Northern Gateway Public Schools

Mayerthorpe High School

MATH 30-2 COURSE OUTLINE

Course Code: MAT3792

Classroom Code: 274p6j6

Home of the MHS Tigers

2022 - 2023

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Prerequisite: Math 20-2 or 20-1

Course Information

Math 30-2 will help students develop appropriate skills, such as mathematical reasoning and critical-thinking, that will benefit them in post-secondary courses and the workforce.

Course Objectives

In this course, students will be encouraged and guided to:

- 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
- display curiosity about mathematics and situations involving mathematics

Curriculum Outcomes

Strand	General Outcome
Logical Reasoning -Students will analyze puzzles and games and use problem-solving strategies. -Students will apply set theory to solve problems.	Develop logical reasoning
Probability -Students will learn about odds; probability of mutually exclusive, non-mutually exclusive, and independent events; the fundamental counting principle; permutations; and combinations	Develop critical thinking skills related to uncertainty.
Relations and Functions -Students will learn about rational expressions and equations; logarithms and laws of logarithms, exponential equations, polynomial functions; and sinusoidal functions.	Develop algebraic and graphical reasoning through the study of relations.

Course Topics/Unit Dates

*Note: Dates are tentative and are subject to change.

Timeline	Days	Topic	Chapter	Percent Emphasis
Sep 1–14	9	Set Theory	1	10%
Sep 15-29	11	Permutations and Combinations	2	15%
Sep30-Oct 13	8	Probability	1-3	15%
Oct 14 - 27	10	Rational Expressions and Equations	4	12%
Oct 28 – Nov 9	9	Polynomial Functions	5	12%
Nov 15–25	9	Exponential Functions	6	12%
Nov 26 – Dec 8	9	Logarithmic Functions	7	12%
Dec 9 – Jan 7	10	Sinusoidal Functions	8	12%
Jan 10 - End Date (TBA)		Logic & Reasoning Project, Review & Final Testing	All	---

Grade Determination

- Term grade determination: Grade will be based upon evaluations conducted throughout the course. This portion of the grade will reflect the student's most consistent level of achievement throughout the course, although special consideration will be given to more recent evidence of achievement.
- Final grade determination: Grade will be based on the accumulation of term grade evidence and a final examination administered at the end of the course, based on an evaluation of all units of the course (where applicable). This grade will reflect the student's most consistent level of achievement throughout the course, although special consideration will be given to more recent evidence of achievement.

The final mark/grade represents the quality of the student's overall achievement of the expectations for the course and reflects the corresponding level of achievement. Credit is granted and recorded for this course if the student's grade is 50% or higher.

Diploma exam

The diploma exam for this course is scheduled for Thursday, January 19, 2023 from 9:00 am – 12:00 pm. (Students that require extra time can have double the time allotted.)

Course Evaluation and Student Assessment

Assessment for Learning (Formative Assessment) is a systematic process of collecting information or evidence about student learning and is not assigned a grade/mark for the report card. **Assessment of Learning (Summative Assessment)** is the judgment we make about the assessments of student learning based on established criteria and a mark/grade is recorded for the report card.
The purpose of assessment is to improve student learning. This means that judgments of student performance must be criterion-referenced so that descriptive feedback can be given that includes clearly expressed next steps for improvement. Tools of varying complexity are used by the teacher to facilitate this. For the more complex evaluations, the criteria are incorporated into a rubric where levels of performance for each criterion are stated in language that can be understood by students. Where possible, students will be engaged in their own assessment through self-reflection and the construction of rubrics.

Assessment is embedded within the instructional process throughout each unit rather than being an isolated event at the end. Often, the learning and assessment tasks are the same, with formative assessment provided throughout the unit. In every case, the desired demonstration of learning is articulated clearly and the learning activity is planned to make that demonstration possible. This process of beginning with the end in mind helps to keep focus on the expectations of the course curriculum outcomes. The evaluations are expressed as a percentage/mark/grade based upon levels of achievement.

The Final Mark/Grade:

The evaluation for this course is based on the student's achievement of curriculum expectations and the demonstrated skills required for effective learning.

Assignments/Project	30%
Progress Checks and Exams	70%
School Awarded Mark	100%

School Awarded Mark	70% of Final Mark
Diploma Exam	30% of Final Mark

Student materials

Students are required to bring the following to each class:

Pencils, erasers & a binder with lined & graph paper
Graphing calculator – TI-Nspire CX or Other Approved Graphing Calculator
Internet access for Google classroom (At school **and** at home!)

Resources

1. Principles of Mathematics 12 - Textbook & Workbook
2. Teacher Provided Resources
3. Chromebooks, Google Classroom and Internet Resources

	Math Assessments	Outcomes Tested
1	Set Theory & Logical Reasoning	1. Solve problems that involve the application of set theory. 2. Students will analyze puzzles and games and use problem-solving strategies.
2	Permutations and Combinations	1. Solve problems that involve permutations. 2. Solve problems that involve combinations.
3	Probability	1. Interpret and assess the validity of odds and probability statements. 2. Solve problems that involve the probability of mutually exclusive and non-mutually exclusive events. 3. Solve problems that involve the probability of two events and the fundamental counting principle.
4	Rational Expressions and Equations	1. Determine equivalent forms of rational expressions. 2. Perform operations on rational operations. 3. Solve problems that involve rational equations.
5	Polynomial Functions	1. Represent data, using polynomial functions to solve problems.
6	Exponential Functions	1. Solve problems that involve exponential equations. 2. Represent data, using exponential functions, to solve problems.
7	Logarithmic Functions	1. Demonstrate an understanding of logarithms and the laws of logarithms. 2. Represent data, using logarithmic functions, to solve problems.
8	Sinusoidal Functions	1. Represent data, using sinusoidal functions, to solve problems.

Instructional Methodologies

Students will become familiar with the mathematical content in the following ways:

- A student-directed, guided investigation which is completed individually or in small groups with the goal of having students develop patterns and determine the mathematical conjecture themselves.
- Class discussion
- Peer learning/feedback
- Lectures with student input
- Projects & Games
- Video clips

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 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 a marked assignment. In return, the appeal process will be completed as soon as possible. Please see the student agenda for more detailed appeals information.

Mrs. Lundstrom's Classroom Expectations

- Be punctual and attend all classes. If you miss class, check google classroom, ask a friend and/or the teacher what was missed and complete the assigned work.
- It is the student's responsibility to stay caught up on all learning tasks..
- The classroom environment is based on respect, cooperation, and effort.
- Remember to **ask questions** during class if you need help, guidance or clarification.

Assignment Expectations

- Assignments must be labelled with your name, date and chapter section, page & question numbers at the top of the page.
- Work must be done neatly in pencil and answers must be clearly indicated.
- All work must be shown (not just an answer) unless otherwise specified and all aspects of the question must be considered and clearly answered. Real life word problems require complete sentences that clearly answer all aspects of the question.

Attendance

Students must be on time for class. They are expected to be in class at the bell. Students that miss 25% or more of the class will be marked absent. (20 min for 80 min class) Students who are consistently late may receive contact home and possible meetings with administration to ensure their success.

As per school policy, daily attendance is expected. A parent/guardian should contact the school for all excused absences. Students who have too many absences may receive contact home and possible meetings with administration to ensure their success.

Bus Days

In the event of buses not running, I will run a drop in google meeting during regular class time. This will be time to ask questions, clarify concepts, work on assignments, have group discussions, etc. No new material will be covered, but this may change depending on the frequency of bus cancellations.

I have read and understand the above course outline. (Please follow the link to the google form to provide contact information for your parent/guardian.)