

COURSE OUTLINE - Winter 2026

PY3580(A3): Cognitive Psychology - 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.

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OFFICE HOURS:

CALENDAR DESCRIPTION: The general orientation of this course is the basic research perspective of the scientific definition, investigation, and modeling of the structures and processes of attention, perception, learning, memory, cognition, and consciousness. It is a course in the current established research traditions, theories, and paradigms of cognitive psychology.

PREREQUISITE(S):

Complete all of the following

Complete the following:

PY2230 - Developmental Psychology (3)

Or permission of the instructor

COREQUISITE(S):

None

RECOMMENDED TEXTS/RESOURCE MATERIALS: Cognitive Psychology, John Best or Cognitive Psychology, Solso, Solso, & MacLin.

DELIVERY MODE(S): On-Campus Lecture

LEARNING OUTCOMES:

GENERAL GOALS: This course may be different from any other course you have ever taken. There will be no memorizing lists of facts or definitions; students must learn the material, organize it for themselves so that they understand it, and apply it to their own lives such that they can reflect upon how these principles have been at work creating the people that they are now. Further, students are required to develop the skills of discussing, both through written and verbal communication, their knowledge of course material.

Please be aware that your normal strategies for passing classes may not work here and new strategies may have to be developed; do so quickly. There are no standard multiple choice examinations; eight minor summary papers (3-4 pages minimum, typed and double spaced, APA format) are assigned. Papers may not be longer than 8 pages, not counting title and reference pages. Extra readings will be recognized; going beyond lecture material will be rewarded.

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

1. Discuss what a "mind" is and how cognitive psychology studies it. Is cognitive psychology a science or have we retreated back to an outmoded dualistic position? In other words, what does cognitive psychology study and how does it do it? (Answer this question by defining and explaining cognitive psychology's use of models in its research. Explain the cognitive paradigm's concept of models, their purpose, their use in understanding human structures and processes of intelligence and thought, and how they are understood (through what research methods).)
2. Define and explain how the major structural models of attention (Broadbent, Triesman) and the major procedural models (Kahneman's Limited Capacity and Keele's Activation models) deal with the observations that there is an infinite amount of information in the environment and an infinite amount of information that can be known (that is, held in LTM); that there is a "bottleneck" between the two and only a small amount of information can be dealt with at any given time; that attention appears to be shiftable, focusable, and has many other characteristics. What are the essential differences between procedural and structural models? (Define



attention, explain what the two models are, what they do, how they do it, and how they are similar and different).

#3. Compare and contrast the Direct versus Indirect theories of perception, including differences and similarities between theories on the active/passive, top-down/bottom-up, and nature/nurture dimensions. Evaluate the theories as to which best accounts for the empirical data. Synthesize a compromise.

#4. Concerning intelligence, define and discuss in what ways are computers and people similar and different. In 1972, Newell and Simon described humans and computers as two examples of the same thing, that is, as symbol manipulating, decision making, intelligent systems. In other words, explain Atkinson and Shiffrin's use of computers as a model for human information processing. What are the essential components of their model of human information processing and what does this model try to achieve; that is, what were A & S's goals in developing this model? (Again, do not list non-essential details of the model, just talk about structures and processes). Briefly, what evidence suggests a three storage (Sensory-STM-LTM) distinction? Why not four or five storages?

#5. Define and explain how cognitive psychology went through a phase of rejecting structural models of information processing in favour of processing models. Explain this distinction and summarize the principles of processing that determine whether or not information is transferred to long term memory such that it can be retrieved. In other words, define "depth" of processing in all of its aspects.

#6. Define, explain, summarize, compare, and contrast the various basic concepts of hypothetical knowledge structures or schemas (categories/prototypes, stereotypes, frames, scripts, et al.). Neat idea: give examples of each by using them to describe your cognitive understanding of the first five minutes of a college class lecture at the beginning of a term, also demonstrating their use in the processing that information.

#7. Define and explain the contributions of nature (biological evolution) to the nurture (environmental learning) of cognitive structures and processes as suggested by Chomsky, Pinker, and Brown. What would a theory of "BioCognition" look like?

#8. Define, differentiate, compare, and contrast the various types and/or levels of thought. Define thinking and differentiate lower and higher order thought. Do you see them as categorically/qualitatively different or as a continuum/quantitative difference? Demonstrate Perry's Fifth Stage of Relative Thinking by synthesizing the several definitions of thought (Perkins, Piaget, and Kahneman) into one workable and novel definition to which one shows a personal commitment.

