COURSE OUTLINE

The course description is online @ http://camosun.ca/learn/calendar/current/web/math.html

Ω *Please note: the College electronically stores this outline for five (5) years only.*
   *It is **strongly recommended** you keep a copy of this outline with your academic records.*
   You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1.   Instructor Information

(a)	Instructor:	Jill Britton		
(b)	Office Hours:	10:30-12:00 daily		
(c)	Location:	E246		
(d)	Phone:	250-370-3471	Alternative Phone:	250-652-6316
(e)	Email:	jbritton@camosun.bc.ca		
(f)	Website:	http://britton.disted.camosun.bc.ca		

2.   Intended Learning Outcomes

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

1.   Differentiate between inductive and deductive approaches to problem solving.
2.   Identify and use classic problem solving strategies.
3.   Use truth tables to establish the equivalence of compound propositions and to examine the validity of arguments.
4.   Use Venn diagrams to solve counting and probability problems.
5.   Use the multiplication principle to solve counting and probability problems.
6.   Use permutations and combinations to solve counting and probability problems.
7.   Solve probability problems involving independent events.
8.   Use tree diagrams to solve probability problems involving events that are not independent with a visual extension to Bayes' rule.
9.   Compute and interpret descriptive statistics.
10. Perform calculations involving binomial and normal distributions.
11. Solve binomial distribution questions using an appropriate normal distribution.
12. Research topics suitable to the elementary classroom.

3.   Required Materials

(a) Texts: Finite Mathematics, 9th Edition (S.T. Tan)
(b) Other: Supplementary Material to Accompany Finite Mathematics, 9th Edition (Jill Britton)
(c) Materials card ($30) – purchase is mandatory
(d) **CASIO** model **fx-300MS** scientific calculator

4.   Course Content and Schedule

This course has been designed to enrich the mathematical background of students intending to pursue a degree in Elementary Education. The content is NOT directly related to the standard elementary or middle school mathematics curriculum. Attendance in classes in red text ("REC MATH") is mandatory. A portfolio of corresponding assignments will be collected on the last day of classes (Dec 10). The content of all other classes is subject to in-class testing and to a cumulative 3-hour exam during the final examination period.

M   Sep 6   **LABOUR DAY (College Closed)**
T   Sept 7   Introduction
W   Sept 8   Inductive Reasoning
H   Sept 9   Inductive Reasoning / Deductive Reasoning
F   Sept 10 Deductive Reasoning

M   Sept 13   Strategies for Problem Solving
T   Sept 14   More Strategies for Problem Solving
W   Sept 15   **SYMBOLIC LOGIC**
                 A1 (Propositions and Connectives)
H   Sept 16   A2 (Truth Tables)
F   Sept 17   A2 / A3 (The Conditional and Biconditional Connective)

M   Sept 20   A3
T   Sept 21   A4 (Laws of Logic)
W   Sept 22   A4
H   Sept 23   A5 (Arguments)
F   Sept 24   A5 / Using Valid Argument Forms

M   Sept 27   Using Valid Argument Forms
                 SETS AND COUNTING / 6.1 (Sets and Set Operations)
T   Sept 28   6.1
W   Sept 29   6.1 / 6.2 (The Number of Elements in a Finite Set)
H   Sept 30   6.2
F   Oct 1   **TEST 1 [Symbolic Logic, 6.1]**

M   Oct 4   6.2 / 6.3 (The Multiplication Principle)
T   Oct 5   6.3
W   Oct 6   6.3 / 6.4 (Permutations and Combinations)
H   Oct 7   6.4
F   Oct 8   6.4

M   Oct 11   **THANKSGIVING (College Closed)**
T   Oct 12   6.4
W   Oct 13   6.4
H   Oct 14   6.4
F   Oct 15   Sieve of Eratosthenes / Magic Squares

M   Oct 18   Clock (Mod) Arithmetic
T   Oct 19   Golden Ratio
W   Oct 20   Fibonacci Sequence
H   Oct 21   Binary Sequence / Pascal's Triangle
F   Oct 22   **TEST 2 [6.2 - 6.4]**

M   Oct 25   Patterns in Pascal's Triangle
T   Oct 26   **PROBABILITY**
                 7.1 (Experiments, Sample Spaces and Events)
W   Oct 27   7.2 (Definition of Probability)
H   Oct 28   7.3 (Rules of Probability)
F   Oct 29   7.3 / 7.4 (Use of Counting Techniques in Probability)

M   Nov 1   7.4
T   Nov 2   7.4 / 7.5 (Conditional Probability and Independent Events)
W   Nov 3   7.5
H   Nov 4   7.5
F   Nov 5   7.5

M   Nov 8   7.5 (Tree Diagrams)
T   Nov 9   **PROBABILITY DISTRIBUTIONS AND STATISTICS**
                 8.1 (Distributions of Random Variables)
W   Nov 10   **TEST 3 [7.1 - 7.5 (to Tree Diagrams)]**
H   Nov 11   **REMEMBRANCE DAY (College Closed)**
F   Nov 12   8.2 (Expected Value)

M   Nov 15   8.3 (Variance and Standard Deviation)
T   Nov 16   8.4
W   Nov 17   8.4 / 8.5 (The Normal Distribution)
H   Nov 18   8.5
F   Nov 19   **TEST 4 [Tree Diagrams, 8.1 - 8.3]**

M	Nov 22	8.5 / 8.6 (Applications of the Normal Distribution)	
T	Nov 23	8.6	
W	Nov 24	8.6	
H	Nov 25	The Conics	
F	Nov 26	The Conics / Moire Patterns	

M	Nov 29	Line Designs / Curve Stitching	
T	Nov 30	Curves of Constant Width	
W	Dec 1	Cycloids	
H	Dec 2	Fractals	
F	Dec 3	**TEST 5 [8.4 - 8.6]**	

M	Dec 6	**FINAL EXAMINATION DISCUSSION**	
T	Dec 7	**SPARE**	
W	Dec 8	**SPARE**	
H	Dec 9	**SPARE**	
F	Dec 10	Math Videos (*Donald in Mathmagic Land*, *Mathematics Peepshow, Art at Play: Escher*) **PORTFOLIO DUE**	

5. Basis of Student Assessment (Weighting)

(a) 5 Class Tests (37.5%)
(b) Final Examination (37.5%)
(c) Portfolio and Attendance (25%)

Students will be awarded an A+, A, or A- in the course if and only if they would be awarded at least the same letter grade for their term mark, for the final exam, AND for the portfolio ... indicating a consistent performance. Students who do not meet this minimum requirement will be awarded a letter grade that is one category lower. A minimum of 50% on the final exam is necessary for grades of C or higher. Students will not be awarded a passing grade until they have submitted a satisfactory portfolio.

6. Grading System

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	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 E-1.5 at **camosun.ca** for 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
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.

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 the College web site in the Policy Section.

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