COURSE OUTLINE IDES 5104A • ACCESSIBILITY AND INCLUSIVE DESIGN SEMINAR •

Winter (2025)

Instructor:	**Patricia Berube**
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	Location: **ME 3490**
	Office Hours: **Available upon request**

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

Provides foundational knowledge, exploring interdisciplinary approaches for incorporating accessible, inclusive, and human-centered design principles into the research, design, and development of products, information, and environments that can be used by all people, regardless of ability.

Includes: Experiential Learning Activity
Also listed as ACCS 5002.

Learning Outcomes

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

1. Differentiate among inclusive and accessible design principles for problem identification, ideation, and evaluation in the creation of products, services and/or environments to be used by the largest number of people, regardless of age, gender, or abilities.

2. Recognize and develop empathy for the diversity and uniqueness of end-user needs, including evolving motor, cognitive, and sensory capabilities.

3. Understand a range of basic qualitative and quantitative human-centered design research and analysis processes, such as in-situ ethnographic user studies and usability testing, for the design of inclusive and accessible design solutions or standards.

4. Consider accessibility from multiple perspectives, including technical, ethical, social, individual, and legislative.

5. Use course resources skillfully to support critical opinions about current and evolving perspectives on disability and accessibility that are relevant to taking a lead in bringing accessibility to the forefront in the areas of engineering, ICT, and design.

6. Effectively communicate ideas through visual, written, and oral presentations.

7. Cooperate with interdisciplinary team members in working through class exercises and assignments.

8. Adopt professional/responsible behaviour.

Course Deliverables

These are the deliverables for this course. Please see 'Appendix A Course Schedule' for more detailed information.

Assignment 1 – Short individual presentation (case study) 15%

Assignment 2 – Ethics – Describing the risks to a given research scenario 20%

Assignment 3 – Final project 50%:

        Part 1 – 2-pages proposal in team 10%

        Part 2 – In-class group presentation 20%

        Part 3 – Final project infographic (individual) 20%

Class participation – 15%

Student Access to Quiz, Test and Exam Papers

Examinations will be returned to students with comments and explanations.

Assignment 1: Short individual presentation – case study (15%)

Each student will present a 15-minutes presentation. Share and analyze a case study of universal design and one of inclusive design. In what ways are they similar or different?

<u>Deadline</u>: In class, Tuesday, January 21, 2025

Assignment 2: Ethics – describe the risks to a research scenario (20%)

Choose between the proposed three research scenarios and write 1,000-1,200 words about the ethics steps to consider and the potential risks attached to each of them.

Introduce your subject and reflect on what type(s) of risks there are with this scenario, what they represent and for whom. What could be potential solution to address both the risks and needs of the communities involved? Feel free to use subheadings and to structure your response accordingly.

Submit your answer in a Word document via Brightspace.

<u>Deadline</u>: Tuesday, March 4 (before 18h05) on Brightspace.

Final Project: Propose, present and finalize your work (50%, total)

Part 1: 2-page proposal for the team project (10%)

Your proposal should include the following:

- Identify or create an accessibility or inclusion issue
- Determine who will be involved in the process
- Chose a technology
- Select your methodology
- Are there any foreseen risks?

<u>Dates</u>: Tuesday February 4 (before 18h05) on Brightspace.

Part 2: In-class presentation (20%)

After incorporating the feedback received in the first part of the final project, you are now ready to start this second part! The last two session is reserved for group presentations. Each team will deliver a 30-minute presentation on their project. Prepare your PowerPoint (maximum of 30 slides) and try to answer the following questions:

- What is the accessibility or inclusion issue at stake?
- Who will be involved in the process?

- Who is your targeted audience or users?
- Which technology will you be using?
- What will be your methods (and why)?
- What will your interview questions look like?
- Are there any foreseen risks to the project?
- How is inclusion implemented in your design process?

Dates: Group presentations will be on Tuesday April 1 from 18h05 to 20h55.

Part 3: Final project (20%)

Your final project will be presented as an infographic which should answers the questions asked in second part of this project. How can you use the visuals to put an emphasis on some of the information? What information should come first? Where is text needed and why? Will your infographic be accessible to your targeted audience? Think of accessibility and inclusion as the most important steps in your process and not only as afterthoughts to your design and infographic.

All assignments must also be accompanied by a revised bibliography of works cited, presented in a word document.

Deadline: Saturday, April 26, 2025, by 23:59) on Brightspace.

Class participation (15%)

The participation component of this course takes into account preparation and active participation in class discussions and activities, including the individual and final presentations.

Calendar of Activities:

Week 1 (January 7): Introduction

- Presentations
- Dr. Adrian Chan, guest speaker
- Syllabus

No readings this week

Week 2 (January 14): Universal Design and Inclusive Design

Universal and Inclusive design. What is universal/inclusive design? What are the processes involved in this approach? How can design be truly inclusive?
- Accessibility
- Universal Design (7 principles)
- Inclusive Design (7 principles)

Readings:
- American Alliance of Museums. 2018. "Definitions of Diversity, Equity, Accessibility, and Inclusion." *American Alliance of Museums* (blog). April 30, 2018. https://www.aam-us.org/programs/diversity-equity-accessibility-and-inclusion/facing-change-definitions/.

- Cassim, Julia, and Hua Dong. 2008. "Empowering Designers and Users: Case Studies from the DBA Inclusive Design Challenge." In *Design for Inclusivity*, 89–109. Routledge.

- Hamraie, Aimi. 2016. "Universal Design and the Problem of 'Post-Disability' Ideology." *Design and Culture* 8 (3): 285–309. https://doi.org/10.1080/17547075.2016.1218714.

- Waller, Sam, Mike Bradley, Ian Hosking, and P. John Clarkson. 2015. "Making the Case for Inclusive Design." *Applied Ergonomics*, Special Issue: Inclusive Design, 46 (January): 297–303. https://doi.org/10.1016/j.apergo.2013.03.012.

WEEK 3 (January 21): Different approaches to inclusive design and individual presentations

Inclusive design methods. What are the different approaches to inclusive design? How do they unfold? What are their particularities and differences?
- Participatory research
- Co-design: an iterative process
- Arts-based, community-based research

*Individual presentations for Assignment 1

Readings:
- Balcazar, Fabricio, Christopher Keys, and Daniel Kaplan. 2006. "Participatory Action Research and People with Disabilities: Principles and Challenges." *Canadian Journal of Rehabilitation* 12 (January): 1–11.

- Hadley, Bree, and Janice Rieger. 2021. "Co-Designing Choice: Objectivity, Aesthetics and Agency in Audio-Description." *Museum Management and Curatorship* 36 (2): 189–203. https://doi.org/10.1080/09647775.2021.1878469.

- Kleinsmann, Maaike, and Rianne Valkenburg. 2008. "Barriers and Enablers for Creating Shared Understanding in Co-Design Projects." *Design Studies* 29 (4): 369–86. https://doi.org/10.1016/j.destud.2008.03.003.

- Minkler, Meredith. 2005. "Community-Based Research Partnerships: Challenges and Opportunities." *Journal of Urban Health* 82 (2): ii3–12. https://doi.org/10.1093/jurban/jti034.

WEEK 4 (January 28): Overview of the different models of disability

Models of disability: What are the primary models of disability and how can understanding them impact the way we design things? What are the most recent models, their limitations, and their implications?

Readings:
- Haegele, Justin Anthony, et Samuel Hodge. 2016. « Disability Discourse: Overview and Critiques of the Medical and Social Models ». *Quest* 68 (2): 193206. https://doi.org/10.1080/00336297.2016.1143849.

- Marks, Deborah. 1997. « Models of disability ». *Disability and Rehabilitation* 19 (3): 8591. https://doi.org/10.3109/09638289709166831.

- Retief, Marno, et Rantoa Letšosa. 2018. « Models of Disability: A Brief Overview ». *HTS Teologiese Studies / Theological Studies* 74 (1). https://doi.org/10.4102/hts.v74i1.4738.

*Time will be allotted during this class to work on group projects.

WEEK 5 (February 4): Why do we need Global Disability Studies?

