



Welcome to Camosun College!

Camosun College campuses are located on the traditional territories of the Lkwungen and WSÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

School of Access - Academic and Career Foundations Department

MATH 039 S04 Basic Math for Health Care

COURSE OUTLINE

The Approved Course Description is available on the College website

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

1. Instructor Information

Instructor: Nicolas Mai

Phone: 250-370 – 4481

Office: Interurban: CBA 146

Email: mai@camosun.bc.ca

The Approved Course Description is available on the College website <http://www.camosun.ca/learn/calendar/current/>

Fall Term, September 7 – December 17, 2021

| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------|---|---|---|---|---|
| 8:30 | Math S02 24/25/26/37/38/39 52/53/57 CBA 118 | Office CBA 146 | Math S02 24/25/26/37/38/39 52/53/57 CBA 118 | Office CBA 146 | Office CBA 146 |
| 10:30 | Nicolas Mai mai@camosun.ca | Math S03 24/25/26/37/38/39 52/53/57 Portable A, rm 102 | Nicolas Mai mai@camosun.ca | Math S03 24/25/26/37/38/39 52/53/57 Portable A, rm 102 | Math S03 24/25/26/37/38/39 52/53/57 Portable A, rm 102 |
| 11:20 | | Nicolas Mai mai@camosun.ca | | Nicolas Mai mai@camosun.ca | Nicolas Mai mai@camosun.ca |
| 12:20 | Office CBA 146 | Math S04 24/25/26/37/38/39 52/53/57 CBA 117 | Office CBA 146 | Math S04 24/25/26/37/38/39 52/53/57 CBA 117 | Office CBA 146 |
| 3:20 | | Nicolas Mai mai@camosun.ca | | Nicolas Mai mai@camosun.ca | |
| 5:00 | Office CBA 146 | Office CBA 146 | Office CBA 146 | Office CBA 146 | |

To arrange office meetings, please contact Nicolas at 250-370-4481 or email at mai@camosun.bc.ca

2. Intended Learning Outcomes

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 Health Care
4. Use knowledge of various math topics as a basis for further study.

3. Required Materials

- (a) textbook: *Math Basics for the Healthcare Professional*, 4th Ed, by Michele Benjamin-Lesmeister
- (b) calculator (scientific calculator recommended: Sharp EL531W used for MATH 053)

Supplementary Materials

- (a) Selected open source math videos: <https://sites.camosun.ca/acf-math/math-039/>
- (b) website www.mymathlab.com (online text, tutorials, videos, and testing)

4. 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 study math, either at the college or at home.

For each unit of your Math 039 text listed in the table below,

- a. Skip the Pre-Test at the beginning of the text, as well as at the beginning of each Unit/Chapter
- b. Read the Student Learning Outcomes, the **Overview**, and **Review** sections for each math topic and study the **Examples**
- c. Do the odd numbered questions only (#1, 3, 5, etc.) in each of the **Practices**
- d. Check your answers in the back of the book (**Appendix C**); you can also record them in the “Score” column of your Course Outline below, if you wish
- e. (Optional) For additional review, if needed, do:
 - o post-tests and a pre-tests (answers at the back of the book)
 - o a unit review at the end of the chapter
 - o practice tests for all 13 units (Appendix B)
- f. Ask for each Module Test when ready

Help Centres: Please also note that your course includes 4 additional hours of lab time over and above the 6 hours per week class time. Please feel free to utilize the Help Centres for extra help with your course, as this is their purpose.

| MATH 039 course content | | Score |
|---|--|-------|
| Text: <i>Math Basics for the Healthcare Professional</i> | | |
| MODULE 1 | ARITHMETIC OPERATIONS (no calculator) | |
| | | |
| Page | Unit 1 – Whole Number Review | |
| 6 | Addition | |
| 8 | Subtraction | |
| 9 | Multiplication | |
| 11 | Prime Factorization | |
| 12 | Division: <i>Practice</i> | |
| 15 | Solving for the Unknown Number | |
| 16 | Rounding | |
| 17 | Estimation | |
| 18 | Statistical Analysis | |
| 25 | Roman Numerals | |
| 26 | Time in Allied Health | |
| MATH 039 Course Content | | Score |
| Text: <i>Math Basics for the Health Care Professional</i> | | |
| Page | Unit 2 – Fractions | |
| 33 | Part-to-whole Relationships | |
| 34 | Equivalent fractions | |
| 35 | Reducing to Lowest or Simplest Terms | |
| 38 | Improper Fractions | |
| 39 | Adding Fractions with Like Denominators | |
| 41 | Finding the Common Denominator | |

| | | |
|-----------------|---|--|
| 43 | Difficult Common Denominators | |
| 46 | Ordering Fractions | |
| 46 | Subtraction of Fractions | |
| 51 | Multiplication of Fractions | |
| 55 | Multiplication of Mixed Numbers | |
| 58 | Division of Fractions | |
| 61 | Converting Temperatures Using Fraction Formulas | |
| 63 | Complex Fractions | |
| 66 | Measurement in Fractions | |
| Page | Unit 3 – Decimals | |
| 75 | Decimals | |
| 78 | Rounding Decimals | |
| 79 | Comparing Decimals | |
| 82 | Addition of Decimals | |
| 83 | Subtraction of Decimals | |
| 84 | Multiplication of Decimals | |
| 87 | Division of Decimals | |
| 89 | Simplified Multiplication and Division of Decimals | |
| 92 | Changing Decimals to Fractions | |
| 94 | Changing Fractions to Decimals | |
| 96 | Temperature Conversions with Decimals | |
| 97 | Solving Mixed Fraction and Decimal Problems | |
| | | |
| TEST | Module 1 Test - Arithmetic Operations (Units 1-3) (no calculator) (75% minimum) | |
| | | |
| | | |
| MODULE 2 | RATIO, PERCENT & MEASUREMENT (calculator allowed) | |
| | | |
| Page | Unit 4 – Ratio & Proportion | |
| 105 | Ratio | |
| 109 | Proportion | |
| 110 | Solving for “x” | |
| 115 | Word Problems Using Proportions | |
| 117 | Solving for “x” in More Complex Problems | |
| 119 | Nutritional Application of Proportions | |
| 120 | Practice with Food Labels | |
| | | |
| Page | Unit 5 – Percent | |
| 129 | Percent-to-Decimal Conversion | |
| 130 | Decimal-to-Percent Conversion | |
| 131 | Using Proportion to Solve Percent Problems | |
| 136 | Percent Change | |
| 137 | Percent Strength of Solutions | |
| 141 | Single Trade Discount | |

| MATH 039 Course Content | | Score |
|---|---|--------------|
| Text: Math Basics for the Health Care Professional | | |
| Page | Unit 6 – Combined Applications | |
| 148 | Conversions Among Fractions, Decimals, Ratios & Percent | |
| 152 | Using Combined Applications in Measurement Conversion | |
| 153 | Standard Units of Measure | |
| | | |
| Page | Unit 8 – The Metric System | |
| 188 | Using the Metric Symbols | |
| 190 | Changing Unit Measures | |

| | | |
|-----------------|--|--|
| TEST | Module 2 Test – Ratio, Percent & Measurement (Units 4, 5, 6 & 8) (75% minimum) | |
| MODULE 3 | DRUG LABELS, CONVERSIONS AND DOSAGE | |
| Page | Unit 9 - Reading Drug Labels, Medicine Cups, Syringes & IV Bags | |
| 204 | Drug Labels | |
| 209 | Medicine Cups | |
| 210 | Syringes | |
| 211 | IV Bags | |
| Page | Unit 10 - Apothecary Measurement & Conversion | |
| 219 | Apothecary Measurement & Conversions | |
| 229 | Rounding in Dosage Calculations | |
| Page | Unit 11 - Dosage Calculations | |
| 237 | Performing Dosage Calculations | |
| TEST | Module 3 Test – Drug Labels, Conversions & Dosage (Units 9-11) (75% minimum) | |
| MODULE 4 | TYPES OF DOSAGE CALCULATIONS | |
| Page | Unit 12 - Parenteral Dosage | |
| 255 | Injections | |
| Page | Unit 13 – Basics of Intravenous Fluid Administration | |
| 270 | Calculating IV Infusion Rates | |
| 273 | Modified Setup | |
| 275 | Infusion Duration | |
| 277 | Calculating Total Volume | |
| Page | Unit 14 – Basic Dosage by Body Weight | |
| 284 | Conversion to Kilograms | |
| 286 | Calculating Dosage | |
| TEST | Module 4 – Types of Dosage Calculations (Units 12-14) (75% minimum) | |
| Review | Math 039 Review: <i>Comprehensive Post-test (Appendix A on P. 293)</i> | |
| FINAL | Final Exam | |

5. Basis of Student Assessment

- (a) **Tests** 75% of the course grade is based on the average of **all** test scores for modules 1–4 (including both passing and failing test scores)
- (b) **Exams** 25% of the course grade is based on the average of **all** final exam scores (including both passing and failing exam scores)

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

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

A+ 90–100% B+ 77–79% C+ 65–69% D 50-59%

| | | | | | | | |
|----|--------|----|--------|----|-------------|---|--------|
| A | 85–89% | B | 73–76% | C | 60–64% | F | 40-49% |
| A– | 80–84% | B– | 70–72% | IP | in progress | | |

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>

for information on conversion to final grades, and for additional information on student record and transcript notations.

7. Learning Support and Services for Students

ACADEMIC UPGRADING HELP CENTRE (CBA 109 or Ewing 342)

<http://camosun.ca/services/help-centres/math.html>

Help with coursework, reference & learning materials library,
computers & printers, quiet testing & study areas

8. College Supports, Services and Policies



Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/services/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

| Support Service | Website |
|--------------------------|---|
| Academic Advising | http://camosun.ca/advising |
| Accessible Learning | http://camosun.ca/accessible-learning |
| Counselling | http://camosun.ca/counselling |
| Career Services | http://camosun.ca/coop |
| Financial Aid and Awards | http://camosun.ca/financialaid |

| Support Service | Website |
|-------------------------------------|---|
| Help Centres (Math/English/Science) | http://camosun.ca/help-centres |
| Indigenous Student Support | http://camosun.ca/indigenous |
| International Student Support | http://camosun.ca/international/ |
| Learning Skills | http://camosun.ca/learningskills |
| Library | http://camosun.ca/services/library/ |
| Office of Student Support | http://camosun.ca/oss |
| Ombudsperson | http://camosun.ca/ombuds |
| Registration | http://camosun.ca/registration |
| Technology Support | http://camosun.ca/its |
| Writing Centre | http://camosun.ca/writing-centre |

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started: <http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the “Attendance” section under “Registration Policies and Procedures” (<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun’s Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student’s right to choose what is right for them. For more information see Camosun’s Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College’s Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College’s expectations of academic integrity and student behavioural conduct.

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.