

Introductory Statistics

Instructor:	Dr. Tim Topper
Office hours:	By appointment
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Classes:	Mondays and Wednesdays 10:30–12:00 in Room 2601
Tutorials:	Fridays 11:00–12:00 in Room 2601

Course Description

This is a first course in Statistics. It introduces students to techniques for gathering data, presenting and summarizing data, and drawing conclusions from data. The objective of the course is for students to gain a good intuitive understanding of statistical principles and methods. At the end of the course, students should be able to use elementary statistical techniques, and to critically assess statistical work done by others. The course is not intended to be a mathematical treatment of statistics, but a good knowledge of high school algebra is critical.

Topics include descriptive statistics (histograms, mean, median, mode, standard deviation, normal approximations and measurement errors); correlation and regression; probability; chance variability; sampling; and hypothesis testing (including one-sample, two-sample, ANOVA, and chi-squared).

Course Transfer

KWAN	MATH 1115(3)	OC	STAT 121 (3)
SFU	Stat 101 (3) – Q	TRU	MATH 1200 (3)
TRU-OL	STAT 102 (3)	TWU	Math 102 (3)
UAF	Stat 200 (3)	UAS	Stat 273 (3)
UBC	Stat 203 (3)	UBCO	STAT 121 (3)
UNBC	Math 240 (3)	UR	Stat 151 (3)
UVIC	Stat 100-level (1.5)	UFV	MATH 1XX (3)
VIU	MATH 161 (3)		

For specific information about the transferability of Math 105 consult the online BC Transfer Guide at www.bctransferguide.ca.

For general information about transferability contact the School of Liberal Arts.

Course Prerequisites

Math 11. Math 12 or Math 130 *strongly* recommended.

Course Format (3-1-0)

Lectures: Approximately three hours per week

Tutorials: Approximately one hour per week

The course content is covered through lectures, tutorials and assignments. Students are expected to prepare for each class by doing assigned readings from the textbook and are also expected to engage in substantial self-directed review and practice of the material. Students are expected to read the materials *before* classes, as this course is fast-paced and will be difficult to follow for those who have not come prepared.

Most students find the course demanding. You should plan on spending between two and four hours in study and preparation outside class for each hour spent in class.

Attendance

Attendance at lectures and tutorials is mandatory. A student may be dismissed from a course if more than ten per cent (10%) of the scheduled contact hours are missed in any one course (*Yukon College Academic Regulations, 4.01*). Dismissal from a course may result in loss of full-time status and loss of sponsorship funding.

Assignments

There will be weekly assignments in the course due at the start of class each Monday. Solutions to the assignments will be posted online at the deadline. This means that late assignments cannot be accepted.

Tutorials

Tutorials will be used for review and practice of techniques covered that week, focusing on areas of weakness as identified by students and/or the instructor.

Mid-Term Test

There will be one mid-term test given during class. If your final exam mark exceeds your midterm exam mark, then only the final exam mark will be counted.

Final Examination

A comprehensive final examination will be held at the end of the term. The examination date will be announced as soon as it is confirmed by the School of Liberal Arts.

Scheduled Examination Dates

Students should be aware that there is a 2 week period for final examinations at the end of the semester, and the Math 105 exam could be as late as Friday April 27th, 2012.

Evaluation

Evaluation will be based on assignments, the mid-term test and the final examination:

Assignments	40%
Mid-term test	20%
Final examination	40%

Text

Bluman, Allan G. and John G. Mayer (2011). *Elementary Statistics: A step-by-step approach* (2nd Canadian Edition). Toronto: McGraw-Hill Ryerson. ISBN: 978-0-07-000550-1

Additional Equipment and Supplies

You will require a scientific calculator for this course. It need not be a graphing calculator, but it should be capable of square roots, powers, exponents, and factorials.

Students with Disabilities or Chronic Conditions

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.



Math 105 Syllabus

Week	Chapter: Topic	Milestones
1	<i>1: Introduction to Statistics</i> <i>2: Frequency Distributions and Graphs</i>	
2	<i>3: Data Description</i>	Assignment 1 due
3	<i>4: Probability and Counting Rules</i>	Assignment 2 due
4	<i>5: Discrete Probability Distributions</i>	Assignment 3 due
5	<i>6: The Normal Distribution</i>	Assignment 4 due
6	<i>7: Confidence Intervals and Sample Size</i>	Assignment 5 due
7	Midterm exam <i>8: Hypothesis Testing</i>	Assignment 6 due Feb 23: Last day to Withdraw without academic penalty. No Friday Class.
8	<i>8: Hypothesis Testing (continued)</i> <i>9: Testing Differences</i>	Assignment 7 due
—	<i>Reading Week: No Classes</i>	—
9	<i>10: Correlation and Regression</i>	Assignment 8 due
10	<i>11: Other Chi-Square tests</i>	Assignment 9 due
11	<i>12: Analysis of Variance</i>	Assignment 10 due
12	<i>13: Nonparametric Statistics</i> <i>14: Sampling and Simulation</i>	Assignment 11 due No Friday class.
13	<i>Exam Preparation</i>	Assignment 12 due No Monday class.