



School of Access  
Community Learning Partnerships  
**MATH 038 S16**  
Fundamental Math for Trades  
**Course Outline – Winter 2016**



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<b>Class Hours:</b> Tu/Th 9:00-11:50	<b>Office Hours:</b> By Arrangement	

### Calendar Description

This course provides a brief trades-oriented review of the basic computational and problem-solving skills required for further study in various Trades Foundation programs. Topics include: whole numbers, fractions, decimals, proportion, percent, powers, roots, graphs, formulas, measurement, and geometry.

**Prerequisite(s):** MATH 034, or assessment. <http://camosun.ca/learn/calendar/current/web/math.html>

### Intended Learning Outcomes

(complete ABE Fundamental Mathematics learning outcomes at ABE Articulation Handbook website <http://www.aved.gov.bc.ca/abe/handbook.pdf>)

At the end of the course, students will be able to:

1. demonstrate knowledge and skills in using the principles and operations of various math topics such as arithmetic, measurement, graphs, formulas, and geometry
2. apply a variety of strategies in solving math-related problems
3. apply knowledge and skills in various math topics to solve problems related to particular Trades Foundation Programs (except Professional Cook and Electrical programs)
4. use knowledge of various math topics as a basis for further study in Trades Foundation Programs (entry level)

### Required Materials

- (a) textbook: *Line B, Solve Mathematical Problems, Trades Common Core*
- (b) scientific calculator
- (c) optional supplementary materials from MATH 032/033/034

### Course Content and Schedule

#### Self-paced Instructions

The course completion time will vary for each student, depending on a number of factors, including your current level of math skills, motivation, learning rate, and how much time you have to work on this course. Students generally need to spend 5–15 hours of study time per week, either at the college or at home, to complete a math course within 4 months.



The table below lists the six competencies or chapters in the Line B text that are required for the Professional Cook Foundations Program. Follow these steps to complete each competency:

1. skip the Pre-Test
2. study the explanations and examples
3. answer and check **all** questions in the order listed in the table below
4. complete all of the Professional Cook Applied Problems for that competency
5. ask the instructor for help whenever you need it

To prepare for the Final Test, write the Practice Test and review your results with the instructor.

### **Basis of Student Assessment (Weighting)**

The course grade is either COM (complete) or NC (not complete), and is based on the student's score on the Final Test, which covers all of the required units (passing score 75%).

**Note:**

Students with a record of poor attendance OR poor progress may be restricted from re-registering in Academic and Career Foundations Department courses.

### **Grading System**

<b>COM</b>	<b>IP</b>	<b>NC</b>
Complete	In Progress	Not Complete

**MATH 038 Essential Skills**

(based on learning outcomes, coursework and classroom interaction)

**Numeracy:**

numerical calculation and measurement (arithmetic, metric and imperial measurement, graphs, formulas, geometry)

- Convert between fractions, decimals, and percent
- Add, subtract, multiply and divide rational numbers
- Solve application problems involving arithmetic, metric and imperial measurement, graphs, formulas, and geometry
- Use order of operations
- Use the common metric and imperial units for temperature, length, volume and mass
- Convert between and within metric and imperial units using tables and/or calculators
- Use formulas to solve related application problems
- Read, write, and use ratios and proportions to solve percent and other application problems
- Distinguish between significant digits, accuracy, and precision
- Use a calculator to find squares, cubes, square roots, and cubic roots of whole numbers, fractions, and decimals
- Extract and interpret information from line, bar and circle graphs
- Draw line and bar graphs
- Solve equations, formulas, and related application problems
- Use a protractor, compass and straightedge to measure angles, bisect lines, angles and arcs, find the centre of a circle and construct a perpendicular to a line
- Use the Pythagorean theorem and properties of triangles to find missing sides and angles of triangles

**Reading**

- Scan for key information
- Read and correctly follow written directions
- Read a full text to understand, learn or evaluate
- Integrate and synthesize information from multiple sources
- Refer to appropriate written (hardcopy or online) resources when experiencing difficulty

**Document Use**

- Interpret information in graphs or charts
- Use a table of contents or index to find specific information

**Writing**

- Organize, record and document
- Write notes in point form

**Oral Communication**

- Follow oral instructions and explanations
- Seek or obtain information from peers and instructor

**Working with Others**

- Work independently alongside others
- Use appropriate and respectful communication with peers and others
- Receive and apply relevant feedback

**Thinking Skills**

- Apply prior learning to facilitate effective study and to integrate information from a text with background knowledge from outside the text
- Identify learning strengths
- Identify and set short and long term goals
- Maintain a personalized learning plan within an individualized educational setting
- Identify key facts and issues related to a problem
- Apply a variety of strategies in solving math-related problems
- Check that answers and solutions to problems are reasonable
- Build strategies for successfully writing math tests
- Prioritize tasks
- Use tools (calendars, agendas, checklists) to help organize tasks and for time management
- Identify, compare, contrast and critically evaluate multiple pieces of information while reading, listening and/or viewing

**Digital Technology**

- Use a scientific calculator
- May use online tools to communicate and to learn and practice mathematical skills

**Continuous Learning**

- Deepen understanding of skill strengths and areas in need of improvement
- Recognize preferred learning styles (learning by seeing, hearing or doing)
- Try new ways of doing things
- Continue studies in Foundations Level Trades Programs (except Electrical)



### Course Content

MATH 038 course content	Line B page #	question #
<b>Competency B-1</b> <b>– Whole Numbers</b>		
	5	1-4
	3	1-5
	7	1-5
<b>Competency B-2</b> <b>– Fractions</b>		
	15	1-4
	17	1-4
	20	1-4
	21	1-5
	11	1-20
	23	1-15
<b>Competency B-3</b> <b>– Decimals</b>		
	32	1-2
	33	1-2
	37	1-5
	29	1-10
	38	1-15
<b>Competency B-4</b> <b>– Metric and Imperial Measurements</b>		
	46	1-2
	49	1-6
	43	1-2
	50	1-2
<b>Competency B-5</b> <b>– Ratio and Proportion</b>		
	59	1-12
	55	1-10
	62	1-10
<b>Competency B-6</b> <b>– Percent</b>		
	69	1-4

	73	1-4
	67	1-5
	74	1-5
<b>Competency B-7</b> <b>– Powers and Roots</b>		
	82	1
	84	1
	79	1-3
	85	1-3
<b>Competency B-8</b> <b>– Graphs</b>		
	93	1-5
	96	1-2
	89	1-5
	98	A-E
<b>Competency B-9</b> <b>– Formulas</b>		
	111	1-5
	105	1-7
	115	1-5
<b>Competency B-10</b> <b>– Perimeters, Areas, and Volumes</b>		
	125	1-8
	121	1-8
	129	1-8
<b>Competency B-11</b> <b>– Angles and Triangles</b>		
	142	1-4
	135	1-6
	151	1-6
MATH 038 Practice Test		
MATH 038 Final Test		



## Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Registrar's Office or the College web site at:

<http://www.camosun.ca>

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section, or the College web site at:

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>

### STUDENT GRADING POLICY

A new student grading policy is in effect for students in the School of Access. This information is available in the College Calendar, Registrar's Office or the College web site at:

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>

### ACADEMIC PROGRESS POLICY

There is an Academic Progress Policy designed to enhance a learner's likelihood of success. Students should become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section or the College web site at:

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf>