School of Academic and Skills Development			

Yukon University

MATH 030
Basic Mathematics
Fall 2024

6 Credits

Course Outline

INSTRUCTOR	Inderjeet Kaur	**OFFICE HOURS**	by appointment
OFFICE		**CLASSROOM**	A2603
E-MAIL	inderjeetkaur@yukonu.ca	**CLASS TIME**	M,T,W,R,F 8:30- 9:50 am
TELEPHONE	N/A	**CRN**	10037
Liberal Arts office: Ayamdigut Campus A2501, liberalarts@yukonu.ca, 867-668-8770			

COURSE DESCRIPTION

Basic Mathematics builds skills with whole numbers, fractions, decimals, ratios, percentages, data, graphs, statistics, measurement systems, and geometry. It also introduces concepts involving real numbers and algebra. This course prepares students for an intermediate algebra course.

COURSE REQUIREMENTS

Prerequisite(s): Math 020, with at least 65%, including fractional, decimal, percent, and exponential notation **or** acceptable scores on the YukonU math assessment.

EQUIVALENCY OR TRANSFERABILITY

None at present.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- add, subtract, multiply, and divide rational numbers
- solve equations in one variable
- add, subtract, multiply, and divide polynomials
- factor polynomials
- solve quadratic equations by factoring
- use trig ratios to solve right angled triangles
- add, subtract, multiply, and divide rational expressions
- solve rational equations
- translate a problem into an equation

COURSE FORMAT

Delivery format

This course is delivered synchronously in a hyflex format. Students may attend classes at the scheduled times either face-to-face at Ayamdigut campus or online via video conference (Zoom). Classes will be recorded using Zoom and linked on the course Moodle page after class.

Workload

This course has scheduled classes of 1.5 hrs 5 days per week for 7.5 hrs/week total.

It is expected that students will require and additional 1- 2 hrs per day to complete homework and assignments. The actual time required for successful course completion will vary by individual.

EVALUATION

Assignments

There are eight assignments, one for each chapter and one for the Trigonometry unit. Assignments can be done outside of class time and students may use notes and resources to complete them, including working in study groups; however, each student must show their own work. Assignments submitted after the due date will receive a deduction to a maximum of 15%.   Assignments cannot be accepted and will receive a grade of zero after they have been returned to the class (usually after 3 - 5 days). If the due date is missed owing to an emergency, an alternate assignment may be given.

Quizzes and Tests

There are three unit tests and several quizzes throughout the course worth 15% of the overall grade. If a test or 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 assigned date.

Exams

There is one midterm exam covering the material in the first half of the course. A final exam will cover all chapters, with emphasis on the material covered after the midterm exam. Exams will be timed and closed-book and must be completed at the scheduled time. If an exam is missed without prior communication with the instructor, an alternate exam may be given at the discretion of the instructor, but the maximum grade will be 65%.

Assignments	30 %
Quizzes and Tests	15 %
Midterm Exam	25 %
Final Exam	30 %
Total	**100%**

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

TEXTBOOK

The textbook is an open educational resource (OER) provided free of charge as a PDF file on the course Moodle page. Printed copies are available for purchase in the campus store.

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

ACCESSIBILITY AND ACADEMIC ACCOMMODATION

Yukon University is committed to providing a positive, supportive, and barrier-free academic environment for all its students. Students experiencing barriers to full participation due to a visible or hidden disability (including hearing, vision, mobility, learning disability, mental health, chronic or temporary medical condition), should contact Accessibility Services for resources or to arrange academic accommodations: access@yukonu.ca. [Text updated 16 November 2022]

TOPIC OUTLINE

Operations with Real Numbers
  It is expected that learners will be able to:
    a) write fractions as decimals and repeating decimals as fractions
    b) add, subtract, multiply and divide rational numbers
    c) evaluate powers with rational bases and integer exponents

    d) demonstrate the order of operations with rational numbers

    e) evaluate radicals with rational radicands and distinguish between exact answers and approximate answers

    f) simplify, add, subtract, multiply and divide square roots

First Degree Equations and Inequalities

It is expected that learners will be able to:

    a) solve first degree equations, in one variable, including those involving parentheses

    b) solve formulas for a given variable when other variables are known

    c) solve formulas for a given variable

    d) solve first degree inequalities in one variable

    e) solve practical problems that can be solved using a first-degree equation

Polynomials

It is expected that learners will be able to:

    a) distinguish between monomials, binomials, trinomials, and other polynomials (in one variable only)

    b) apply the laws of exponents to variable expressions with integral exponents

    c) evaluate polynomials by substitution

    d) add, subtract, and multiply polynomials

Linear Equations

It is expected that learners will be able to:

    a) graph a linear equation including the forms $x = a$ and $y = b$

    b) given a linear equation or its graph, determine its slope and x- and y-intercepts

    c) determine the equation of a line, $y = mx + b$, given

        i. its graph

        ii. its slope and a point on the line

        iii. two points on the line

Trigonometry

It is expected that learners will be able to:

    a) solve right triangles using one or more of

        i. the sine ratio

        ii. the cosine ratio

        iii. the tangent ratio

        iv. the Pythagorean theorem

        v. the angle sum property of triangles

Weekly Topic Outline

Week	Topic	Chapter(s)
1	Whole Numbers review	Ch 1
2	Integers	Ch 2
3	Fundamentals of Algebra	Ch 3
4	Fundamentals of Algebra cont.	Ch 3
5	Fractions	Ch 4
6	Decimals	Ch 5
7	Ratio and Proportion	Ch 6
8	Percent	Ch 7
9	Geometry and Trigonometry	Trigonometry Booklet
10	Reading Week	No Classes
11	Graphing	Ch 8
12	Polynomials and Scientific Notations	Ch 9
13	Review	All