Global North versus Global South: Why do we need to decolonize disability studies? What are fat studies and why should designers be cognizant of them?

*Assignment due: 2-page proposal for the final project

Readings:

- Listen to Dr. Shanouda's podcast episode with Dr. Xuan Thuy Nguyen https://disabilitysavestheworld.podbean.com/ (45 minutes)

WEEK 6 (February 12): Qualitative methods and inclusive design

Qualitative research key methods. How do you position yourself as a researcher to avoid or reduce biases? What are the key methods used to gather data in qualitative research? How to decide on which one to choose and can you use multiple? What are their respective advantages and limitations?

- (Auto-)Ethnography
- Surveys
- Interviews
- Email questions
- Focus groups
- Collecting data remotely

Readings:

- Baxter, Pamela, and Susan Jack. 2010. "Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers." *Qualitative Report* 13 (January).

- Lobe, Bojana, David Morgan, and Kim A. Hoffman. 2020. "Qualitative Data Collection in an Era of Social Distancing." *International Journal of Qualitative Methods* 19 (January): 1609406920937875. https://doi.org/10.1177/1609406920937875.

- Qu, Sandy Q., and John Dumay. 2011. "The Qualitative Research Interview." *Qualitative Research in Accounting & Management* 8 (3): 238–64. https://doi.org/10.1108/11766091111162070.

WEEK 7 (February 17-21)   Winter break, no classes.

WEEK 8 (February 25): Making paintings accessible to people with visual impairments

Accessible paintings: Why is it important to translate paintings? What is a good way to proceed as to ensure that the process and results both are inclusive?

Readings:

- Cavazos Quero, Luis, Jorge Iranzo Bartolomé, and Jundong Cho. 2021. "Accessible Visual Artworks for Blind and Visually Impaired People: Comparing a Multimodal Approach with Tactile Graphics." *Electronics* 10 (3): 19. https://doi.org/10.3390/electronics10030297.

- Cho, Jun Dong. 2021. "A Study of Multi-Sensory Experience and Color Recognition in Visual Arts Appreciation of People with Visual Impairment." *Electronics* 10 (4): 470. https://doi.org/10.3390/electronics10040470.

- Christidou, Dimitra, and Palmyre Pierroux. 2019. "Art, Touch and Meaning Making: An Analysis of Multisensory Interpretation in the Museum." *Museum Management and Curatorship* 34 (1): 96–115.https://journals-scholarsportal-info.proxy.library.carleton.ca/pdf/09647775/v34i0001/96_atammaomiitm.xml

WEEK 9 (March 4): Creating music in an inclusive way

Inclusivity in music making: How to include different voices in music?
- Guest speaker – To be confirmed

*Assignment due: ethics scenario

Readings:

- Gosine, J., Hawksley, D., & LeMessurier Quinn, S. (2017). Community Building Through Inclusive Music-Making. *Voices: A World Forum for Music Therapy*, *17*(1). https://voices.no/index.php/voices/article/view/2356/2170

WEEK 10 (March 11): Recruiting and collecting dada

Steps to data collection: How to recruit participants for arts-based, community based and participatory action research?

But first…Ethics application!
- Consent
- Anonymity
- Qualitative studies and participants
- Formulation of interview questions
- Challenges of in-person versus online interviews

Readings:

- Gelling, Leslie. 1999. "Role of the Research Ethics Committee." *Nurse Education Today* 19 (7): 564–69. https://doi.org/10.1054/nedt.1999.0349.

- Harris, Jennifer, and Keri Roberts. 2003. "Challenging Barriers to Participation in Qualitative Research: Involving Disabled Refugees." *International Journal of Qualitative Methods* 2 (2): 14–22. https://doi.org/10.1177/160940690300200202.

- Mietola, Reetta, Sonja Miettinen, and Simo Vehmas. 2017. "Voiceless Subjects? Research Ethics and Persons with Profound Intellectual Disabilities." *International Journal of Social Research Methodology* 20 (3): 263–74. https://doi.org/10.1080/13645579.2017.1287872.

- Morgan, David L. 1996. "Focus Groups." *Annual Review of Sociology* 22 (1): 129–52. https://doi.org/10.1146/annurev.soc.22.1.129.

