CAMOSUN COLLEGE	***School of Arts & Science*** ***MATHEMATICS DEPARTMENT*** **MATH 173-01** **Basic Technical Mathematics 2** **2007Q3**

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

Ω *Please note: this outline will be electronically stored for five (5) years only.*
It is strongly recommended students keep this outline for your records.

1. Instructor Information

(a)	Instructor:	Patricia Wrean (Pat)	
(b)	Office Hours:	Posted on office door and on website.	
(c)	Location:	CBA 153	
(d)	Phone:	370-4542	Alternative Phone:
(e)	Email:	wrean@camosun.bc.ca	
(f)	Website:	http://wrean.disted.camosun.bc.ca/	

2. Intended Learning Outcomes
(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the student will be able to:

1. Use the basic tools of precalculus mathematics to solve applied problems in Physics and the engineering technologies.
2. Read and write mathematics at a level required for entry into the engineering technologies.

3. Required Materials

(a)	Texts	J.A. Beecher, J.A. Penna, and M.L. Bittinger, *Algebra and Trigonometry*, 2nd edition, Pearson Addison-Wesley, 2005. (The 1st edition is also acceptable.)
(b)	Other	Only regular scientific calculator (non-programmable, non-graphing) will be permitted for quizzes and exams.

4. Course Content and Schedule
(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

Prerequisites: Math 073 or 172 or Math 11 by assessment.

Math Room: Technologies Centre (TEC) 142 (phone: 370-4492): This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).

Study Time: It is recommended that between 5 and 10 hours per week (or more for students with a weak background) be spent studying for this course outside of class time.

<u>Course Content</u>:   (G.* refers to a section on the Geometry Notes)

Intro		(0.5 hours)
G.1	Triangles	(1.5 hours)
G.2	Similar Triangles	(2 hours)
5.1	Trigonometric Functions of Acute Angles	(2 hours)
5.2	Applications of Right Triangles	(2 hours)
5.3	Trigonometric Functions of Any Angle	(2 hours)
1.2	Functions and Graphs	(1 hour)
1.3	Linear Functions, Slopes, and Applications	(0.5 hour)
1.4	Equations of Lines (and Modeling)	(0.5 hour)
1.5	More on Functions	(0.5 hour)
1.6	The Algebra of Functions	(1 hour)
1.7	Symmetry and Transformations	(3 hours)
2.2	The Complex Numbers	(1 hour)
2.3	Quadratic Equations, Functions, and Models	(1.5 hours)
2.4	Analyzing Graphs of Quadratic Functions	(1.5 hours)
3.1	Polynomial Functions and Models	(1 hour)
3.2	Polynomial Division; The Remainder and Factor Theorem	(2 hours)
3.3	Theorems about Zeros of Polynomial Functions	(2 hours)
3.4	Rational Functions	(3 hours)
4.1	Inverse Functions	(1 hour)
4.2	Exponential Functions and Graphs	(1 hour)
4.3	Logarithmic Functions and Graphs	(2 hours)
4.4	Properties of Logarithmic Functions	(2 hours)
4.5	Solving Exponential and Logarithmic Functions	(2 hours)
4.6	Applications and Models: Growth and Decay	(2 hours)
Review of 5.1-5.3		(1 hour)
5.4	Radians, Arc Length, and Angular Speed	(1.5 hours)
5.5	Circular Functions: Graphs and Properties	(2 hours)
5.6	Graphs of Transformed Sine and Cosine Functions	(2 hours)
6.1	Identities: Pythagorean and Sum and Difference	(2.5 hours)
6.2	Identities: Cofunction, Double-Angle, and Half-Angle	(1 hour)
6.3	Proving Trigonometric Identities	(2 hours)

6.4	Inverses of the Trigonometric Functions	(2 hours)
6.5	Solving Trigonometric Equations	(2.5 hours)
7.1	The Law of Sines	(2 hours)
7.2	The Law of Cosines	(1 hour)
7.3	Complex Numbers: Trigonometric Form	(2 hours)
7.4	Polar Coordinates and Graphs	(1 hour)
9.1	The Parabola	(2 hours)
9.2	The Circle and the Ellipse	(2 hours)
9.3	The Hyperbola	(2 hours)
10.1	Sequences and Series	(1 hour)
10.2	Arithmetic Sequences and Series	(1 hour)
10.3	Geometric Sequences and Series	(1 hour)
10.7	The Binomial Theorem	(1 hour)

Optional Topics – as time permits   (1 hour)
G.3   Circles
G.4   Congruent Triangles
G.5   Angles and Parallel Lines
G.7   Rectangles and Squares

Lectures (plus half-hour intro)	72 hours
Quizzes and Review	12 hours
Holidays	4 hours
Total	88 hours

5. Basis of Student Assessment (Weighting)
(Should be linked directly to learning outcomes.)

Grade Calculation: The final grade will be calculated according to the following breakdown:

> Quizzes: 40%
>   Assignments: 10%
>   Final Exam: 50%

> The lowest quiz grade will be dropped when calculating the average of your quizzes. This allows a student to be absent on any one quiz day for any reason, including illness, without penalty. There is no provision for "making up" a missed quiz.

> If your final exam grade is higher than your term work grade and your term work is **50% or higher**, then your final exam grade will count as 100% of your final grade.

Final Exam: The final exam will cover the entire course and will be 3 hours long. As stated in the current college calendar on

page 39, "students are expected to write tests and final examinations at the scheduled time and place." Exceptions will only be considered due to **emergency** circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

Late Policy: Late assignments will be given a penalty of 25% per week.

6. Grading System
(<u>No</u> changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
95-100	A+		9
90-94	A		8
85-89	A-		7
80-84	B+		6
75-79	B		5
70-74	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

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 **camosun.ca** or information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal:* A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

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 E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

7. 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, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.

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:

http://camosun.bc.ca/policies/Education-Academic/E-1-Programming-&-Instruction/E-1.1.pdf