# CAMOSUN COLLEGE
## School of Arts & Science
## Department of Mathematics & Statistics

### STAT-116-002
### Elementary Statistics
### Winter 2019

# COURSE OUTLINE

**The course description is available on the web @ http://camosun.ca/learn/calendar/current/web/stat.html**

*Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

## 1. Instructor Information

| | | |
|---|---|---|
| **(a)** | **Instructor** | Susan Chen |
| **(b)** | **Office hours** | M 2:30 – 3:20, Tu F 10:30 – 11:20, W12:30 -1:20, Th 1:30 - 2:20 PM |
| **(c)** | **Location** | E242 |
| **(d)** | **Phone** | 250-370-3497 |
| **(e)** | **E-mail** | chen@camosun.bc.ca |
| **(f)** | **Website** | http://online.camosun.ca |

## 2. Intended Learning Outcomes

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

1. Identify problems in our society for which statistical analyses are suitable.
2. Compute and interpret descriptive statistics.
3. Solve basic probability problems. Distinguish between continuous and discrete probability distributions. Perform calculations involving various probability distributions including Binomial and Normal distributions.
4. Estimate the population mean and population proportion, and determine sample size.
5. Estimate the difference between two means, or two proportions.
6. Test hypotheses about a mean, a proportion, a difference of two means, or a difference of two proportions.
7. Perform basic correlation and simple linear regression analysis.
8. Perform basic categorical data analysis.
9. Perform basic statistical data analysis with the aid of a computer software package.

## 3. Required Materials

(a) Texts
   1) Open Source PDF textbook: OpenIntro Statistics 3e by David M Diez. Free download at https://www.openintro.org/stat/textbook.php. Hard copies are sold in the Camosun Bookstore at Lansdowne.
   2) *STAT 116 Excel Lab tutorial manuals*, free and available on D2L.

(b) Other
   A Sharp EL-531 Scientific Calculator, *the only calculator allowed for tests and the final exam.*

## 4. Course Content and Schedule

**Lecture** MW 10:30 - 12:20 E348
**Labs** F 12:30 – 1:20 in E115 in weeks 2, 4, 6, 8, 10, 12, 14
Dates for tests and assignments can be found in the Course Calendar.

**Course Content**

| Topic | Chapter |
|---|---|
| Introduction to Data | 1 |
| Probability | 2 |
| Distributions of Random Variables | 3 |
| Foundations for Inference | 4 |
| Inferences for Numerical Data | 5 |
| Inferences for Categorical Data | 6 |
| Introduction to Linear Regression | 7 |

**iClickers**
We will be using i>Clickers in lectures. i>Clicker is a response system that allows you to respond to questions posed by instructors during class, and you will be graded on your participation and performance. Clickers will be provided in class. You will be assigned with a specific iClicker number and you will be responsible for returning the clicker to the instructor in each class.

**Excel Labs**
This course includes computer lab sessions designed to familiarize students with the use of a computer program to perform data analysis and the procedure of reporting data analysis results. Microsoft Excel with add-ins MegaStat will be used for this purpose. The lab tutorials which also contains lab assignments can be found on D2L/Content/Labs.

**Homework:** "*I hear and I forget. I see and I remember. I do and I understand.*" The homework for this course will include 1) Online MyOpenMath assignments, 2) Written worksheet assignments, 3) Lab assignments, and 4) Suggested practice problems from the textbook which have answers in the back of the book. *In order to get a full understanding of the course materials, which usually leads to a good grade, it is necessary to complete all the homework. It is essential to review the notes and do homework after every class and to keep up consistently. This course is cumulative, **cramming does not work.***

**Midterms and Reviews**
There will be three midterms. Before each of the 3 tests, there will be a review session. You are encouraged to ask questions and to work together with peers during these review problem sessions. *You will benefit most from these review sessions if you have all notes reviewed, all homework completed and a summary sheet made before you attempt the practice problems.*

**Attendance**
*Attendance is required*. Showing up to classes is the easiest and most important thing you can do to help you succeed the course. **5% of the course is assigned to iClicker participation**. **Keeping up is an essential part of any statistics course because much of the material builds on itself.** If you feel yourself falling behind at any point during the term, then please do not hesitate to come to speak to me.

**Math Lab (Help Centre)**
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 can be viewed at http://camosun.ca/services/help-centres/

**Desire2Learn (D2L)**
This class has the assistance of D2L, an online course management system. All course related materials, including course calendar, notes, lab manuals and data sets, practice problem sets and answers, tests solutions, grades, and announcements will be available on D2L. It is your responsibility to subscribe to the notifications on D2L.

## 5. Basis of Student Assessment (Weighting)

| iClicker | 5% |
|---|---|
| Assignments and Labs | 15% |
| 3 Tests | 40% |
| Lab Final | 10% |
| Cumulative Final Exam (3 hrs) | 30% |

**All tests must be written during the scheduled times. In the event that you missed a test due to a family emergency or illness, the weight of the test will be put on the final exam *if* the instructor is notified *before* the test. NO late assignments or labs will be accepted. Final examinations will be scheduled by the College and they will take place during April 15-18, and April 23-26. You must be available to write the final examination at the scheduled time. Vacations or scheduled flights are not considered as emergencies.**

## 6. Grading System

| x | Standard Grading System (GPA) |

| | Competency Based Grading System |

## 7. Recommended Materials to Assist Students to Succeed Throughout the Course

1) Lecture videos come with the textbook  https://www.openintro.org/stat/videos.php
2) The D2L page: online.camosun.ca.

## 8. College Supports, Services and Policies

**Immediate, Urgent, or Emergency Support**
If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ http://camosun.ca/about/mental-health/emergency.html or http://camosun.ca/services/sexual-violence/get-support.html#urgent

**College Services**
Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre.  For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at http://camosun.ca/

**College Policies**
Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at http://camosun.ca/about/policies/. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. **GRADING SYSTEMS** http://camosun.ca/about/policies/index.html

**The following two grading systems are used at Camosun College:**

1. **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 | | 1 |
| 0-49 | F | Minimum level has not been achieved. | 0 |

2. **Competency Based Grading System (Non GPA)**

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

| Grade | Description |
|---|---|
| COM | The student has met the goals, criteria, or competencies established for this course, practicum or field placement. |
| DST | The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement. |
| NC | The student has not met the goals, criteria or competencies established for this course, practicum or field placement. |

## B. 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 http://camosun.ca/about/policies/index.html 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 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. |