WEEK 11 (March 18): Coding and analyzing data

Using NVivo. What does it mean to code data? How can you do so and what are the different steps to it? Why do we sometimes need to 'clean' data and how can you do it too?

- Automated versus manual (need to clean)
- Deductive versus inductive coding
- Hierarchical coding frame
- Thematic coding

Data analysis 101. Now that you have collected your data, what should you do with it? Which approach(es) can you use to analyse your data?

- Clustering and Categorizing
- Exploratory versus confirmatory
- Coding scheme firm at start versus evolving
- Multiple versus single coding
- Iterative versus one pass
- Interests and intentions
- Biases

Readings:

- Baralt, Melissa. 2011. "Coding Qualitative Data." In *Research Methods in Second Language Acquisition*, 222–44. John Wiley & Sons, Ltd. https://doi.org/10.1002/9781444347340.ch12.

- Williams, Michael, and Tami Moser. 2019. "The Art of Coding and Thematic Exploration in Qualitative Research." *International Management Review* 15 (1): 45–55. https://doi.org/10.1192/pb.38.2.86b.

- Vaughn, Porcia, and Cherie Turner. 2016. "Decoding via Coding: Analyzing Qualitative Text Data Through Thematic Coding and Survey Methodologies." *Journal of Library Administration* 56 (1): 41–51. https://doi.org/10.1080/01930826.2015.1105035.

- Weitzman, E A. 1999. "Analyzing Qualitative Data with Computer Software." *Health Services Research* 34 (5 Pt 2): 1241–63.

WEEK 12 (March 25): Interpreting and visualizing data

Making sense of data. What happens once data is analyzed? What considerations come into play when interpreting findings?
- Assemble information

- Develop findings
- Connect them to literature
- Summarizing
- Identify patterns or trends
- Share findings
- Opinions
- Speculations
- Develop conclusions or claims
- Explanations

Data visualisation: A technical approach. Now that you have analyzed your data and made sense of it, how to make sure that others understand the same things as you? How can tables and graphs highlight key elements of your findings?
- Tables
- Infograms
- ChartBlocks
- Datawrappers
- Google charts (Word or Excel)
- NVivo automatic visualization tools
- Presentations
- Mindmaps
- Words clouds
- Infographics
- Storytelling

Readings:

- Cashman, Suzanne B., Sarah Adeky, Alex J. Allen, Jason Corburn, Barbara A. Israel, Jaime Montaño, Alvin Rafelito, et al. 2008. "The Power and the Promise: Working With Communities to Analyze Data, Interpret Findings, and Get to Outcomes." *American Journal of Public Health* 98 (8): 1407–17. https://doi.org/10.2105/AJPH.2007.113571.

- Dates, Geoff, and Jerry Schoen. 2017. "Data Interpretation." 1-8.

- Kramer, Jessica M., John C. Kramer, Edurne García-Iriarte, and Joy Hammel. 2011. "Following Through to the End: The Use of Inclusive Strategies to Analyse and Interpret Data in Participatory Action Research with Individuals with Intellectual Disabilities." *Journal of Applied Research in Intellectual Disabilities* 24 (3): 263–73. https://doi.org/10.1111/j.1468-3148.2010.00602.x.

- Unwin, Antony. 2020. "Why Is Data Visualization Important? What Is Important in Data Visualization?" *Harvard Data Science Review* 2 (1). https://doi.org/10.1162/99608f92.8ae4d525.

- Justin Sung, dir. 2020. *The Perfect Mindmap: 6 Step Checklist*. https://www.youtube.com/watch?v=5zT_2aBP6vM.

WEEK 13 (April 1): Final presentations

Group presentations – 30-minute presentations on inclusive design projects, in class
Individual and peer evaluations (teams and other groups presenting)

Sharing feedback
Group discussion

No readings this week

Exam Period: final project (infographics) due by 23:5 9 on April 26, 2025

Required Materials

Materials required for the course are listed below. You may be asked by your instructor to refer to Brightspace for a more comprehensive list of required materials.

