



Argyle Secondary School Math Department

Foundations of Mathematics 12 Course Outline

Teacher: Jia Kim (jiakim@sd44.ca)

FOM 12 (<https://curriculum.gov.bc.ca/curriculum/mathematics/12/foundations-of-mathematics>)

BIG IDEAS

Probabilistic thinking

informs decision making in situations involving chance and uncertainty.

Modelling data

requires an understanding of a variety of functions.

Mathematical analysis informs financial **decisions**.

Through **explorations** of spatial relationships, we can develop a geometrical appreciation of the world around us.

CURRICULAR COMPETENCIES:

Students are expected to be able to do the following:

Reasoning and modeling

- Develop thinking strategies to solve puzzles and play games
- Explore, analyze, and apply mathematical ideas using reason, technology, and other tools
- Estimate reasonably and demonstrate fluent, flexible, and strategic thinking about number
- Model with mathematics in situational contexts
- Think creatively and with curiosity and wonder when exploring problems

Understanding and solving

- Develop, demonstrate, and apply conceptual understanding of mathematical ideas through play, story, inquiry, and problem solving
- Visualize to explore and illustrate mathematical concepts and relationships
- Apply flexible and strategic approaches to solve problems
- Solve problems with persistence and a positive disposition
- Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

Communicating and representing

- Explain and justify mathematical ideas and decisions in many ways
- Represent mathematical ideas in concrete, pictorial, and symbolic forms
- Use mathematical vocabulary and language to contribute to discussions in the classroom
- Take risks when offering ideas in classroom discourse

Connecting and reflecting

- Reflect on mathematical thinking
- Connect mathematical concepts with each other, other areas, and personal interests
- Use mistakes as opportunities to advance learning
- Incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts

CONTENT:

Students are expected to know the following:

- geometric explorations:
 - constructions
 - conics
 - fractals
- graphical representations of polynomial, logarithmic, exponential, and sinusoidal functions
- regression analysis
- combinatorics
- odds, probability, and expected value
- financial planning

RESOURCE MATERIALS:

Foundations of Mathematics 12 Textbook
Locally developed supplemental packages

MARKS ASSIGNMENT:

Students are assessed 85% on unit tests/projects and 15% on classwork including assignments, problems and quizzes.

POLICIES AND PROCEDURES:

1) PREPARATION FOR CLASS

It is the student's responsibility to arrive for each class **on time** with their notebook, pencils, calculator, and textbook. Good work habits, effort, regular attendance, and completion of assignments contribute to successful achievement.

2) ABSENCES

Missing classes for any reason will have an impact on learning, assessment, and evaluation. Students absent from class, whether excused or unexcused, are solely responsible for obtaining and completing any missed assignments, work, or homework. **Your teacher is not required to make special arrangements for unexcused absences.**

- a. Students absent for illness, medical appointments, and other emergencies **must** contact their teacher **on the day they return to school** to submit overdue assignments, schedule missed assessments, and to receive missed work.
- b. Students absent for school related activities (ex. field trips, work experience, sports trips, etc.), **must** inform their teacher of this absence **well in advance** of the activity, in order to receive specific instructions on work that will be missed and the rescheduling of missed assessments.
- c. Students absent for any other reason, including family vacations, are considered **unexcused**. Any work or assessments missed for these absences may result in receiving a **zero** for that activity.

(Student signature)

(Parent / Guardian signature)