NORTHWESTERN POLYTECHNIC

DEPARTMENT Humanities and Social Sciences

COURSE OUTLINE – Winter 2025

PY3120(A3): Research Design and Methodology in Psychology I – 3 (3-0-0) 45 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:	Dr. Bruce Galenza (he/him)	**PHONE:**	780-539-2994
OFFICE:	C403	**E-MAIL:**	bgalenza@nwpolytech.ca
OFFICE HOURS:	Tues, Thurs, Fri 8:00 – 10:00		

CALENDAR DESCRIPTION: This course is designed as an introductory course in quantitative research methods and statistics in psychology. Its primary goal is to direct students' development in critical thinking skills. Students will be able to make independent judgments and decisions based on reason and evidence as opposed to authority, tradition or opinion. The course will cover topics such as using objective measurement-based and inferential research strategies to develop hypotheses, designing appropriate data collection tools, analyzing and interpreting descriptive and inferential statistical results, and writing research reports and proposals.

PREREQUISITE(S)/COREQUISITE: Complete all of the following

Completed the following:

PY1050 - Social and Individual Behaviour (3)

One of PY2110 or ST1510 or permission of the instructor

REQUIRED TEXT/RESOURCE MATERIALS: Shaughnessy, J.J., Zechmeister, E.B., & Zechmeister, J.S. (2012). *Research methods in psychology (12th Edition).* McGraw Hill. ISBN: 978-0-07-803518-0
A statistics calculator.

DELIVERY MODE(S): On-Campus Lecture/Lab/Discussion

LEARNING OUTCOMES:
This course requires students to develop cognitively and behaviourally in the following areas:
1. Knowledge structures; organized, related and interrelated information of research principles: the what of critical thinking.
2. Procedural knowledge; research methods and procedures, and communication of ideas: the how of critical thinking.
3. Metacognitive judgement; critical and analytic judgment concerning the proper use of the procedures; the where and when of critical thinking.
4. Attitudinal considerations; understanding the value of this work and its application: the why of critical thinking.

As a result of taking this course, students will gain the ability to:

1. understand and apply the concept of empirical objective evidence, to differentiate between what is and what is not evidence.
2. discuss the APA's guidelines of ethics in human experimentation by evaluating the ethics of research proposals.
3. formulate questions and hypotheses that are appropriate for systematic investigation, recognizing and distinguishing descriptive, correlational, and explanatory, basic and applied designs.
4. operationally define their variables as reliable and valid measurements using appropriate scales.
5. choose and design appropriate research strategies to investigate the problems they have formulated.
6. construct data collection tools that will be necessary to answer their questions validly.
7. analyse and interpret the data that their research, and others', might generate, through mastery of the concepts of measures of statistics: central tendency and variance, correlation and regression, and hypothesis testing using t-tests and ANOVAs.
8. master and apply computer applications (SPSS) of statistical tools of research.
9. evaluate their own research and that of others.
10. write research reports in APA style.

TRANSFERABILITY:

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

** 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:

"A grade is an inadequate report of an inaccurate judgement of a biased and variable judge of the extent to which a student has obtained an unidentified level of mastery of an unknown proportion of an indefinite amount of material." -Paul Dressel, 1955.

Research psychology recognizes the authority of, and bases its judgements on, carefully collected data as opposed to opinion, tradition, authority, or feelings. In keeping with this philosophy, rather than me imposing my authority on you and telling you what you need to know and then arbitrarily assigning cut-off points according to the arbitrary judgements based upon non-standardized tests, you as a class will inform me of what you are capable of, through my measurement of your performance. Students will be assessed according to their relative position within the class. This will be explained fully in the first class period; handouts are available for those who wish to understand this more fully.

Assessment will primarily consist of three formal lab-based research projects, each worth 20%, and two examinations worth 20% each. Examinations will place more emphasis on material not covered in labs. No dates are given at this time as I intend to let student abilities direct the speed of the course, but each assignment due date will be announced in class with plenty of lead-time.

The Percentage Guidelines listed below will apply only if thirty or more students are enrolled and a perfectly normal distribution results. Deviations from the assumptions of normality will result in modified percentages. In short, this is NOT grading on the curve.

GRADING CRITERIA:

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

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	2%		C+	2.3	16%
A	4.0	3%		C	2.0	13%
A-	3.7	7%		C-	1.7	9%
B+	3.3	9%		D+	1.3	7%
B	3.0	13%		D	1.0	3%
B-	2.7	16%		F	0.0	2%

COURSE SCHEDULE/TENTATIVE TIMELINE:

Unit 1: Introduction: Psychology and Science

Unit 2: Principles of the Scientific Method: Theory and Measurement

Unit 3: Principles of the Scientific Method: Validity and Control

Unit 4: Ethical Issues in Psychological Research

Unit 5: Non-Experimental Research: Observational, Archival, and Case-Study Research

Unit 6: Non-Experimental Research: Survey Research

Unit 7: Single-Subject Experimental Research

Unit 8: Group Experimental Research: Single-Factor Designs

Unit 9: Group Experimental Research: Factorial Designs

Unit 10: Quasi Experimentation

Unit 11: Reporting Research Results

Unit 12: Conclusions: Bias and Limitations of Experimental Psychology (Epilogue)

STUDENT RESPONSIBILITIES: This is adult education. You will be treated as such and are expected to behave accordingly. It is expected that all students will display a professional attitude and behaviour in the classroom. This includes reliability, respect for and cooperation with your fellow students and the instructor, attention to fellow students' questions and instructors' responses, determination to achieve first-class work while meeting deadlines, and constructive response to criticism.

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.

Additional Information:

A GENTLE WARNING: Some students try to copy work from textbooks or other published writing and claim it as their own. This form of cheating is called plagiarism or theft of intellectual property. This is easy for me to spot; the difference in writing style between undergraduates and professionals is immediately obvious.

Other students may try to buy papers from the Internet or copy from other students. This is also easy for me to spot as a purchased paper is invariably different in scope from the highly specific requirements of this course. Further, it can be seen when the student shows no knowledge during class discussion of what was in the paper that he or she has just submitted.

A third way of cheating is to buy or borrow papers from students who took this course from me last year. Please be forewarned that I have changed the course material, student requirements, and textbook substantially from last year, and papers from last year will be radically different and easily identified.

If you cheat in any way, you will be given a zero for the paper, an "F" for the term, and I will write a letter to the administration recommending you be suspended from my class and the college.

TEACHING STYLE:

My preferred teaching style is interactive lecture, derived from the teaching philosophy that little is learned until responses are made (either verbally or written). However, the majority of work in this course will be hands-on, lab-based experiential learning.

I encourage and welcome student consultation to the point of tutoring and I will be more than happy to proof students' rough drafts and to further discuss course material. Pre-writes are welcome up to 48 hours before the due date and must be submitted as an e-mail attachment. Please append your prewrites and final submissions, in Word, to my e-mail address. Do NOT use Brightspace, Google, Clouds, or anything else.

Papers are due at the beginning of the class period on the specified dates. Late papers will be graded but penalized 2 points per day. As adequate time will be allotted between the assignment and the due date, few excuses other than medical and major emergencies and single parenthood will be accepted. Papers with multiple spelling and grammatical errors will be returned ungraded; rewrites are permitted.

There is so much more to learn than we can cover in our limited class time. Make the most of your college experience by reading the text (and other sources) beyond what is called for in the papers. It will make your papers all the more insightful.