COURSE OUTLINE IDES 5104A• **ACCESSIBILITY & INCLUSIVE DESIGN SEMINAR**
FALL 2021

Instructor: Nicola Oddy

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Location: remote

Office Hours: By appointment

Course Time and Location: Tuesdays 13:05- 15:55 pm on zoom
https://carleton-ca.zoom.us/j/93184055910, Password 992443

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.

The course sessions will include a range of visitors and field trips. Students will work in interdisciplinary teams to investigate, document, and present case studies addressing 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.

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 & Evaluation Information:

1. Assignment 1: Annotated Bibliography   20 %
2. Assignment 2: Group Readings Facilitation   20 %
3. Assignment 3: Phase 1: Individual Case Study   25%
4. Assignment 3: Phase 2: Group Case Study   25%
5. Professionalism & Participation (includes peer reviews, attendance, engagement & participation)   10%

Required Materials:

Course readings are available on library reserves, in MacOdrum Library as chapters in e-books or as URL links as indicated. Please see Appendix A for weekly readings.

For Further Reading
Abilities Magazine http://abilities.ca/

AODA Videos online:
https://www.aodaalliance.org/whats-new/the-aoda-alliance-launches-part-2-of-its-series-of-online-videos-on-the-campaign-for-accessibility-to-mark-the-23rd-anniversary-of-ontarios-grassroots-campaign-for-disability-accessibility/

Bill C-81: An Act to Ensure a Barrier-Free Canada
https://www.parl.ca/DocumentViewer/en/42-1/bill/C-81/royal-assent#ID0ENMCI
Note: look for Bill C81 Plain Language Summary online

Brodersen S. and Lindegaard H. (2014) Ability or disability: design for whom. *Scandinavian Journal of Disability Research,* 16(3), p. 267-279 (MacOdrum Library, online).

Canadian Human Rights Commission (2007). International Best Practices in Universal Design: A Global Review
https://www.chrc-ccdp.gc.ca/eng/content/international-best-practices-universal-design-global-review

Clarkson, J.P., Waller, S. & Cardoso, C. (2015). Approaches to Estimating User Exclusion. *Applied Ergonomics* 46 p. 304-310 (on course reserves).

Lemaire, E. (2016). Mobilizing Knowledge: The Evidence Gap for Assistive Devices. *Technology Innovation Management Review* v6 (9) p 39- 45 https://timreview.ca/article/1018
Lupton, E. and Lipps, A. (2018). The Senses: Design Beyond Vision. Princeton Architectural Press: Hudson, N.Y., p 138-147 (MacOdrum Library, online**).**

Ning, W. & Dong, H. (2016). Collecting Data for Inclusive Design: Emerging Tools and Methods. In Langdon, P., Lazar, J., Heylighen, A., Dong, H. (Eds). Designing Around People. Springer: Switzerland, 147-156 (MacOdrum Library, online).
OCADU Inclusive Design Research Centre
https://idrc.ocadu.ca/index.php/resources/idrc-online/library-of-papers/443-whatisinclusivedesign

Smith, K. (2013). Digital Outcasts: Moving Technology forward without Leaving People Behind. Waltham, MA: Morgan Kaufmann. (MacOdrum Library, online).

Soegaard, M. (2018) Accessibility: Usability for All. Interaction Design Foundation. https://www.interaction-design.org/literature/article/accessibility-usability-for-all

Stewart, J. Adaptive Use Musical Instrument https://vimeo.com/349562100/79cfdf506a

Sullivan, H.T., Sahasrabudhe, S. (2017). Envisioning Inclusive futures: Technology-based assistive sensory and action substitution. *Futures* 87 (2017) 140-148 (on course reserves).

Waller, S., Bradley, M., Hosking, I., Clarkson, P.J. (2015) Making the Case for Inclusive Design. *Applied Ergonomics* 46 (2015) 297-303 (on course reserves).

