Crocus Plains Regional Secondary School

Course Outline

Course Title: Applied Mathematics (MAD 30S)

Teacher: Mr.Patel

Contact: patel.chintankumar@bsd.ca or 729-3900

Course Description: Grade 11 Applied Mathematics (30S) is intended for students considering post-secondary studies that do not require a study of theoretical calculus. It is context driven and promotes the learning of numerical and geometrical problem-solving techniques as they relate to the world around us. It builds on knowledge and skills from Grade 10 Introduction to Applied and Precalculus Mathematics, and constructs a foundation for Grade 12 Applied Mathematics.

Primary goals of Applied Mathematics are to have students develop critical-thinking skills through problem solving and model real-world situations mathematically to make predictions.

Technology is an integral part of both learning and assessment in Applied Mathematics. Graphing calculators, spreadsheets, or other computer software will be used by students for mathematical explorations, modelling, and problem solving.

The Grade 11 Applied Mathematics course includes the following topics:

- Measurement
- Geometry
- Logical Reasoning
- Statistics
- Relations and Functions

Additionally, students will complete a Mathematics Research Project.

Text/Other Resources: Foundations of Mathematics 11 (Nelson)

Unit Descriptions:

Unit	Outcomes	Proposed Time
Inductive and Deductive Reasoning	Analyze and prove conjectures, using inductive and deductive reasoning, to solve problems. Analyze puzzles and games that involve spatial reasoning, using problem-solving strategies.	Approx. 9 classes
Properties of Angles and Triangles	Derive proofs that involve the properties of angles and triangles. Solve problems that involve the properties of angles and triangles.	Approx. 6 classes
Acute and Oblique Triangle Trigonometry	Solve problems that involve the cosine law and the sine law, including the ambiguous case.	Approx. 13 classes
Proportional Reasoning	Solve problems that involve the application of rates. Solve problems that involve scale diagrams, using proportional reasoning. Demonstrate an understanding of the relationships among scale factors, areas, surface areas, and volumes of similar 2-D shapes and 3-D objects.	Approx. 10 classes
Systems of Linear Equalities	Model and solve problems that involve systems of linear inequalities in two variables.	Approx. 10 classes
Quadratic Functions & Equations	Demonstrate an understanding of the characteristics of quadratic functions, including vertex, intercepts, domain and range, and axis of symmetry.	Approx. 15 classes
Statistical Reasoning	Demonstrate an understanding of normal distribution, including standard deviation and z-scores. Interpret statistical data, using confidence intervals, confidence levels, and margin of error.	Approx. 11 classes

Assessment Guidelines

There are various purposes for assessment:

- Assessment *for* learning **(formative assessment)**: where assessment helps teachers gain insight into what students understand in order to plan and guide instruction, and provide helpful feedback to students.
- Assessment *of* learning **(summative assessment)**: where assessment informs students, teachers and parents, as well as the broader educational community, of achievement at a certain point in time in order to celebrate success, plan interventions and support continued progress.

Academic Achievement

Grades will be calculated on summative assessment information only.
The final calculation will be a fair reflection of a student's achievement of the learning outcomes.

- Tests & Major Projects 55%
- Assignments/Checkpoints 25%
- Final Exam 20%

Learning Behaviours

Assessment and reporting of learning behaviors will be according to the Brandon School Division Learning Behaviors Rubric.

Unit/Term Summative Assessment – Due Dates

All assessments will be assigned a reasonable completion date. If absent, students are responsible for getting notes, completing assignments, or making arrangements for tests to be written during their own time. In the event of a school or parent excused absence, students will be given a reasonable amount of time to catch up on any assessments.

Classroom policies and rules:

- Be respectful and responsible at all times.
- Students are expected to attend class each day. They will come prepared to work each class period, and will be required to take notes, perform daily assignments, quizzes, and tests.
- **Rules around Cell Phones**

1) On August 15, 2024, the Government of Manitoba has banned the use of cellular phones in the classroom for grades 9 -12, phones are permitted to be used on breaks and lunch. Phones may be used within a classroom with the permission of the classroom teacher for educational purposes only, supporting students with medical or diverse learning needs.

2) Phones are not permitted for use in Mr. Patel's class as sufficient devices are available to support student learning

- It is the student's responsibility to notify the teacher of future absences and to schedule time to make up tests/assignments.
- Students are not allowed to use calculator on their phones during a test or final **exam.**

Extra Help/Contact Information

I am available for extra help before school, at lunch and after school.I can be found in **Room#227**