

# PSYCH 494

## Human Factors and Ergonomics

Applied Project

### Learning Outcomes

In completing this project, you will:

1. Engage in a unique [experiential learning](#) activity in human factors, ergonomics, and design that is beyond the scope of the lectures.
2. Apply the fundamental principles of interaction of **affordances/constraints, signifiers, feedback, mapping**, and the **designer's conceptual model** (Norman, 2013) to a case study, which will help you learn and remember foundational knowledge in the course.
3. Further develop your **critical thinking and writing skills**, which are [important abilities](#) that are highly valued by employers and post-graduate schools.
4. Have some **fun!**

### Introduction

Grant MacEwan University's City Centre Campus (10700 - 104 Avenue NW), designed by Barry Johns Architects, Wood O'Neill O'Neill Architects, and Wensley Webster Fry Rodrigues Architects, opened on May 16, 1993. It has been described by many [casual visitors](#) as "a nice place." Critically evaluate this statement in terms of the principles of Natural Design presented in class and in the readings.

### Walkthrough

Follow the walkthrough below; try to avoid using any map apps. Be sure to describe how easy or difficult it is to find each of the locations below, and explain why. (If you are familiar with the campus, go with someone who is unfamiliar with it, and have them do the walkthrough while you "shadow" them.)

 Note: there is currently a lot of construction in and around the City Centre Campus.

Imagine you are a student here. You have just arrived on campus.

- Give the pros and cons of walking/biking/parking/taking the bus/taking the LRT (Metro Line).

It's time for your first class, a chemistry lab, in room **5-177**.

- How well does the signage aid you in finding this room?

A friend texts you and asks to meet at the campus pub, **Towers** (also called Towers on Fourth). Sure, why not?

- Where is the entrance, and what is the room number? What does its name refer to?

Next, you want to one ask of your instructors some questions, so you go to their office in **6-392**.

- Briefly describe the steps you took in getting to this office. Whose office is this?

You are having problems with your Wi-Fi password, so you decide to seek help from Information Technology Services (ITS) in **7-306**.

- How easy is it to get from 6-392 to 7-306? Were you able to take the route you expected, based on your understanding of the layout of rooms in the buildings?
- It turns out that ITS is no longer in this location. What is office 7-306?

The staff in 7-306 tell you that you actually need to go to "Technology Support" to get help. They look it up on an old paper map and tell you that it's in the Learning Resource Centre (i.e., the library).

- Where is the library? What is its actual name?

A staff member at the Library Services desk tells you that Technology Support has moved to the fourth floor of Allard Hall. Luckily, you're going in that general direction anyway.

- Where is the Library Services desk located?

Stop by the Student Groups offices. You've written a note that they are in **SA-214** in SAMU.

- Where is SAMU? What do the letters stand for? What building number is it?

You have a seminar in the **Kate Elizabeth Stollery Nursing Wing** in the Robbins Health Learning Centre.

- Go to a directory, and try to find this wing. Where is it located? (Does it even still exist?)
- Along the way, make note of the vending machines. How do you pay--student card, credit card, app, bills, or change? Are there ATMs close to any machines that take cash?

In **Allard Hall**, you finally find the place where you can get help with your computer problem.

- What is its name? What is its room number?

Finally, to relax you visit the **John and Maggie Mitchell Art Gallery** in Allard Hall.

- If it is open, give the name of one of the artworks inside. If it is closed, what colour is the seating outside the gallery?
- If you look out the windows to the north, you can see building R. What is it?
- For that matter, what is building 10 (also named "University Service Centre"), and where is it? Does its location make sense based on what you've learned about the campus so far?

In your write-up, make sure that you address these specific issues:

- What do the room numbers (e.g., "6-392") mean?
- How does a room number correspond to the physical location of the room on each floor?
- Are there any issues with maps/directories?
- What is the designer's conceptual model for the design and layout of the campus?

## Critical Questions

Come up with **two** different critical questions about problematic design of the City Centre Campus, and **answer** them (i.e., propose a redesign) applying what you have learned about Natural Design. For example:

- Consider your typical day as a student: What amenity is lacking or particularly difficult to find?
- Consider the typical day for a person who is differently abled: What aspect of the design makes it challenging for someone who has a disability to use the campus?

Place these questions in a separate section from the walkthrough. To receive marks for these critical questions, you must **not** repeat what you did for the rest of the walkthrough (e.g., "I tried to find another classroom/office" or "I tried to find the RGO Collaboration Centre").

