



**School of Physical and Occupational Therapy
Programs, Courses and University Regulations
2018-2019**

This PDF excerpt of *Programs, Courses and University Regulations* is an archived snapshot of the web content on the date that appears in the footer of the PDF.

Archival copies are available at www.mcgill.ca/study.

This publication provides guidance to prospects, applicants, students, faculty and staff.

1 . McGill University reserves the right to mak

Publication Information

Published by

Enrolment Services

McGill University
3415 McTavish Street
Montreal, Quebec, H3A 0C8
Canada

All contents copyright © 2018 by McGill University. All rights reserved, including the right to reproduce this publication, or portions thereof, in any form.

McGill University reserves the right to make changes to the information contained in this publication - including correcting errors, altering fees, schedules of admission and credit requirements, and revising or cancelling particular courses or programs - without prior notification.

Not all courses are offered every year and changes can be made after publication. Always check the Minerva Class Schedule link at https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched for the most up-to-date information on whether a course is offered.

-
- 1 Physical and Occupational Therapy, page 7
 - 1.1 Location, page 7
 - 1.2 About Physical and Occupational Therapy, page 7
 - 2 History of the School, page 7
 - 3 Administrative Officers, page 8
 - 4 Physical and Occupational Therapy Faculty, page 8
 - 5 Health Sciences: General Information, page 10
 - 5.1 Admission, page 10
 - 5.2 Student Services and Regulations, page 10
 - 5.2.1 Student Advising, page 10
 - 5.2.2 Language Policy, page 11
 - 5.2.2.1 Proof of Proficiency in English, page 11
 - 5.2.3 Vaccination/Immunization Requirements for Health Sciences Programs, page 12
 - 5.3 Fees: Health Sciences, page 13
 - 5.4 Immigration Information, page 15
 - 5.5 Facilities, page 15
 - 5.5.1 Buildings, page 15
 - 5.5.2 Hospitals, page 18
 - 5.5.2.1 McGill University Teaching Hospitals, page 18
 - 5.5.2.2 Institutions Affiliated with McGill University, page 20
 - 5.5.3 Clinical Facilities for Dentistry, page 20
 - 5.5.4 Facilities for Human Nutrition, page 20
 - 5.5.5 Research Centres, page 21
 - 5.5.5.1 Alan Edwards Centre for Research on Pain, page 21
 - 5.5.5.2 Artificial Cells and Organs Research Centre, page 21
 - 5.5.5.3 Biomedical Ethics Unit, page 22
 - 5.5.5.4 Centre for Bone and Periodontal Research, page 22
 - 5.5.5.5 Centre for Medical Education, page 22
 - 5.5.5.6 Centre for Research on Brain, Language and Music, page 23
 - 5.5.5.7 Centre for Research in Reproduction and Development, page 23
 - 5.5.5.8 Centre for Translational Research in Cancer, page 23
 - 5.5.5.9 Ludmer Centre for Neuroinformatics & Mental Health, page 24
 - 5.5.5.10 McGill AIDS Centre, page 24
 - 5.5.5.11 McGill Centre for Research in Neuroscience, page 25
 - 5.5.5.12 McGill International TB Centre, page 25
 - 5.5.5.13 McGill University Research Centre for Studies in Aging, page 25
 - 5.5.5.14 Rosalind and Morris Goodman Cancer Research Centre, page 26
 - 5.5.6 Libraries, page 26
 - 6 Prizes, Awards, and Loans for Returning Students, page 27
 - 7 Student Evaluation and Promotion, page 27

- 7.1 Degree Requirements for the B.Sc.(Rehab. Sc.) – Major in Occupational Therapy, and the B.Sc.(Rehab. Sc.) – Major in Physical Therapy, page 27
- 7.2 M.Sc.A.OT. & M.Sc.A.PT. Requirements, page 28
- 7.3 Student Advising, page 28
 - 7.3.1 Related Services, page 28
- 7.4 Student Promotions, page 28
- 7.5 Course Change and Withdrawal, page 29
 - 7.5.1 Course Change and Withdrawal, page 29
 - 7.5.2 University Withdrawal, page 30
- 7.6 Academic Credit Transfer and IUT Agreements, page 30
- 7.7 Examinations, page 31
 - 7.7.1 General Information, page 31
 - 7.7.2 Final Examinations, page 31
 - 7.7.3 Interim Class Tests and Mid-Term Examinations, page 31
 - 7.7.4 Supplemental Examinations, page 31
 - 7.7.5 Deferred Examinations, page 31
- 7.8 Credit System, page 32
 - 7.8.1 Satisfactory / Unsatisfactory Option, page 32
- 8 Becoming a Licensed Occupational or Physical Therapist, page 32
 - 8.1 Licensing Regulations, page 32
 - 8.2 Program Accreditation, page 32
 - 8.3

1 Physical and Occupational Therapy

1.1 Location

School of Physical and Occupational Therapy
Davis House
3654 Promenade Sir-William-Osler
Montreal QC H3G 1Y5
Telephone: 514-398-4500
F

3 Administrative Officers

Administrative Officers

Associate Professors

Bernadette Nedelec; B.Sc.(O.T.), Ph.D.(Alta.)
 Melissa Park; B.A.(Yale), M.A.(O.T.), Ph.D.(USC)
 Shawn Robbins; B.Sc.(P.T.), M.Sc.(P.T.), Ph.D.(W. Ont.)
 Laurie Snider; B.Sc.(O.T.)(McG.), M.A.(Br. Col.), Ph.D.(Tor.)
 Jadranka Spahija; B.Sc.(P.T.), Ph.D.(McG.)
 Aliko Thomas; B.Sc.(O.T.), M.Ed., Ph.D.(McG.)

Assistant Professors

Stefanie Blain-Moraes; B.A.Sc., Ph.D.(Tor.)
 Marie-Hélène Boudrias; B.Sc.(P.T.)(Montr.), Ph.D.(Neuro.)(Kansas)
 Marie Brossard-Racine; B.Sc.(O.T.)(Montr.), M.Sc., Ph.D.(McG.)
 André Bussièrès; B.Sc.(Nursing)(Montr.), D.C., M.Sc.(UQTR)
 Tania Janaudis-Ferreira; B.Sc.(P.T.)(Pontifical Cath. Univ. of Campinas), M.Sc.(P.T.), Ph.D.(P.T.)(Umea)
 Raphael Lencucha; B.Sc.(Kinesiology)(Calg.), B.Sc.(O.T.)(Alta.), Ph.D.(Health Promo.)(W. Ont.)
 Marc Roig Pull; M.Sc.(Nott.), Ph.D.(Br. Col.)
 Laurence Roy; B.Sc.(O.T.), M.Sc.(Rehab. Sc.), Ph.D.(Rehab. Sc.)(Montr.)
 Keiko Shikako-Thomas; B.Sc.(O.T.)(São Paulo), M.Sc.(Rehab. Sc.), Ph.D.(Rehab. Sc.)(McG.)
 Timothy Wideman; B.Sc.(P.T.), Ph.D.(Exp. Psych.)(McG.)

Associate Professors (Professional)

Richard Preuss; B.Sc.(P.T.), M.Sc.(Wat.), Ph.D.(McG.)
 Caroline Storr; B.Sc.(O.T.), M.B.A.(C'dia)

Assistant Professors (Professional)

Marie-Eve Bolduc; B.Sc.(O.T.), M.Sc.(McG.)
 Noemi Dahan-Oliel; B.Sc.(O.T.), M.Sc.(O.T.), Ph.D.(O.T.)(McG.)
 Sabrina Figueiredo; M.Sc., Ph.D.(McG.)
 Susanne Mak; B.Sc.(O.T.), M.Sc.(McG.)
 Barbara Mazer; B.Sc.(O.T.)(Qu.), M.Sc., Ph.D.(McG.)
 Anita Menon; B.Sc.(O.T.), M.Sc.(McG.), Ph.D.(Tor.)
 Cynthia Perlman; B.Sc.(O.T.), M.Ed.(McG.)
 Sara Saunders; B.Sc.(O.T.)(Dal.), Ph.D.(McG.)
 Judith Soicher; B.Sc.(P.T.), B.Sc.(L.S.), M.Sc., Ph.D.(McG.)
 Adriana Venturini; B.Sc.(P.T.), M.Sc.(McG.)
 Hiba Zafran; B.Sc., B.Sc.(O.T.), M.Sc., Ph.D.(McG.)