Web Accessibility Laws & Policies https://www.w3.org/WAI

Wobbrock, J.O., Kane, S.K, Gajos, K.Z., Harada, S, and Froehlich, J. (2011). Ability-Based Design: Concepts, Principles and Examples. *ACM Transactions on Accessible Computing* 3(3) 1-27 (on course reserves).

Computer Requirements

Please refer to the computer requirements on the School of Industrial Design Website. We will be using CULearn for course information and submissions, and Zoom for online classes. In the case of technological issues, the class will be recorded for later consumption.

Online Etiquette

Remember that while in class, your at-home computer is your classroom. You are required to remain engaged in class material throughout class time. As in a live class, I ask that you do not engage in personal communication while in class. Remain present with the live stream where possible. Follow the same protocol you would follow in class for eating. Reserve the eating of lunch and snacks for break times. Find one spot in your home and set up your work station there. *If possible*, set up your classroom at a desk or table rather than on a comfy chair or on your bed. While online, please refrain from travelling around the house, carrying your computer with you. Leave yourself muted except when contributing, to prevent background noises and conversations from entering the classroom. Where possible, please keep your video on.

Individual/Group Work

Course includes individual and group work. It is important in collaborative work that students clearly demonstrate their individual contribution.

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 discretion of the instructor.

If you are not able 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. In the event of an illness or death in the family, you will be required to sign a form verifying your claim and this form is available through the SID administration office.

Late Submission of Lecture & Studio Deliverables

Students who do not hand in deliverables on time will have their earned grade reduced by 5% per day up to a maximum of 3 days.

Regulation on Minimum Grade Requirements

A grade of B- or better must be obtained in 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/gradprograms/design/#regulationstext

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 are formally evaluated by a grade in this course. Professionalism also includes Carleton's Policy on Academic Integrity described in more detail below with links to content which you are required to review.

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 offences seriously and will take appropriate action as outlined in Carleton's Academic Integrity policy (see link above)

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 following topics below, refer to the link provided for more information: https://students.carleton.ca/course-outline/

- *Parental Leave*

- *Religious/Spiritual Obligation*
- *Academic Accommodations for Students with Disabilities*
- *Survivors of Sexual Violence*
- *Accommodations for Student Activities*

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, and announcements made, along with information disseminated through cuLearn. As external professionals are often 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.

Appendix A – Course Schedule

Wk	Date	Topic	Content	Readings	Due
1	Sept. 14	Introduction	Course Syllabus Guest: Dr. Adrian Chan Assignments: Introduction and planning Ethics overview Nicola: Perspectives on accessibility in making music.		Set up 15 minute 1-1 meeting with Nicola by the end of the day (Sept. 14). Meetings completed by **Sept. 17** (see teams link in Brightspace)
2	Sept. 21	From the perspective of the end user: Mobility	Guest: Christopher Alkenbrack **Group 1 facilitates**	**Lau, S-T., Nirmalanathan, K., Khan, M., Gauthier, C., Maisel, J., Novak, A. (2020).** A Canadian Roadmap for Accessibility Standards, Canadian Standards Association, Toronto, ON. https://www.csagroup.org/article/research/a-canadian-roadmap-for-accessibility-standards/?utm_medium=LinkedIn&utm_source=social&utm_campaign=STDs-accessibility-12-03-2020#heading-1 Carleton Canadian Accessibility Network: https://newsroom.carleton.ca/2019/carleton-creates-canadian-accessibility-network/ Holmes, K. (2018). *Mismatch: How Inclusion Shapes Design*, pp 1-15. (e-book in library)	TCPS2 CORE certificates **Sept. 21** https://tcps2core.ca/welcome
3	Sept. 28	Debunking disability as tragedy and pathology through a Social Oppression Lens	Guest: Roy Hanes **Group 2 facilitates readings for Week 4, to prepare us for the fieldtrip.**	Hicks, S., Stokes, J., (2021) "The Welfare and Well-being of Persons with Disabilities" in Hick and Stokes (Ed). *Social Welfare in Canada* (chapter 11). Thompson Publication (in course reserves) . Aylward, L.M., Bruce, C. (2021). Accommodating Disability at University. *Disability Studies Quarterly*, 41(2). https://dsq-sds.org/article/view/6973	

