after school or mornings by appointment. I expect you to come for extra help if you are struggling with or need clarification of any aspects of the course.