All of the mandatory readings will be provided on Brightspace

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. You may be asked by your instructor to refer to Brightspace for other information or requirements related to coursework.

https://carleton.ca/id/student-info/computer-it-support/computer-requirements/

Individual/Group Work

Courses may include individual and group work. It is 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

Students who do not hand in assignments on time will have their earned grade reduced by 10% per day at the instructor's discretion. If you foresee not meeting the submission due date and are requesting an extension, please provide your instructor with a minimum of 24 hours' notice.

Regulation on Minimum Grade Requirements

A grade of B- or better must be obtained for each credit counted towards the master's degree. The School does not permit exceptions to this rule.

Students will be required to withdraw from the program if their grade point average falls below 7.0 (B-), or if they receive a grade of less than B- in any two courses that are eligible to be counted toward the Master's degree.

For more information on General Regulations, please refer to:
https://calendar.carleton.ca/grad/gradregulations/

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. To support access, specific studios have been designated to certain years and/or sections.

1st Year Studio Section A – Studio A

1st Year Studio Section B – Studio B

2nd Year Studio Section A – Studio A

2nd Year Studio Section B – Studio B

3rd Year Studio Section A & B – Studio C

4th Year Studio All Sections (Capstone and Minor) – Studio D

<mark>MDes Studio – MDes Studio</mark>

Students are welcome and encouraged to use their designated 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. The School will not be responsible for items that are not stored properly.

Academic Integrity: Plagiarism and Other Violations

In the School of Industrial Design, students are expected to have read and understand the University's definition of plagiarism and related offences in Carleton's policy on Academic Integrity at https://carleton.ca/registrar/academic-integrity/

The definition of plagiarism extends to copying designs, design ideas, research tools, etc. in whole or in part belonging to someone else, failing to acknowledge the sources through the use of proper citations when using another's work in any medium.

The school takes these misconduct offenses seriously and will take appropriate action as outlined in Carleton's Academic Integrity policy (see link above). The students are strongly advised to read Carleton's Policy on Academic Integrity before conducting any work at the University.

Use of Artificial Intelligence (AI) Technologies

To effectively address the incorporation of AI technologies, specifically generative AI tools, into courses, we have instituted the following guidelines. Further information can be found here - https://carleton.ca/tls/teachingresources/generative-artificial-intelligence/recommendations-and-guidelines/. Another useful resource is the Library's guide on AI tools - https://library.carleton.ca/guides/subject/artificial-intelligence-ai-tools.

1. Academic Integrity Standards: In the absence of explicit permission from the instructor within a given course, the use of generative AI tools to create content, (e.g., text, code, images, summaries, videos, etc.), is deemed a breach of academic integrity standards.

2. Instructor's Discretion: Instructors have the authority to grant permission for the use of generative AI tools, (e.g., ChatGPT and similar tools), based on alignment with the course's educational objectives and learning outcomes. Assignment and examination guidelines will be written to explicitly reflect this granted permission.

3. Clear Instructions: Should instructors choose to permit the use of generative AI tools, an assessment guideline will provide students with clear and detailed direction, including;

   i. Identification of specific generative AI tools that are acceptable for use.
   ii. Clarity on the approved applications of these tools.

These measures aim to create a balanced and transparent educational environment, ensuring both academic integrity and the responsible integration of AI technologies into the learning experience.

Requests for Academic Accommodation

You may require special arrangements to meet your academic obligations during the term. For an accommodation request for any of the below topics, refer to this link - https://students.carleton.ca/course-outline/ and open the needed section.

Topics:

- *Pregnancy Obligations*

- *Religious/Spiritual Obligation*

- *Academic Accommodations for Students with Disabilities*

- *Survivors of Sexual Violence*

- *Accommodations 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. Unless otherwise arranged, the class will meet during scheduled class hours. Please note that attendance is important since issues and questions may be raised in class, or valuable information may be shared, all of which can greatly benefit the student's learning experience. As external professionals may be involved in our work, scheduling changes for guest lectures, presentations, and reviews may occur at short notice, requiring students to stay informed.

Changes to the Course Outline

The course outline may be subject to change in the event of extenuating circumstances.

Course Schedule