



**COURSE OUTLINE
FACULTY OF TECHNOLOGY
IT DEPARTMENT**

COURSE NAME: MATHEMATICS for Technology I
COURSE CODE: MATH 1025
CREDIT HOURS: 42 (14 weeks at 3h/week)
PREREQUISITES: Assessment Test
COREQUISITES: none
EFFECTIVE DATE: September, 2005
PROFESSOR: Shenouda Gad
PHONE: (416) 415-5000 Ext. 3387
EMAIL:sgad@gbrownc.on.ca
PLAR ELIGIBLE: YES (X) NO ()

NOTE TO STUDENTS: Academic Departments at George Brown College will **NOT** retain historical copies of Course Outlines. We urge you to retain this Course Outline for your future reference.

FOR OFFICE USE ONLY		
ORIGINATOR:	FACULTY OF TECHNOLOGY	
	SIGNATURE	DATE
CHAIR:	GERRY DRAPPEL	
	SIGNATURE	DATE
DATE OF REVISION:	AUGUST 2003	

EQUITY STATEMENT: George Brown College values the talents and contributions of its students, staff and community partners and seeks to create a welcoming environment where equity, diversity and safety of all groups are fundamental. Language or activities which are inconsistent with this philosophy violate the College policy on the Prevention of Discrimination and Harassment and will not be tolerated. The commitment and cooperation of all students and staff are required to maintain this environment. Information and assistance are available through your Chair, Student Affairs, the Student Association or the Human Rights Advisor.

STUDENT RESPONSIBILITIES: Students should obtain a copy of the *Student Handbook* and refer to it for additional information regarding the grading system, withdrawals, exemptions, class assignments, missed tests and exams, supplemental privileges, and academic dishonesty. Students are required to apply themselves diligently to the course of study, and to prepare class and homework assignments as given. Regular attendance, though not a requirement, is strongly advised. Past student performance shows a strong relationship between regular attendance and success.

COURSE DESCRIPTION:

This course of introductory mathematics focuses on fundamentals in algebra and trigonometry including problem solving and graphing. Specifically the following main topics are covered:

- Functions and Graphs
- Systems of Linear Equations; Determinants
- Factoring and Fractions in algebraic form
- Quadratic Equations
- Exponents and Radicals
- Exponential and Logarithmic Functions
- Trigonometric Functions

GENERIC SKILLS:

The college is committed to ensure that students have the full range of knowledge and skills required for full participation in all aspects of their lives including skills to enable them to be life long learners. To ensure graduates have this preparation, generic skills such as communicating, mathematics literacy and numeracy, computer, interpersonal skills and critical thinking skills are imbedded in all courses. Generic skills areas will be taught (T), practiced (P) and/or evaluated (E) in this course.

Skill	T	P	E	Skill	T	P	E
Communicate clearly- spoken, written, visual presentation		X		Evaluate information based on quantitative and/or qualitative data	X	X	X
Reframe ideas and concepts to demonstrate understanding using narrative, numerical, symbolical forms	X	X	X	Create innovative strategies and/or products that meet identified needs	X		
Apply mathematical techniques	X	X	X	Manage time and other resources to attain goals	X	X	
Use the computer to perform tasks	X	X	X	Take responsibility for own actions		X	
Interact and work in teams to achieve goals	X	X	X	Adapt to new situations and demands	X		
Apply critical thinking in problem solving and making decisions	X	X	X	Assess own skills, knowledge and experience		X	
Collect, analyze and organize information	X	X	X				

COURSE OUTCOMES:

Upon successful completion of this course, students should be able to:

1. employ standard mathematical language and symbolism to express his/her ideas,
2. demonstrate an understanding of concepts and methods listed in the above Course Description,
3. demonstrate mastery of above methods, solution procedures and mathematical tools,
4. apply appropriate methods and principles to solve problems in their respective discipline.

DELIVERY METHODS:

The course material is covered in class or assigned for study in a sequential order deemed appropriate by the professor. Students are expected to be in attendance during time-tabled periods for:

- warm up questions,
- workshops,
- presentation of new material,
- problem-solving examples, and
- (as much as possible) in class review of difficult homework problems
- group discussions, and
- testing

LIST OF TEXTBOOKS AND OTHER TEACHING AIDS:

Note : Students in T121 – Mechanical Engineering Technology
or T135 – Manufacturing Engineering Technology (Microelectronics)
require the complete textbook, “Basic Technical Mathematics w. Calculus,
Metric Version, 7th Edition , A.J. Washington

**First semester students in T118, T137, T143 or IT programs (T127, T141, T147)
require**

**Allyn J. Washington, Basic Technical Mathematics Volume 1, Custom Edition for
George Brown College, ISBN 0-536-75103-X (From: Basic Technical Mathematics w.
Calculus, Metric Version, 7th Edition, Pearson, 2000)**

Students must possess and bring to all classes a working scientific calculator

TESTING POLICY:

Two equally weighted tests are given in the two blocks of seven weeks comprising one semester.

There are no re-writes.

Absence from tests requires a professional certificate (doctor, lawyer, etc.).

Although attendance is strongly recommended, there is no mark allowance for attendance.

The successful student must complete the material within the time allotted for the term (semester).

The final grade is based on the average of all the tests given.

ASSIGNMENT POLICY :

For additional workout and assessment, assignments may be given at professor’s discretion where indicated.

EVALUATION SYSTEM:

- Test weighting: 50% (equal weight)
- Workshops and presentations 20%
- Quizzes and assignments: 30%
- Course passing grade: 50% (D) minimum.

GRADING SYSTEM

GEORGE BROWN COLLEGE				
A+/A 86-100	B+ 77-79	C+ 67-69	D+ 57-59	Below 50 F
A- 80-85	B 73-76	C 63-66	D 50-56	
	B- 70-72	C- 60-62		

Excerpt from the College Policy on Academic Dishonesty:
The *minimal* consequence for submitting a plagiarized, purchased, contracted, or in any manner inappropriately negotiated or falsified assignment, test, essay, project, or any evaluated material will be a grade of zero on that material.

TOPICAL OUTLINE:

Outcome	TOPIC and Content	Reference	*hrs/wk
	<p>N.B.: Students should review Chapters 1 to 4 on their own, since the contents of these chapters are considered a prerequisite.</p>		
1 to 4	<p>1. FUNCTIONS AND GRAPHS</p> <p>1.1 Straight Line Equations & Graphs 1.2 Graphs of Other Functions 1.3 Finding Equation of Straight Line 1.4 Sketching and Graphing of a Straight Line 1.5 Solving Straight Line Problems</p>	<p>Ch 3 (Review) Ch 5</p>	<p>4 hrs</p>
1 to 4	<p>2. LINEAR EQUATIONS</p> <p>2.1 Equations with Two Variables 2.2 Equations with Three Variables 2.3 Graphical solutions 2.4 Solution with Determinants 2.5 Other Determinant Methods</p>		<p>5 hrs</p>
1 to 4	<p>3. FACTORING AND FRACTIONS</p> <p>3.1 Factoring of Algebraic Expressions 3.2 Addition, Subtraction, Multiplication & Division of Algebraic Fractions 3.3 Equations Involving Fractions 3.4 Quadratic Equations (Completing the Square & Formula)</p>	<p>Ch. 6 Ch. 7</p>	<p>6 hrs</p>
1 to 4	<p>TEST # 1.....20% (Week 6)</p> <p>4. TRIGONOMETRIC FUNCTIONS</p> <p>4.1 Right Triangle & Trigonometric Functions 4.2 Trig. Functions of Any Angle & Measurements 4.3 Vectors 4.4 Sine and Cosine Laws 4.5 Trigonometric Graphs</p>	<p>Ch. 4 (Review) Ch. 8 Ch. 9 Ch. 10</p>	<p>12 hrs</p>
1 to 4	<p>6. EXPONENTS AND RADICALS</p> <p>6.1 Integral Exponents 6.2 Fractional Exponents and Radicals 6.3 Addition, Subtraction, Multiplication & Division of Radicals</p>	<p>Ch. 11</p>	<p>7 hrs</p>
1 to 4	<p>7. EXPONENTS AND LOGARITHMS</p> <p>7.1 Decimal Exponents and Logarithms 7.2 Exponential and Logarithmic Graphs (Semi-Log and Log-Log) 7.3 Base 10 Logarithms 7.4 Natural Logarithms</p> <p>TEST 220% (Week14)</p>	<p>Ch. 13</p>	<p>7 hrs</p>
	<p>* Note: The sequence of topics and the number of hours are only an estimate and may vary from class to class.</p>		<p>(*approx. hrs. only)</p>