CAMOSUN COLLEGE	**School of Arts & Science** **MATHEMATICS DEPARTMENT** **MATH 218** **Probability and Statistics 1** **Fall 2014**

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:	Bree Wilton
(b)	Office Hours:	11:30 – 12:20 Monday-Friday
(c)	Location:	E268
(d)	Phone:	250-370-3502
(e)	Email:	wiltonb@camosun.bc.ca
(f)	Website:	https://sites.google.com/site/breewilton/

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

1. Compute and interpret descriptive statistics.
2. Compute and interpret probability and conditional probability.
3. Compute probability, expectation and variance of a single discrete random variable, or a single continuous random variable. Perform calculations involving Binomial, Poisson, normal, or exponential probability distributions.
4. Perform calculations involving joint probability distributions of two discrete random variables, or random samples.
5. Derive and compute maximum likelihood estimates.
6. Compute and interpret interval estimate for the population mean, population proportion, and determine sample size.
7. Compute and interpret interval estimate for a difference of two means.
8. Test hypotheses about a mean, a proportion, and the difference of two means.

3. Required Materials

a) Textbook: Devore, Jay L., "Probability and Statistics for Engineering and the Sciences", 8th edition, 2011.

b) Math 218 R Lab Manual, available on my website.

c) A Sharp EL-531 Scientific Calculator.

4. Course Content and Schedule

Sections	*Topics*
1.1 -1.4	*Introduction and Descriptive Statistics*
2.1 – 2.5	*Probability*
3.1-3.4, 3.6	*Discrete Random Variables and Probability Distributions*
4.1-4.4	*Continuous Random Variables and Probability Distributions*
5.1-5.5	*Joint Probability Distribution and Random Samples*
6.1-6.2	*Point Estimation (omit The Method of Moments)*
7.1-7.3	*Statistical Intervals: single sample*
8.1-8.3	*Tests of Hypotheses: single sample (omit β and sample size determination)*
9.1-9.2	*Inferences Based on Two Samples (omit β and the choice of sample size)*

R Labs: This course includes R lab sessions designed to familiarize students with the use of a statistics software to perform data analysis and the procedure of reporting data analysis results. *You will need the lab manual for each lab*. The required lab manual is available on my website. A lab assignment follows each lab session. Lab assignments are due by **2pm** on the Thursday following each lab session.

Math Lab: Math lab **E224** is staffed with instructional assistants available for **free face-to-face** help (no, they don't answer emails or phone calls). Lab hours are posted on the lab door and on the Math Department page http://camosun.ca/learn/programs/math/.

Calculator policy: A Sharp EL-531 scientific calculator is required. This is the *only* calculator that will be allowed for tests and examinations. This calculator is available at the Lansdowne Bookstore, and other stores such as Staples and Office Depot.

Homework: "*I hear and I forget. I see and I remember. I do and I understand.*" There are two sets of homework assignments for this course. Set #1 consists of Assignment Worksheets. They will be submitted for credit and will be due by **2pm** on the due date. Set #2 is a list of exercise problems from the textbook. Answers for these problems are given in the textbook. Solutions are available in the student solutions manual. *In order to get a full understanding of the course materials (therefore a good grade), it is necessary to complete both sets of homework. It is essential to do homework after every class and to keep up consistently.* ***Cramming does not work for this course, unfortunately.***

Practice Tests: There will be a practice test session before each test. Students are encouraged to ask questions and to work together with peers during these sessions. Solutions for these practice tests will be posted on my website. You will benefit most from these practice tests if you come to these sessions with the notes reviewed, all homework problems completed, and a formula sheet made.

5. Basis of Student Assessment (Weighting)

Assignments /Labs	10%
4 Tests	40%
Cumulative Final Exam (3 hrs)	50%

Please refer to **my website** for tentative *test dates* and lab/homework *due dates*.

All tests must be written during the scheduled times. In the event that you missed a test due to family emergency or illness, the weight of the test will be put on the final exam *if* the instructor is notified *before* the test and proper documentation is provided. NO late assignments or lab assignments will be accepted for credit. Final examinations will be scheduled by the college and they will take place during December 8-13, and December 15-16. You must be available to write the final examination at the scheduled time. Holidays or scheduled flights are not considered to be emergencies.

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

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.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED