

**Mathematics 20–3
Workplace and Apprenticeship
Course Outline
2012**

Teacher: Mr. S. Johnson

This course sequence is designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into the majority of trades and for direct entry into the work force.

Students are expected to discuss their post-secondary plans with our counselors (Mrs Rieger) and can check the following website for more information about career planning:

<http://alis.alberta.ca/ps/post-secondary>

Other post-secondary info is available on our school website under the “Students and Parents” link.

Workplace & Apprenticeship Mathematics 20-3, will cover the approved program of studies.

[\(http://education.alberta.ca/teachers/program/math/educator/progstudy.aspx\)](http://education.alberta.ca/teachers/program/math/educator/progstudy.aspx)

Textbook: Mathworks 11 – Pacific Educational Press

Course Content:

Chapter 1: Slope & Rate of Change
Chapter 2: Graphical Representations
Chapter 3: Surface Area, Volume & Capacity
Chapter 4: Trigonometry of Right Triangles
Chapter 5: Scale Representations
Chapter 6: Financial Services
Chapter 7: Personal Budgets

****Evaluation:**

Student Work 20%
Quizzes 10%
Unit Exams 50%
Final Exam 20%

** subject to change re: department guidelines

Supplies: Scientific Calculator Notebook Binder (min. 1”), Pencils,
Pens (Blue & Red) Highlighter **** Sticky Notes ****

Expectations of Students:

- **Participation** in all activities is a key component of the revised math curriculum. Students are expected to actively engage and contribute to each activity.
- Students must take pride in completing homework assignments. Failure to do so will make success in this course very difficult.
- Students will need to be **attentive** to classroom instructions, content and deadlines.
- Students should **ask for help** if there are any questions, concerns, or circumstances the teacher should be aware of.

Thank you for your co-operation and we look forward to having a terrific semester!!!

Course Outcomes:

1. Develop spatial sense through direct and indirect measurement.

- A.** Solve problems that involve SI and imperial units in surface area measurements and verify the solutions.
- B.** Solve problems that involve SI and imperial units in volume and capacity measurements.

2. Develop spatial sense.

- A.** Solve problems that involve two and three right triangles.
- B.** Solve problems that involve scale.
- C.** Model and draw 3-D objects and their views.
- D.** Draw and describe exploded views, component parts and scale diagrams of simple 3-D objects.

3. Develop number sense and critical thinking skills.

- A.** Analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.
- B.** Solve problems that involve personal budgets.
- C.** Demonstrate an understanding of compound interest.
- D.** Demonstrate an understanding of financial institution services used to access and manage finances.
- E.** Demonstrate an understanding of credit options, including:
 - credit cards
 - loans.

4. Develop algebraic reasoning.

- A.** Solve problems that require the manipulation and application of formulas related to:
 - volume and capacity
 - surface area
 - slope and rate of change
 - simple interest
 - finance charges.
- B.** Demonstrate an understanding of slope:
 - as rise over run
 - as rate of change
 - by solving problems.
- C.** Solve problems by applying proportional reasoning and unit analysis.

5. Develop statistical reasoning.

- A.** Solve problems that involve creating and interpreting graphs, including:
 - bar graphs
 - histograms
 - line graphs
 - circle graphs.