#9. Bonus points: Define and explain what consciousness is, what its purpose is, why it evolved, and what it adds to cognitive processes. Is it an active agent or epiphenomenal to these processes?

#10. Bonus – bonus (with the professor's permission, may replace any earlier paper disasters): Summarize the field of cognitive psychology by identifying and articulating the various uses and applications of concepts/models of cognitive structures and processes. Are they antagonistic or complementary? In the best sense of Perry's fifth level of intellectual processing, synthesis these two disparate views into one perspective.

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.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: "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 be entirely based on eight summary papers, each weighted at 10%. If you are unhappy with one or more of your paper grades, they may be replaced with one of the bonus papers discussed below, either Consciousness or a Course Summary. After the final grade assignment, students will be eligible for a subjective raising of their grade based upon their involvement in, and contribution to, the class; this may include attendance.

GRADING RUBRIC:

Papers will be graded according to the extent that students have achieved the following criteria:

1. Written organized and structured papers reflecting the students' organized and structured schemas of knowledge concerning the concepts in the field of Cognition.
2. The thesis shall be clearly stated and shall form the organizing structure for the entire paper such that all discussed points shall relate to that thesis (1 point).
3. All concepts shall be placed correctly in their proper context within the field of Cognition. Students shall present the Big Picture of the concepts before rushing to the details (1 point).

4. The essential elements of theories and principles shall be identified, abstracted out, defined, explained, and examples generated thereof (5 points).
5. Proper sequencing of ideas and concepts, written from the general to the specific, and from the simple to the complex. Organization shall follow the logical or chronological sequences inherent in these theories and principles. Papers shall show cohesion, a unified whole. Concepts shall be linked to the thesis, used to support that thesis, concepts shall stay on topic, and there shall be no padding. (2 points).
6. There shall be a complete lack of extraneous information, unnecessary detail, or padding, demonstrating the students' ability to differentiate the essential information from the optional. Writing shall be precise and concise; terms shall be defined. (1 point).
7. Students shall express themselves in written and verbal form using higher academic standards of grammatically correct, properly punctuated, and correctly spelled Standard English (-2 points).
8. APA format is required (-1 point).
9. Particular requirements concerning the perspectives, theories, and principles to be covered are listed in Learning Outcomes listed above.

GRADING CRITERIA:

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

Grading Chart

Alpha Grade	4-point Equivalent	Expected Percentage of Class Receiving		Alpha Grade	4-point Equivalent	Expected Percentage of Class Receiving
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%

The Percentage Guidelines listed above 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.

COURSE SCHEDULE/TENTATIVE TIMELINE: The lecture schedule follows closely the sequence shown in the section titled learning outcomes. No dates are given as I intend to let student interests and abilities dictate our pace.

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/polytechnic-leadership/policies-directory>.

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

ADDITIONAL INFORMATION:

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, I will recommend an academic misconduct be filed, which can result in a zero for the paper, an "F" for the term, suspension, or expulsion. Please see the Student Rights and Responsibilities Policy for information on academic misconduct and how NWP handles it."

GENERAL COMMENTS:

As each topic that we cover has endless lists of details, papers are limited to a maximum of eight pages of text (plus title page and references) in an effort to encourage students to be precise and concise in their writing. Never write about what various researchers DID, only what they FOUND and what it all MEANS.

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.

Your texts seem to sacrifice order for detail; it covers *everything* at the expense of organization. Lectures shall provide an organized overview; as such, we will not be covering the book chapter by chapter but topic by topic. Use your index to read the pertinent and relative information.

My preferred teaching style is interactive lecture, derived from the teaching philosophy that nothing is learned until responses are made, either verbally or written. I am extremely available for student consultation and I will be more than happy to proof students' rough drafts and to further discuss course material. Please append your prewrites in Word, to my e-mail address. Do NOT use Brightspace, Google, Clouds, pdf files, or anything else. If I can't open it or edit it, I can't grade it.



Papers in hard-copy form are due at the beginning of the class period on the specified dates. Late papers will be graded but penalized 2 points per class day. As adequate time is allotted between the end of the unit and the due date, no excuses other than medical, major emergencies, and single parenthood will be accepted. You may have three free papers where I will indicate spelling and grammatical errors but not penalize them, after which I shall.