IDES 5104A Accessibility and Inclusive Design Seminar F20 Appendix A– Course Schedule – Fall, 2021

4	Oct. 5	Field Trip to Queen's University	Hosts: Nicolas Graham and Claire Davies	Davies, C. (2017). Enhancing Activity and Participation with Assistive Technology. In B. Dan, & M. Mayston, N. Paneth, & L. Rosenbloom (Eds)., *Cerebral Palsy: Science and Clinical Practice* (pp. 361-369). Clevdon Press. (in course reserves). Hernandez, H. A, Ye, z., Graham, N., Fehlings, D., Switzer, L. (2013). Designing Action-Based Exergames for Children with Cerebral Palsey in Proceedings CHI 2013: Changing Perspectives, Paris France. 1261- 1270 (in course reserves).	Interview date has been set **Oct. 5** First set of 4 annotations from weeks 1-4 due **Oct. 7** Group submits questions for approval, **Oct. 10**
5	Oct. 12	READi Symposium		Dong, H., McGinley, C., Nickpour, F., Cifter, A.S. (2015). Designing for Designers: Insights into the Knowledge Users of Inclusive Design. *Applied Ergonomics* 46: 284–91 (in course reserves). Inclusive Design Toolkit: https://www-edc.eng.cam.ac.uk/downloads/idtoolkit.pdf Lid, Inger Marie (2014) Universal Design and Disability: An interdisciplinary perspective. *Disability and Rehabilitation*, 36(16), p. 1344-1349.	

				Luck, Rachel, Inclusive Design and making in practice: Bringing bodily experience into closer contact with making. *Design Studies* 54(2018) 96-119 (in course reserves).	
6	Oct. 19	From the end user's Perspective: Kingston Circus Arts	Guest: Erin Ball **Group 3 facilitates (Inclusive design: based on readings for week 5)** The affinity diagram and blog logistics.	Explore the following website and choose two readings from it that interest you. Please prepare a question for Erin. https://bodiesintranslation.ca/publications/	Interview has taken place by **Oct. 22**
7	Oct. 26	Fall Break			
8	Nov. 2	Nothing Without Us: Accessibility and Inclusion in the Federal Public Service	Guest: Yazmine Laroche **Group 4 facilitates** (Articles 4-6 in the list)	You do not need to read these documents from cover to cover, but please visit each site and become familiar with them. The top 3 were recommended by Yazmine, so visit those for sure. When you click on The Valuable 500, go to news and media and select one article to read. Accessibility in the public service - Canada.ca Disability Is Your Business	The Valuable 500 https://youtu.be/gHCDvdCaJhI Bill C-81: An Act to Ensure a Barrier-Free Canada	Second set of 4 annotations from weeks 5-8 **Nov. 4** Teams meet to discuss findings and find common themes by **Nov. 5**

				https://www.parl.ca/DocumentViewer/en/42-1/bill/C-81/royal-assent#ID0ENMCI Note: look for Bill C81 Plain Language Summary online Accessibility: A Practical Handbook on Accessible Web Design https://www.rgd.ca/database/files/library/RGD_AccessAbility_Handbook_2015_ForWebFINAL(1).pdf Accessibility for Ontarians with Disabilities Act (AODA) https://www.ontario.ca/page/accessibility-laws	
9	Nov. 9	From the perspective of the end user: Accessibility for Blind	Guest: Kim Kilpatrick **Group 5 facilitates**	Gomez, J.L., Langdon, Bichard, J.A., and Clarkson, P.J., (2014). <u>Designing accessible workplaces for visually impaired people</u>. In Langdon, P.M., Lazar, J., Heylighen, A., Dong, H. (editors). *Inclusive Designing: Joining Usability, Accessibility, and Inclusion.* New York: Springer, 269-279 (e-book in library). Lupton, E. and Lipps, A. (2018). The Senses: Design Beyond Vision. Princeton Architectural Press: Hudson, N.Y., p 123-137 (e-book in library). Before Kim joins us, please look up Kim Kilpatrick online and explore the many facets of who she is. Be prepared for her talk with questions. You may use one of the elements you find online for one of your annotations.	Individual case studies are submitted for review by Nicola. **Due, Nov. 11**