Faculty Lecturers

Liliane Asseraf-Pasin; B.Sc.(P.T.), M.Ed., Ph.D.(McG.)
 Isabel Audette; B.Sc.(P.T.), M.Sc.(McG.)
 Dana Benoit; B.Sc.(O.T.), M.Sc.(McG.)
 Marie-Christine Beshay; B.Sc.(OT) (U Ottawa), M.Sc. (OT-Post-Professional) (Dalhousie)
 Claudia Brown; B.Sc.(P.T.), M.Sc.(Rehab. Sc.)(McG.)
 Karen Falcicchio; B. Sc., M. Sc. (O.T.) (McG.)
 Crystal Garnett; B.A, M.Sc.(P.T.)(Qu.)

Faculty Lecturers

Heather Lambert; B.Sc.(O.T.), M.Sc., Ph.D.(McG.)
Ana Maria Moga B.Sc.(P.T.), M.Sc. (Rehab. Sc.) (McG.)
Isabelle Pearson; B.Sc.(P.T.), M.Sc.(McG.)
Claire Perez; B.Sc.(P.T.), B.Sc.(Bio.), M.Sc.(McG.)
Suzanne Rouleau; B.Sc.(O.T.)(Laval), M.Sc.(Montr.)
Barbara Shankland; B.Sc.(O.T.)(W. Ont), M.Sc.(Rehab. Sc.)(McG.)
Frangiska Xenopoulos; B.Sc.(P.T.)(McG.), M.A.(Clin.Sc.)(W. Ont.)

Academic Associates

Sarah Marshall; B.Sc.(P.T.), M.Sc.(McG.)
Monica Slanik; B.Sc.(C'dia), B.Sc.(O.T.)(McG.)

Adjunct Professors and Associate Members

Nancy Alarie; B.Sc.(P.T.)(McG.)
Dr. Julie Côté; B.Sc., M.Sc.(Wisc.-Madison), Ph.D.(Montr.)
Mayada Elsabbagh; B.Sc.(Psych.)(McG.), Ph.D.(Psych.)(UQAM)
Sharon Henry; B.Sc.(P.T.), Ph.D.(Ana. and Neurob.)(Vermont)
Dr. Michael Sullivan ; B.A.(McG.), M.A., Ph.D.(C'dia) (Dept. of Psychology)
Walter Wittich; B.Sc., M.A.(C'dia), Ph.D.(McG.)

5 Health Sciences: General Information

This section contains important details specific to the McGill Health Sciences, as an addendum to information found in the [University Regulations and Resources \(Undergraduate\)](#). You will find information related to such topics as: language policies, vaccination/immunization requirements, immigration information, and information on the various facilities available.

Further regulations and information may be specified by your individual faculty or school.

5.1 Admission

Admission requirements and applications procedures are outlined in the individual faculty and school sections; refer to [Faculties & Schools](#) to find yours.

5.2 Student Services and Regulations

5.2.1 Student Advising

The Mission Statement of the University expresses the commitment to offer students “the best education available”. An essential component of this is the advising process. The active participation of students in the advising process is essential in order for them to access the full range of academic opportunities during their studies. They must be proactive in seeking meetings with advisers, professors, counsellors, and such to ensure that they receive the advice they need to meet their academic goals. It is their responsibility to inform themselves about the rules and regulations of the University faculty, and their program. ~~With~~ the students' cooperation, all advisers and counsellors will work together to help students throughout their program.

Students are responsible for the correctness and completeness of their records. While faculty advisers and staff are always available to give you assistance, it is the responsibility of the student to seek help when needed.

- can guide you with both academic and non-academic concerns;
- is the person in your Faculty or School with whom you can discuss any matter and to whom you may go for advice;
- will provide ongoing advice and guidance on the program;
- will assist you with workload management;
- will assist you with guidance regarding career options or considerations;
- will offer help managing academic situations during periods of personal, financial, or medical problems, by working with students to identify various possibilities and strategies for making informed decisions;
- will communicate with other advisers within the University and, with a student's permission, serve as a direct link to other University resources.



Note for Nursing: See the advising structure under "Support for Students" in the *Ingram School of Nursing Faculty and Student Handbook*.

Related Services

Please refer to : *Student Services – Downtown Campus* or : *Student Services – Macdonald Campus* for a list of services available to you.

5.2.2 Language Policy

The official language of instruction for the McGill health sciences is English. Students should be aware that most of the clinical affiliation placements undertaken in the province of Quebec, including those in Greater Montreal, require proficiency in both English and French.

It is recommended that students who lack proficiency in English or French avail themselves of the opportunity to take an English or a French as a second language course, prior to or early in their program of studies. For more information, please refer to *University Regulations & Resources > Undergraduate > General Policies and Information > : Language Policy*.



Note for Dentistry: The language of instruction at McGill University is English; dental students are expected to have a working knowledge of the English and French languages (comprehension, spoken, and written). All lectures and small groups are conducted in English.

D.M.D. students must also refer to

www.mcgill.ca/ugme/mdcm-curriculum-joint-programs/starting-our-program-what-you-need-know/language-requirements.



Note for Dietetics Major, School of Human Nutrition: All placement sites within the McGill network are bilingual and require students to have, at minimum, a working knowledge of both English and French. Students are expected to have a functional knowledge of the French language (reading and verbal comprehension, and functional spoken French) by the start of clinical and management placements (Year 2).

Note for Medicine: The language of instruction at McGill University is English. All lectures and small groups are conducted in English; medical students are expected to ha

- **McGill Certificate of Proficiency in English**

For further information about the program, contact:

Department of Language and Intercultural Communication, School of Continuing Studies
688 Sherbrooke Street West, 11th floor
Montreal QC H3A 3R1
Telephone: 514-398-6160
Email: info.conted@mcgill.ca
Website: www.mcgill.ca/continuingstudies/programs-and-courses/languages

- **International English Language Testing System (IELTS)**

A band score of 6.5 or better.

- **University of Michigan English Language Test (MELAB)**

A minimum mark of 85%.

- **Advanced Placement International English Language (APIEL)**

A minimum score of 4.

5.2.3 Vaccination/Immunization Requirements for Health Sciences Programs

A **compulsory** immunization program exists at McGill for students in the Health Sciences programs. Health Sciences students must start the immunization process as soon as they are accepted at McGill and must complete it well before they are permitted contact with patients. Entry into the McGill University Teaching Hospitals may be delayed if immunizations are incomplete according to the information provided by the McGill Student Health Service: www.mcgill.ca/studenthealth/immunize/forms.

Proof of immunity must be written and signed by either a nurse or a physician. For details, see www.mcgill.ca/studenthealth/immunize/vaccine.

There are no exceptions to these requirements. Students who do not meet these requirements will be asked to withdraw.

Vaccination against other infectious diseases such as influenza may be required.

Current information indicates that there is a potential risk of transmission of Hepatitis B from practitioner to patients in the clinical dental setting. Therefore, applicants for the D.M.D. program, Multidisciplinary Residency Program in Dentistry and M.Sc. in Oral and Maxillofacial Surgery will be required to be tested for Hepatitis B surface antigen by the McGill Student Health Services. Applicants who test positive for Hepatitis B surface antigen will be tested for Hepatitis B “e” antigen and Hepatitis B viral DNA to help determine infectivity risk. If either Hepatitis B “e” or Hepatitis B viral DNA is positive, the offer of acceptance will be withdrawn and registration in the program will not be completed.

Health Sciences students who think they might be infected or think they hav

Note for Physical and Occupational Therapy: Prior to starting their first clinical course, students must ensure that their immunization records are

Dentistry - Purchases of Equipment and Materials Fee

Fourth Year	\$2,200
-------------	---------

For more information, see www.mcgill.ca/dentistry/programs. You will receive an e-bill in August with the exact breakdown of costs related to your equipment purchases. Costs of purchases will be finalized in late June and available in the cost tables found on the [Student Accounts website](#).

