



School of Access
Community Learning Partnerships
MATH 034 S17
Fundamental Mathematics 7
Course Outline – Fall 2013



| | | |
|--|---|---|
| Instructor: Morgan Sargent | E-mail: sargentm@camosun.bc.ca | Phone #: 250-544-2192 |
| Class Hours: Mo & We 9:00-11:50 | | Office Hours: Mo & We: 12:00-12:30 |

Calendar Description

This course provides the basic computational and problem solving skills required for many aspects of daily life, and for further study in trades math and in intermediate-level algebra, geometry, and trigonometry. Topics include: whole numbers, fractions, decimals, proportion, percent, graphs, statistics, measurement, and geometry.

Prerequisite(s): MATH 033 or Assessment.

<http://camosun.ca/learn/calendar/current/web/math.html>

Required Materials

- (a) Textbook: *Developmental Mathematics*, 7th edition, Marvin Bittinger & Judith Beecher
- (b) Scientific calculator (Students going on to MATH 072 should purchase a Sharp EL531W)

Course Content and Schedule – Self-paced Instructions

The course is designed to be completed in one term. However, it can be completed sooner, depending on a number of factors including the students' beginning level of math skills, motivation, learning rate, and how much time they can actually study (average 15-20 hours per week to complete in 4 months).

If you do not understand something seek help right away!

Please arrange a date and time with your instructor to write unit exams. These exams will be written face-to-face.

Grade Calculation¹: Six Unit Exams: 100%

¹ As this is a mastery-based course, the goal for each test is 75% or better. If you scored less than 75% then you will need to rewrite the test before you continue. Note: Tests can only be rewritten once for a total of two times and all test scores are averaged to calculate a final mark.



Learning Outcomes

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

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

1. use mathematics at an ABE Fundamental level with competence
2. demonstrate knowledge and skills in using the principles and operations of basic arithmetic, measurement, and data analysis
3. apply a variety of strategies in solving math-related problems
4. apply knowledge and skills in basic arithmetic, data analysis, measurement, and geometry to solve problems related to employment, consumerism, personal finance, and other aspects of daily life
5. use knowledge and skills in arithmetic, data analysis, measurement, and geometry as a basis for further study in algebra, geometry, trades math, and other programs

Grading System

| Percentage | Grade | Grade Point Equivalency |
|-------------|-------|-------------------------|
| 90–100% | A+ | 9 |
| 85–89% | A | 8 |
| 80–84% | A– | 7 |
| 77–79% | B+ | 6 |
| 73–76% | B | 5 |
| 70–72% | B– | 4 |
| 65–69% | C+ | 3 |
| 60–64% | C | 2 |
| 50–59% | D | 1 |
| <50% | F | 0 |
| In Progress | IP | N/A |

**MATH 034 Essential Skills**

(based on learning outcomes, coursework and classroom interaction)

Numeracy: numerical calculation and measurement (arithmetic, metric and imperial measurement, graphs, data analysis, formulas, geometry)

- Convert between fractions, decimals, and percents
- Add, subtract, multiply and divide rational numbers
- Solve application problems involving arithmetic, metric and imperial measurement, graphs, data analysis, 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
- Extract and interpret information from line, bar and circle graphs
- Draw line and bar graphs
- Solve simple equations, formulas and related application problems
- Use formulas to find perimeter and area of triangles, squares, rectangles, parallelograms, trapezoids, circles and composite figures
- Use formulas to find the surface area and volume of rectangular solids
- Calculate median, mean, and mode

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 & critically evaluate multiple pieces of information while reading/listening/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



| MATH 034 course content | |
|---|---|
| Unit 1 – Whole Numbers (15 days) | |
| 1.1 | Standard notation; order |
| 1.2 | Addition and subtraction |
| 1.3 | Multiplication and division; rounding and estimating |
| 1.4 | Solving equations |
| 1.5 | Applications and problem solving |
| 1.6 | Exponential notation and order of operations |
| 1.7 | Factorizations |
| 1.8 | Divisibility |
| 1.9 | Least common multiples |
| | Summary and review |
| | Chapter test |
| | Unit 1 final test (no calculator) |
| Unit 2 – Fraction Notation (20 days) | |
| 2.1 | Fraction notation and simplifying |
| 2.2 | Multiplication and division |
| 2.3 | Addition and subtraction; order |
| 2.4 | Mixed numerals |
| 2.5 | Applications and problem solving |
| 2.6 | Order of operations; estimation |
| | Summary and review |
| | Chapter test |
| | Unit 2 final test (no calculator) |
| Unit 3 – Decimal Notation (15 days) | |
| 3.1 | Decimal notation, order, and rounding |
| 3.2 | Addition and subtraction |
| 3.3 | Multiplication |
| 3.4 | Division |
| 3.5 | Converting from fraction notation to decimal notation |
| 3.6 | Estimating |
| 3.7 | Applications and problem solving |
| | Summary and review |
| | Chapter test |
| | Unit 3 final test (no calculator) |

| MATH 034 course content | |
|--|--|
| Unit 4 – Percent Notation (20 days) | |
| 4.1 | Ratio and proportion |
| 4.2 | Percent notation |
| 4.3 | Percent and fraction notation |
| 4.4 | Solving percent problems using percent equations |
| 4.5 | Solving percent problems using proportions |
| 4.6 | Applications of percent |
| 4.7 | Sales tax, commission, and discount |
| | Summary and review |
| | Chapter test |
| | Unit 4 final test |
| Unit 5 – Data, Graphs, and Statistics (15 days) | |
| 5.1 | Averages, medians, and modes |
| 5.2 | Tables and pictographs |
| 5.3 | Bar graphs and line graphs |
| 5.4 | Circle graphs |
| | Summary and review |
| | Chapter test |
| | Unit 5 final test |
| Unit 6 – Measurement and Geometry (15 days) | |
| A* | Linear measures: American units and metric units (*Appendices) |
| B* | Weight and mass; medical applications |
| C* | Capacity; medical applications |
| D* | Time and temperature |
| 6.2 | Perimeter |
| 6.3 | Area |
| 6.4 | Circles |
| 6.5a | Volume and surface area |
| | Summary and review |
| | Unit 6 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-&-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-&-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-&-instruction/e-1.1.pdf>