| 10 | Nov. 16 | From the perspective of the end user: Accessibility for Neurodiversity | Guests:
Educator and Counsellor Tara Connolly

The User Experience with Erin Felepchuck

Group 6 facilitates

Brief progress reports from each group. | *Autism's Own* vol. 5 2018 Scan for one article that interests you. https://journals.uvic.ca/index.php/autismsown/

Choose two from the following:

Dattolo, A., and Flaminia, L. (2017). Accessible and Usable Websites and Mobile Applications for People with Autism Spectrum Disorders: A Comparative Study. *EAI Endorsed Transactions on Ambient Systems*. https://eudl.eu/pdf/10.4108/eai.17-5-2017.152549

Hoskin, Elizabeth, Aditi Singh, Nicola Oddy, Adrian L Jessup Schneider, Gabrielle Trepanier, Chantal Trudel, and Audrey Girouard. 2020. Assessing the Experience of People with Autism at the Canada Science and Technology Museum. https://doi.org/10.1145/3334480.3382834.

Manning, E., and Massumi, B. (2019). Coming Alive in a World of Texture. In *Thought in the Act: Passages in the Ecology of Experience*, 3–22. Minnesota: University of Minnesota Press (in course reserves).

Silberman, S. (2013, April 16). Neurodiversity rewires conventional thinking about brains. *Wired*. Retrieved from https://www.wired.com/2013/04/neurodiversity/ | Individual case studies are revised and posted to the blog **Nov. 18**

Group shares brief progress report shared with class. No more than 5 minutes. **Nov. 23** |

				For further reading: Lydia X.Z. Brown aka Autistic Hoya, Kerima Cevik, and Melanie Yergeau are suggested by Erin Felepchuk. They are all autistic academics and have works available through the Carleton library.	
11	Nov. 23	Design to support aging and independent living.	Guest: Chantal Trudel **Group 7 facilitates**	Yielding, D. & Cassim, J. (2007). Practicalities of Working with Users. In Coleman, R., Clarkson, J., Cassim, J. and Dong, H. (Eds). Design for Inclusivity: A practical Guide to Accessible, Innovative and User-Centred Design. Gower: London UK, 149- 163 (MacOdrum Library, online [Hathi Trust]) Trudel, C., Cobb, S., Momtahan, Brintnell, J., and Mitchell, A. (2016). Developing Tacit Knowledge of Complex Systems https://timreview.ca/article/1017	
12	Nov. 30	Robotics	Guest: Mojtaba Amadi **Group 8 faciliates**	Aliasgar,M., Mojtaba Ahmadi,M., Chan,A., Langlois, R. 2014. "Stability-Guaranteed Assist-as-Needed Controller for Powered Orthoses." *IEEE Transactions of Control Systems Technology* 22 (2): 745–52 (in course reserves). Chisholm, K.J., Klumper, A., Mullins, A., Ahmadi, M. (2014). Task Oriented Haptic Gait Rehabilitation Robot, Department of Mechanical and Aerospace Engineering, Carleton University (in course reserves).	Final set of 4 annotations from weeks 9-12: **Dec. 2** Group Case Studies are submitted for review **Dec. 2**

				Final Blogs posted **Dec. 6**
13	Dec. 7	Presentations Wrap up			**Presentations**