## Write-Up

The body of your paper must be at least 5 full pages long, but not longer than 10 pages (not including the title page). You **must** write and format your paper in APA style (see below). Do not write an abstract; however, you must cite and reference external sources (i.e., Norman, 2013). A marking rubric is attached at the end of this document.

The walkthrough is not intended to dictate the structure of your write-up. You may organize it any way you like, but you must address the goals of this project--do not just answer the questions in the walkthrough. A significant portion of the marks for your write-up will be given to your critical evaluation of the design of the campus, based on the principles of Natural Design presented in class and in Norman's (2013) book, *The Design of Everyday Things* (Revised and expanded edition).

## APA Style

You may be familiar with MLA (Modern Language Association) style, often used for high school papers. ([MLA style](#) is about the mechanics of writing, such as punctuation, quotation, and documentation of sources.) However, psychology term papers and professional journal articles must be written in APA (American Psychological Association) style, updated to the 6th edition. APA style dictates fonts, spacing, margins, etc. It also explains how to cite, in the appropriate format, all sources of information--otherwise, you are claiming those ideas as your own (i.e., plagiarism); and how to reference all cited sources at the end of the paper.

The University of Alberta Libraries have an [APA Citation Style Guide](#); there are also more links to resources in the [term paper document](#). Or see the recommended readings for the course: *A Short Guide to Writing About Psychology*, 3rd edition (2011), and *Publication Manual of the American Psychological Association*, 7th edition (2020).

For this project, you are expected to rely on only one external source: Don Norman's (2013) book, *The design of everyday things* (Revised and expanded edition). You must cite and reference this source in APA style. Do not use any other external sources.

Figures (e.g., photographs, diagrams, maps, etc.) are permitted (and encouraged!). Be sure that all figures conform to [APA style guidelines](#). Any figures that you include are not considered part of your page count.

## Submitting

Your applied project write-up is due by the end of the day (11:59pm) on **Thursday, February 15**. To avoid late penalties, you must submit it by the due date & time. Submit your document via [eClass](#) in Microsoft Word (.docx) format or Adobe Acrobat/Portable Document Format (.pdf).

## Late Policy

Late documents may be submitted via eClass. Late submissions will lose 10% per 24-hour period, starting immediately after the deadline. That is, if you submit your document 1 minute after the deadline, you will lose 10%. If you submit it 23 hours and 59 minutes after the deadline, you will still lose only 10%. But if you submit it 24 hours and 1 minute after the deadline, you will lose 20%, etc.

## Conduct

Remember that you are a guest on the campus of MacEwan University, and that you are a representative of the student body of the University of Alberta. You may be subject to MacEwan University's policies regarding [behaviour and conduct](#).

## Alternate Assignment

If you have a compelling reason that prevents you from doing this project, you must contact the instructor as soon as possible. You will be given an alternate assignment of comparable scope to the applied project.

## The Fine Print

The University of Alberta is committed to the highest standards of [academic integrity](#). Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the [Code of Student Behaviour](#) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence.

Academic dishonesty is a serious offence and can result in suspension or expulsion from the University. These resources from Student Conduct and Accountability, and the University of Alberta Libraries can help:

- [Academic Integrity: Introduction to Academic Culture](#) - videos on citing, quoting, summarizing, and paraphrasing
- [How to Avoid Plagiarism](#) - plagiarism definition, and tips for avoiding plagiarism
- [Foundational Research Tutorial: Plagiarism](#) - interactive tutorials on citing, plagiarism, and paraphrasing, with examples
- [Citing, Quoting, Paraphrasing & Summarizing](#) - how-to document that compares and contrasts them
- [Don't Do It \(Cheating & Plagiarism\)](#) - Faculty of Science document on academic misconduct and resulting penalties

# PSYCH 494

## Human Factors and Ergonomics

Applied Project Marks

Student name: \_\_\_\_\_

OVERALL MARK: \_\_\_\_\_/100

General presentation: \_\_\_\_\_/10 (spelling, grammar, etc.)

comments:

APA style: \_\_\_\_\_/10 (title page, margins, citing, references, etc.)

comments:

Walkthrough: \_\_\_\_\_/10 (give a brief description)

comments:

Critical questions: \_\_\_\_\_/20 (10 each; 5 for listing an issue, 5 for "solving" or interpreting it)

comments:

Application of natural design principles: \_\_\_\_\_/50

affordances/constraints: \_\_\_\_\_/10

comments:

signifiers: \_\_\_\_\_/10

comments:

feedback: \_\_\_\_\_/10

comments:

mapping: \_\_\_\_\_/10

comments:

designer's conceptual model: \_\_\_\_\_/10

comments: