
IDES 2600A • HUMAN FACTORS/ERGONOMICS IN DESIGN

Instructor: **Maryam Attef**
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Office Location: online
Office Hours: [Book time to meet with me](#)

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Course Time and Location

Course locations are no longer displayed on the public class schedule and are subject to change. For the latest information please refer to Carleton Central under Student Services – Registration – Student Timetable.

Course Description

Foundation course in human factors/ergonomics providing an overview of physical and cognitive considerations in product design and related design fields. Anthropometrics, biomechanical considerations, cognition, social interaction, and emotional interaction are introduced in relation to supporting user experience, health and safety, performance and productivity.

Includes: Experiential Learning Activity.

Prerequisite(s): PSYC 1001 and PSYC 1002, or PSYC 1000.

Lectures and discussion three hours a week.

Learning Outcomes

By the end of this course, students will be able to:

1. Identify and apply HF/E principles and methods to better understand issues affecting people and systems to inform potential design interventions to improve quality of life.
2. Apply relevant principles and information on anthropometrics and the physiological limitations/capabilities of people to identify issues and opportunities affecting user experience, health, safety, performance, and/or productivity.
3. Apply relevant knowledge of cognitive, social, and/or emotional factors in design to improve people's experience, health, safety, performance, and/or productivity.
4. Identify possible environmental influences on people's experience and design such as spatial considerations, materiality, lighting, thermal considerations, noise and vibration, and air quality.
5. Describe possible work/activity influences on design such as pace of work, stress, fatigue, and boredom.
6. Apply HF/E principles and methods to evaluate and/or design: seating, handles, manual materials handling devices or systems, digital devices or experiences, wearables, consumer electronics, work areas, residential products or areas, services, and/or systems.
7. Produce written reports, and oral and visual presentations demonstrating HF/E research, analysis, and design recommendations/proposals.
8. Collaborate with team members and take responsibility for individual contributions.
9. Demonstrate professional behaviour.

Course Deliverables

These are the deliverables for this course. For more detailed information, please see the Course Schedule, **IDES 2600A HUMAN FACTORS/ERGONOMICS IN DESIGN W26 - Maryam Attef - Course Schedule**, in Brightspace.

Reading Quizzes (20%) - Reading quizzes will include multiple-choice questions related to the readings specific to the corresponding week.

- The best 4 out of 6 quizzes will count toward your final grade.
- Each quiz is worth 5%.

Group Project (50%) - This project is an application of what we will build off what we learned in the course. It includes:

- Group Preliminary Research (10%)
- Individual Observations of one of the community centers in Ottawa (5%)
- Group Onion Diagram, ISO Framework, Spatial and Demographic analysis (0%)
- Group Reflective Exercise (5%)
- Final Group Presentation (10%)
- Final Group Report and Suggested Concepts (20%)

Sketch Book (10%) - Observations from daily life that identify design issues and propose recommendations. Each recommendation should be supported by a clear rationale (10 sketches total, with 2 sketches per product/design (2% per design).

In Class Activities (10%) – in class activities to apply HF/E principles and methods.

Professionalism and Participation (10%)

- Giving professional and constructive feedback to classmates.
- Participate in group discussions in class and on Brightspace

Student Access to Exam, Quizzes, and feedback on Academic Work

Carleton University is committed to providing students with appropriate and timely feedback on their work. Please see [undergraduate regulations Article 5.3](#) and [graduate regulations Article 23](#) for more information. First assigned academic work will be evaluated and returned prior to the 40 teaching day of term.

Students have the right to have questions regarding their grades addressed and to view all material, including material that has not been returned such as final examinations. Please see [undergraduate regulations Article 3.3.4](#) and [graduate regulations Article 15](#) and [Graduate Grade Appeal Process](#) for more information.

This course has no exam.

Cost of Educational Materials

All materials required for the course and their costs are listed below. Please note some materials costs are dependent on the project and the materials chosen so a range listing minimum and maximum values will be given.

Stephen Pheasant & Christine M. Haslegrave (2005). Bodyspace: Anthropometry, Ergonomics and the Design of Work, 3rd Edition. CRC Press, Taylor & Francis Group, Boca Raton FL.

Jenny Preece, Helen Sharp & Yvonne Rogers (2015). Interaction Design: Beyond Human-Computer Interaction, 4th Edition. John Wiley & Sons Ltd., West Sussex, UK.

Students are not required to purchase textbooks or other learning materials for this course.

Technology Requirements

Please refer to the technology requirements on the School of Industrial Design Website (<https://carleton.ca/id/student-info/it-support/technology-requirements/>). You may be asked by your instructor to refer to Brightspace for other information or requirements related to coursework.

Individual/Group Work

Courses may include individual and group work, and the majority of the grade must reflect individual work. This will support the assessment of individual performance, which may be difficult to determine in group projects. It is also important in collaborative work that students clearly demonstrate their individual contributions.

Review/Presentation Attendance

Attendance at scheduled SID Reviews/Presentations is mandatory. These are equivalent to exams when indicated in the course outline. Failure to attend the Review/Presentation without reasonable cause will result in a grade of F. Students arriving late for the Review/Presentation or not remaining for the complete session without approval from the instructor, will be addressed on a case-by-case basis at the instructor's discretion.

If you are unable to attend a Review/Presentation, foresee arriving late, or need to leave before it is complete, please email your instructor in advance explaining the reason for the situation. It is important that you provide a reasonable rationale for your absence, late arrival, or early departure.

Late Submission of Assignments

In this class, some assignments have firm deadlines for which there can be no extensions, and some assignments are eligible for penalty-free, no-questions-asked extensions, which require you to use 1 or more of your bank of "grace days" for the course. Each student has 5 grace days for the relevant individual assignments. Treat these as a failsafe rather than planning to use them.

Assignments **NOT ELIGIBLE** for grace days:

- Reading Quizzes
- In Class Activities
- Sketch book
- Group Project – Deliverable 4: Group Reflective Exercise
- Group Project – Deliverable 5: Final Group Presentation
- Group Project – Deliverable 6: Final Group Report and Suggested Concepts

Assignments **ELIGIBLE** for grace days:

- Group Project – Deliverable 1: Group Preliminary Research
- Group Project – Deliverable 2: Individual Observations of one of the community centers in Ottawa
- Group Project – Deliverable 3: Group Onion Diagram, ISO Framework, Spatial and Demographic Analysis

Late assignments that are ineligible for "Grace Days" will receive an automatic zero. Similarly, once a student uses all 5 Grace Days, any assignment that would normally be eligible for Grace Days will face a 5% per day deduction (weekends included), up to a maximum of 25% (5 days); assignments submitted after that time receive a zero. Special consideration may be given if you are dealing with a protracted medical issue for which you can provide documentation.

Participation and Professionalism

Active participation and professional conduct (e.g. class discussion, consultations with instructors, work ethic, etc.) are important in lecture and studio courses and may be formally evaluated by a grade. Professionalism also includes Carleton's Policy on Academic Integrity described in more detail below with links to content that you are required to review.

Health and Safety

Students must participate in training to access all the SID Labs and Maker Space. Apart from this training, students are required to follow the health and safety standards of the School of Industrial Design as well as Carleton's health and safety standards. All materials related to SID health and safety are available here [Health and Safety](#) and it is expected that students review and understand these materials and apply these standards throughout their studies.

Use of Studio Spaces

Access to studio space to attend courses and complete assignments is an important part of student success. Students are welcome and encouraged to use available studio spaces to work during non-studio hours. Out of respect for your colleagues, instructors, and Carleton cleaning staff, ensure you leave the space in good condition. This includes cleaning your area and storing your items in your designated storage space whenever you are leaving the space. The school will not be responsible for items that are not stored properly.

Academic Integrity

Carleton's Policy on Academic Integrity is available at: <https://carleton.ca/registrar/academic-integrity/> and covers the following violations, but is not limited to:

- *Plagiarism*
 - Submitting work written in whole or in part by someone else
 - Failing to acknowledge sources through the use of proper citations when using another's work.
- *Test and Exam Rules*
 - *Attempting to read another student's exam paper*
 - *Speaking to another student (even if the subject matter is irrelevant to text)*
 - *Using material not authorized by the examiner*
- *Other Violations*
 - *Improper access to confidential information such as exams or test questions*
 - *Disruption of classroom activities or periods of instruction*
 - *Misrepresentation of facts for any academic purpose*

This policy governs the academic behavior of students. In industrial design, ideas, and concepts come from a multitude of sources and may be modified and utilized in the design and development process. The student should reference such sources appropriately and it is strongly advised that you read Carleton's Policy on [Academic Integrity](#) before conducting any work at the University.

Use of Artificial Intelligence (AI) Technologies

Moderate AI Use – Content Generation with Attribution

Students may use AI tools for sharing ideas, clarifying challenging concepts, or getting started on projects. Some acceptable uses include:

- Sounding board (e.g. generating essay topics with ChatGPT, using Microsoft Word's Smart Lookup or Copilot to find inspiration and related topics)
- Creating outlines (e.g., using AI to structure an essay or presentation flow, using Microsoft Word's Outline View with AI suggestions)
- Providing definitions or explanations of complex concepts (e.g., using AI to explain a difficult theory, or to find relevant information)

Documenting Use of AI

It is necessary to document your use of AI in this course, using the following guidelines:

- Clearly identify and cite AI-generated text (e.g., 'The following paragraph was generated by ChatGPT/Microsoft Word's Researcher tool/Copilot')
- Review, edit, and ensure accuracy and originality of final submissions
- AI-generated content should not exceed **10%** of the total assignment length

As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course. Students can access resources related to citing Generative AI on the [MacOdrum Library website](#). Plus, additional AI resources are also available on Carleton's [Artificial Intelligence Hub](#).

Requests for Academic Accommodation

Carleton is committed to providing academic accessibility for all individuals. You may require special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline). The website covers the below topics.

Topics:

- Pregnancy Obligations
- Religious/Spiritual Obligation
- Academic Accommodations for Students with Disabilities
- Survivors of Sexual Violence
- Accommodation for Student Activities
- Academic Considerations for Medical and Other Extenuating Circumstances
- Scheduling and Examination Support

Statement on Student Mental Health

As a university student, you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you, refer to this link - <https://wellness.carleton.ca/> and open the needed section.

Topics:

- *Counselling*
- *Resource Guide*
 - *Thriving on Campus*
 - *Everyday Stress*
 - *Mild Mental Health Concerns*
 - *Moderate Mental Health Concerns*
 - *Complex Mental Health Concerns*
- *Umbrella Project*

Student Responsibility

The student is responsible for knowing the content of this course outline; the schedule of classes, assignments, and/or reviews; and the material that was covered when absent. The studio is a professional environment, and students should be working during the scheduled hours.

Course Schedule

Please refer to Brightspace for a detailed Course Schedule: IDES 2600A HUMAN FACTORS/ERGONOMICS IN DESIGN W26 - Maryam Attef - Course Schedule.