School of Academic & Skill Development

Math 030B
Basic Mathematics
Date

3 Credits

Course Outline

INSTRUCTOR	**OFFICE HOURS**
OFFICE	**CLASSROOM**
E-MAIL	**CLASS TIME**
TELEPHONE	**CRN**

Applied Arts office: Ayamdigut Campus A2501, liberalarts@yukonu.ca, 867-668-8770

COURSE DESCRIPTION

Math 030B offers a comprehensive study of operations involving decimals and square roots, with a focus on applying ratios, proportions, unit conversions, percentages, and interest calculations. The course also includes instruction in data interpretation, foundational graphing techniques, and an introduction to the principles of trigonometry. Together with Math 030A, these courses will prepare students for Math 051, 050 or an equivalent grade 11 algebra.

COURSE REQUIREMENTS

Completion of Math 030A

EQUIVALENCY OR TRANSFERABILITY

Together, Yukon University Math 030A & MATH 030B fulfil the Intermediate-Developmental Mathematics requirements in the Adult Basic Education system (ABE) in British Columbia and Yukon.

For more information, please refer to the BC Adult Basic Education Articulation Handbook, which may be found at http://www.bctransferguide.ca/ Find further information at:
https://www.yukonu.ca/admissions/transfer-credit

LEARNING OUTCOMES

Math 030B meets the learning outcomes 2 - 7 and the additional learning outcomes from option A of Mathematics: Intermediate Level—Developmental of the Adult Basic Education program found in the 2024/2025 edition of the ABE Articulation Handbook at https://www.bctransferguide.ca/transfer-options/adult-basic-education/past-abe-guides/.

For specific topics covered, see the Topic Outline section.

COURSE FORMAT

Delivery format

- This course is delivered in a blended format. Students are expected to attend face-to-face sessions on campus or participate remotely via Zoom. Students will complete an assortment of synchronous and/or asynchronous online activities. All classes will be taught using a lecture format, and all lectures will be recorded. Zoom is a synchronous (in real-time) virtual format that enables face-to-face approaches to teaching and learning, and allows for the recording of lectures. These classes are held at scheduled times. Students should plan to arrive or sign in a few minutes before class starts. Course materials will be available on the course Moodle page for students to access and print.

Workload

Students are required to attend all classes, either in person or via Zoom. It is important to note that the time required for successful course completion will vary by individual.

EVALUATION

Attendance & Participation & Quizzes

Students should either attend class in person or sign in at the assigned times. Attendance will be recorded. Attendance and online activities will count towards 10% of the final course grade.

- If a class is missed, it is the student's responsibility to watch the recorded class video or contact the instructor to determine what was covered.
- If a quiz is missed, it is the student's responsibility to inform the instructor and schedule a date and time to complete it within one week of the assigned date.

Assignments

There are three assignments to be completed, and while students may use notes and resources, they are required to demonstrate their own work. Assignments submitted after the due date will receive a deduction of up to 15%. Assignments cannot be accepted and will receive a grade of zero after they have been returned to the class (generally 3 - 5 days). If the due date is missed owing to an emergency, an alternate assignment may be given.

Unit Tests

Two in-class unit tests, each worth 15% of the final course grade, will be assigned. There is one final exam covering all chapters from 1 to 4, with an emphasis on chapters three and four. The final exam accounts for 30% of the course's final grade.

Attendance, Participation and Quizzes	25 %
Assignments (3)	15 %
Unit Tests (2)	30 %
Final Exam	30 %
Total	**100%**

Note: The passing mark for the course is 50%, but a final course mark of at least 65% for both Math 030A & Math 030B is required for admission to Math 051.

TEXTBOOKS & LEARNING MATERIALS

- Complete Math 030 binder available through the Yukon College Bookstore
- Three-ring binder with dividers, writing paper, graph paper, ruler, pencils, scientific calculator.

SUPPLEMENTARY MATERIALS

- Student's Solutions Manual available on-line and on Math 030 Moodle Page
- Math 030 Moodle Page
- World Wide Web Resources
- Khan Academy
- YouTube

RELATED COURSE REQUIREMENTS

It is highly recommended that all students have access to a computer or other device and Internet to do their studies. The minimum specifications for a student device are as follows:

Requirement	**Windows-based PC**	**Apple Mac/macOS-based PC**
Operating System	Windows 10	macOS X
Web Browser	Firefox, Edge or Google Chrome	Firefox, Edge or Google Chrome
RAM/Memory	4 GB	4 GB
Storage	5 GB of available space	5 GB of available space

COURSE WITHDRAWAL INFORMATION

Students may officially withdraw from a course or program without academic penalty up until two-thirds of the course contact hours have been completed. Specific withdrawal dates vary, and students should become familiar with the withdrawal dates of their program. See withdrawal information at www.yukonu.ca/admissions/money-matters

Refer to the YukonU website for important dates: www.yukonu.ca/admissions/important-dates

Refunds may be available. See the Refund policy and procedures at www.yukonu.ca/admissions/money-matters

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures (updated bi-annually) for further details about academic standing, and student rights and responsibilities: www.yukonu.ca/policies/academic-regulations.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website at www.yukonu.ca/policies/academic-regulations

It is the student's responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

TOPIC OUTLINE

Measurement

It is expected that learners will be able to:

- use the common metric units for temperature, length, area, volume/capacity, and mass
- use the common Imperial or US customary units for temperature, length, area, volume/capacity, and force
- convert between and within metric and Imperial or US customary units using tables and/or calculators

Perimeter, Area, and Volume

It is expected that learners will be able to:

- find perimeters of triangles, squares, rectangles, parallelograms, trapezoids, circles and
- composite figures by measuring and using formulas
- find areas of the above shapes by measuring and using formulas
- find the surface areas of cubes, rectangular solids, cylinders, cones, spheres, and composite solids by using formulas
- find the volumes of cubes, rectangular solids, cylinders, cones, spheres, and composite solids by using formulas
- distinguish between concepts of perimeter and area and their respective units

4. Ratio and Proportion

It is expected that learners will be able to:

- read, write, interpret, and compare ratios
- read, write and identify proportions and use them to solve problems
- use ratio and proportion to interpret and make scale drawings
- use proportions to solve problems involving similar triangles

5. Percent

It is expected that learners will be able to:

- use ratios and proportions to solve problems involving:
- finding the percent when the part and whole are known
- finding the part when the percent and whole are known
- finding the whole when the part and percent are known

Additional Learning Outcome: Powers, Roots, and Scientific Notation

- read and write numbers expressed as powers
- calculate powers with integral exponent
- use the rules of exponents to calculate products and quotients of powers with the same base
- use the rules of exponents to calculate the powers of powers
- express numbers using scientific notation
- convert between scientific and standard notation
- read and write numbers expressed as roots
- calculate using roots

Additional Learning Outcome: Trigonometry

- name the parts of a right triangle
- find the missing side of a right triangle using the Pythagorean Theorem
- find the measure of an unknown side or angle of a right triangle using sine, cosine, or tangent ratios
- solve problems using right angle trigonometry

Additional Learning Outcome: Graphing

- • draw a Cartesian co-ordinate system
- plot and name points in a Cartesian co-ordinate system
- given an equation in two variables:
- determine if an ordered pair is a solution
- find ordered pairs which are solutions
- create a table of values
- graph linear equations
- determine the slope of a line given two points on the line
- relate slope to grade and pitch
- find x- and y-intercepts
- solve problems using graphs of linear equations