

## OCC1 623 ASSISTIVE TECHNOLOGY

**Credits:** 3

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**Access to the Instructors:**

Office hours are by appointment only. Please email to make an appointment.

**Course Description:** Application of high and low-technology assistive devices to enhance performance and individual human needs, including alternative computer access, powered mobility, augmentative communication, telecommunication and environmental control, social and professional issues regarding technology service delivery.

**Course Structure:** The course consists of lectures, presentations by guest clinicians, case studies, site visits, group work in the format of labs as well as self-directed learning activities.

**Course Objective:** To examine the current knowledge and evidence about product design, development, accessibility and 'fit' of assistive technology in relation to the client's occupational needs, goals and their environmental context.

**Student Learning Outcomes:**

At the completion of this course, students will be able to:

1. Identify the functional uses of current high and low assistive technology devices, including computer access, computer mice, environmental controls, adapted keyboards, switches, and communication devices. (OT competency A2.4)
2. Explore and appraise the appropriate functional, adaptive, and contraindicated uses of current assistive technologies taking into account one's knowledge of various musculoskeletal, neurological, and/or developmental conditions. (OT competency A2.4)
3. Apply this knowledge to determine suitability for clients across the lifespan, meeting occupational performance, accessibility, budgetary, and environmental (physical, social, cultural, technical) needs, i.e. the best 'fit' between client, environment, activity and assistive technology. (OT competency A2.4, A3.2 -3.4)

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4. Share knowledge of current assistive technology with respect to occupational performance needs, environmental and accessibility considerations, and long-term planning objectives to interested parties (e.g., clients, families, colleagues) (OT competency A2.5, B1.2)
5. Identify professional and commercial resources involved in the prescription and implementation of assistive technology to facilitate collaboration and appropriate referrals. (OT competency B3.3)
6. Recognize the importance of keeping up-to-date with the rapidly changing trends in assistive technology. (OT competency D3.2)
7. Understand the role of assistive technology services, policies and funding sources in the delivery of assistive devices to support occupational participation. (OT competency C3.3, C3.6)

### **Course Content**

- Augmentative communications
- Computer adaptation
- Environmental or EADL controls
- Specialized wheelchair controls
- Assistive technology with children and individuals with mild cognitive impairments
- iPad/tablet access and applications

### **Required preparatory work**

- Lecture notes and handouts  
Students are expected to review lecture notes and handouts on MyCourses before class. They will be posted on myCourses before each class.
- Case studies  
During the term, some lectures will include case discussions. The case studies will be available at least one week before each corresponding lecture. Students will be required to read all case studies and be prepared to discuss them in class.
- Required readings

### **Student Evaluations**

#### **Assignment 1: Computer access 15%**

As a preparation for the lecture on Computer access (Lecture 2), students will be required to review a clinical case, experiment with the various accessibility options on their personal computer, then answer a series of questions related to the case.

#### **Assignment 2: Tablet Access 15%**

This assignment will consist of developing an OT intervention linked to the use of assistive technology. This will include the physical creation of a low-tech assistive device. Assignment criteria and requirements will be provided on myCourses.

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**Online Quizzes 10% (2 x 5%)**

Two online quizzes will need to be completed on myCourses before the following lectures: “Specialized wheelchair controls” and “Technology for pediatrics”. The quizzes will consist of 6-10 multiple-choice or short answer questions related to the readings and the cases provided for each lecture. One attempt of one hour will be given to answer each quiz. Each quiz will be due two hours prior to the corresponding lecture and will each be worth 5% of the final mark.

**Group Project 60% (15% + 45%)**

This self-directed group project enables students to apply, analyze, and synthesize information about assistive technology to a specific case-based context, as they implement an independent research, evaluation, and documentation of devices and their uses. The written project will consist of a case report where students will justify their choice of specific assistive technology in the context of a treatment plan.

**More details including the due dates for the student evaluations will be provided on the first day of class.**

**Assessment:** The [Policy on Assessment of Student Learning](#) exists to ensure fair and equitable academic assessment for all students and to protect students from excessive workloads. All students and instructors are encouraged to review this Policy, which addresses multiple aspects and methods of student assessment, e.g. the timing of evaluation due dates and weighting of final examinations.

**Plagiarism/Academic Integrity:** McGill University and the Faculty of Medicine and Health Sciences value academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the [McGill University Code of Student Conduct and Disciplinary Procedures](#) and the [Faculty of Medicine and Health Sciences Code of Conduct](#)

*L'université McGill et Faculte de Medecine et des Sciences de la Sante attachent une haute importance à l'honnêteté académique. Ils incombent par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le [Université de McGill Code de conduite de l'étudiant et des procédures disciplinaires](#) et [Faculté de médecine et des sciences de la santé](#).*

**Attendance:** Students are required to attend all lectures and student project presentations (if applicable).

**Language of submission:** “In accord with McGill University’s Charter of Student Rights, students in this course have the right to submit in English or in French any written work that is to be graded. This does not apply to courses in which acquiring proficiency in a language is one of the objectives.” (Approved by Senate on 21 January 2009)

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« Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté, sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue. »

Students have the right to write essays, examinations and projects in French, however should not mix both English and French in the same portion of text.

**Consequences of not completing assignments as requested:** The written project will be graded with respect to specific criteria. All late submissions of the project will result in an immediate deduction of 4 marks, plus 1 mark per day (including weekends). Failure to submit a part of the project will result in '0' for that portion (e.g., omission of chart).

**Inclusive learning environment:** As instructors of this course, we endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with us and/or [Student Accessibility and Achievement](#).

**Diversity Statement:** The Occupational Therapy Program recognizes our responsibility to foster a learning environment where students and instructors can engage in dialogue and exchange ideas without being made to feel unwelcome or disrespected in view of their identity or beliefs. The Program intends that the instructional design of all courses minimize any barriers to participation, particularly barriers based on age, biological sex, disability, gender identity or expression, indigenous ancestry, linguistic and cultural background, race/ethnicity, religion, sexual orientation, political views/opinions/ideologies, and any other aspect integral to one's personhood. We therefore recognize our responsibility, both individual and collective, to strive to establish and maintain a respectful environment that is free from discrimination.

**Copyright of course materials:** © Instructor-generated course materials (e.g., handouts, notes, summaries, exam questions) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that copyright infringements can be subject to follow-up by the University under the Code of Student Conduct and Disciplinary Procedures.

**In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.**