SAMPLE COURSE OUTLINE

Course Code, Number, and Title:

DANA 4800: Data Analysis and Statistical Inference

Course Format:
[Course format may vary by instructor. The typical course format would be:]

Lecture 3 h + Seminar 0 h + Lab 1 h

Credits: 3   **Transfer credit:** For information, visit bctransferguide.ca

Course Description, Prerequisites, Corequisites:

Statistical inference is the process of drawing conclusions from data. Students gain a foundation in probability, descriptive statistics, sampling methods, normal distributions, Poisson distributions, and sampling distributions, as well as one-sample and two-sample statistical inference procedures on both proportions and means (including z and t).

Registration in this course is restricted to students admitted to the Post-Degree Diploma in Data Analytics.

Prerequisites: None

Corequisites: None

Registration restricted to students admitted to the Post Degree Diploma in Data Analytics program

Learning Outcomes:
Upon successful completion of this course, students will be able to:

- compare and contrast methods of selecting a sample
- identify and explain sources of bias
- select and apply the appropriate techniques for describing one-variable and two-variable data and interpreting the results
- solve problem related to Poisson and Normal distributions
- identify and use appropriate methods for solving probability problems and interpret the results
- identify the concept of a sampling distribution and the application in the Central Limit Theorem
- carry out interval estimation and hypothesis testing for a single population and interpret the results, including checking the necessary assumptions/conditions
- apply statistical methodology in real-life examples using everyday language
- produce a report that satisfies a set of criteria in a statistical investigation
- select and carry out an appropriate method of inference for the mean or proportion of one population and interpret the results

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- select and carry out an appropriate method of inference to compare the means or proportions of two populations (either independent or related) and interpret the results
- use industry-leading statistical software applications to perform data anlaysis and to interpret the output

Instructor(s): TBA
Office: TBA   Phone: 604 323 XXXX   Email: TBA

Office Hours: TBA

Textbook and Course Materials:
[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:}

Moore, McCabe, Alwan, Craig & Duckworth. "Practice of Stat for Business & Economics".

Note: *This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.*

Assessments and Weighting:
Final Exam %
Other Assessments %
(An example of other assessments might be:) %

Midterm Exam: 40%
Assignments: 10%
Project: 10%

Final exam is higher value to better prepare students for the more advanced statistics course

Proportion of individual and group work:
Individual: 80%
Group: 20%

Grading System: Letter grade
Specific grading schemes will be detailed in each course section outline.

Passing grade: C

This generic outline is for planning purposes only.

Topics Covered:

[Topics covered may vary by instructor. An example of topics covered might be:]

1. Introduction to probability
2. Exploratory data analysis for one-variable and two-variable data
3. Discussion on different sampling techniques
4. Poisson and Normal distributions
5. Sampling distributions
6. One-sample statistical inference on means and proportions
7. Two-sample statistical inference on means and proportions

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

College Policies:

E1003 - Student Code of Conduct
F1004 - Code of Academic Conduct
E2008 - Academic Standing - Academic Probation and Academic Suspension
E2006 - Appeal of Final Grade
F1002 - Concerns about Instruction
E2011 - Withdrawal from Courses

Departmental/Course Policies:

This generic outline is for planning purposes only.