NORTHWESTERN POLYTECHNIC

DEPARTMENT SCIENCE

COURSE OUTLINE – Winter 2025

ST1510 (C3): Introduction to Applied Statistics I – 3 (3-0-2) 75 Hours for 15 weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR:	**Abdel Bensouilah**	**PHONE:**	(780) 539-2052
OFFICE:	J210	**E-MAIL:**	ABensouilah@NWPolytech.ca
OFFICE HOURS:	9:00 AM to 11:00 AM on Tuesdays and Thursdays, or by appointment.		

CALENDAR DESCRIPTION:

The course includes data collection and presentation, descriptive statistics. Probability distributions, sampling distributions, and the central limit theorem; point estimation and hypothesis testing; correlation and regression analysis; goodness of fit and contingency table.

PREREQUISITE(S): Mathematics 30-1 or equivalent or Mathematics 30-2 or equivalent

COREQUISITE(S):

REQUIRED MATERIALS:

Open (free) textbook at www.lyryx.com: Introductory Statistics, Current Edition (by Illowsky, Dean, openstax) (Click here to go to download page!)

NORTHWESTERN POLYTECHNIC

DELIVERY MODE(S):

Lecture:	C3	MW	8:30 – 9:50	J202
Lab:	CL1	F	2:30 – 4:20	A313

LEARNING OUTCOMES:

To demonstrate the basic knowledge of descriptive statistics and its use. To perform elementary analysis of research data and to interpret the results of statistical tests. To demonstrate a conceptual knowledge of the concepts and principles involved. To select the appropriate statistical test. To be able to enter and analyze data using the computer program EXCEL.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check the transferability of this course at the Alberta Transfer Guide main page http://www.transferalberta.alberta.ca.

** For courses with alpha (letter) grading, a grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

Assignments & Quizzes 10%

Quizzes will be announced one lecture prior to the quiz

Lab Reports 10%

Midterms 2 × 20% (Tentatively Week 6: Wednesday Feb 12, Week 11: Wednesday Mar 19)

Lab Exam 10% (Week 13: Friday Apr 4)

Final Exam 30% (Cumulative, during exam period Apr 14 - Apr 23)

GRADING CRITERIA:

Please note that most institutions will not accept your course for transfer credit **IF** your grade is **less than C-**.

NORTHWESTERN POLYTECHNIC

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100	C+	2.3	67-69
A	4.0	85-94	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Weeks	Chapters
Week 1 (Jan 6, 8)	Chapter 1: Sampling and Data
Week 2 (Jan 13, 15)	Chapter 2: Descriptive Statistics
Week 3 (Jan 20, 22)	Chapter 2: Descriptive Statistics
Week 4 (Jan 27, 29)	Chapter 3: Probability Topics
Week 5 (Feb 3, 5)	Chapter 4: Discrete Random Variables
Week 6 (Feb 10, 12)	Chapter 5: Continuous Random Variable Chapter 6: The Normal Distribution
Week 7 (Feb 18, 21)	Winter Break
Week 8 (Feb 24, 26)	Chapter 7: The Central Limit Theorem
Week 9 (Mar 3, 5)	Chapter 8: Confidence Intervals
Week 10 (Mar 10, 12)	Chapter 9: Hypothesis Testing with One Sample
Week 11 (Mar 17, 19)	Chapter 10: Hypothesis Testing with Two

	Samples
Week 12 (Mar 24, 26)	Chapter 11: The Chi-Square Distribution
Week 13 (Mar 31, Apr 2)	Chapter 12: Linear Regression and Correlation
Week 14 (Apr 7, 9)	Chapter 13: F Distribution and One-Way ANOVA
Week 15	Final exam (between Apr 14 and Apr 23)

STUDENT RESPONSIBILITIES:

Students are responsible for all lecture material, labs and readings. Students are expected to practice the material by doing problems from the textbook. Assignments are not accepted if handed in late. If a quiz/midterm is missed for a valid reason and proper documentation provided, a make-up quiz/midterm will be scheduled. If the final is missed due to illness it will be deferred (see calendar for information). A doctor's note and a phone message or email will be required in both cases.

If a lecture or seminar is missed, it is the student's responsibility to catch up on the material and obtain the missing lecture notes.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at https://www.nwpolytech.ca/about/administration/policies/index.html.

**Note: all Academic and Administrative policies are available on the same page.