Dentistry Extra Fees

1 Short White Coat with McGill Logo	approximately \$35
-------------------------------------	--------------------

Supplemental or Reread Exam Request Fee	\$39.65 per exam
---	------------------

Dental Clinic/Lab Usage Fee (as of 2018–2019)

Second Year	\$1,122.56
-------------	------------

Nursing Fees

Books, Uniform, Stethoscope, etc.	approximately \$2,500 to \$3,500 (for duration of the program)
Graduation Pins – Third Year	\$80 to \$200, depending on market value
Name Badge – First Year	approximately \$25
OIIQ registration fee (paid at the OIIQ)	approximately \$250 (for duration of program, subject to change by the OIIQ)
Local transportation to clinical sites	\$70/month
Clinical Skills Kit	amount varies as per course needs

Physical and Occupational Therapy Fees

Books and Other Equipment	\$1,000
Laboratory Materials	\$64.56

5.4 Immigration Information

Unless their studies at McGill will be completed in less than six (6) months, all students who are not Canadian citizens or Permanent Residents of Canada must obtain proper authorization from both Quebec and Canadian Immigration officials prior to proceeding to Canada and/or commencing studies. The process begins with a Letter of Acceptance from McGill University.

Details on Canadian immigration regulations may be obtained from the closest Canadian Visa Service (CVS) of [Immigration Canada](#).

In addition, International Student Services prepares a “Getting Started” pamphlet along with a detailed Handbook for international students, which is sent to all accepted applicants. The Handbook is also available on the [International Student Services website](#).

For further information, please contact:

International Student Services
Brown Student Services Building
3600 McTavish Street, Suite 3215
Montreal QC H3A 0G3
Telephone: 514-398-4349
Website: www.mcgill.ca/internationalstudents
Email: international.students@mcgill.ca

5.5 Facilities

The following facilities are associated with the McGill Health Sciences.

5.5.1 Buildings**680 Sherbrooke Street West, 18th, 19th, and 20th floors, Montreal QC H3A 0B8**

After many decades in Wilson Hall, 680 Sherbrooke is now home to the Ingram School of Nursing, its faculty, staff, and students. These three topmost floors provide office space, student lounge areas, classroom settings, and learning laboratories for the School.

This building, completed in 1978, houses the administrative offices and laboratories for the School of Human Nutrition and the Faculty of Agricultural and Environmental Sciences.

McGill University Genome Quebec Innovation Centre

740 Doctor Penfield Avenue, Montreal QC H3A 0G1

This six-storey structure is a world class research facility for genomics and proteomics. Founded in 2002, the Centre has developed a world-renowned expertise in complex genetic disorders such as cardiac disease, asthma, and Type 2 diabetes, and has become a resource and a networking site for various research initiatives in human health, forestry, infectious diseases, agriculture, and environment. The Centre is shared by several groups, including the

5.5.2 Hospitals

5.5.2.1 McGill University Teaching Hospitals

The teaching hospital network of McGill University is an integral part of the research, teaching, and clinical activities of the Faculty of Medicine. By agreement and tradition, the administration, medical staff, and scientific personnel of these institutions are closely integrated with McGill University and form the basis for the clinical departments of the Faculty of Medicine. McGill University Health Centre (MUHC) / *Centre universitaire de santé McGill* (CUSM) is a merger of seven teaching hospitals affiliated with the Faculty of Medicine at McGill University. The activities of the MUHC are carried out at the following locations:

Montreal Children's Hospital, Royal Victoria Hospital, Montreal Chest Institute, and Cedars Cancer Centre at the Glen Site

1001 Décarie Boulevard
Montreal QC H4A 3J1
Telephone: 514-934-1934
Website: muhc.ca/glen/dashboard

Montreal General Hospital

1650 Cedar Avenue
Montreal QC H3G 1A4
Telephone: 514-934-1934
Website: muhc.ca/mgh/dashboard

Montreal Neurological Institute and Hospital

3801 University Street
Montreal QC H3A 2B4
Telephone: 514-398-6644
Website: muhc.ca/mnh/dashboard

Lachine Hospital

650 16th Avenue
Lachine QC H8S 3N5
Telephone: 514-634-2351
Website: muhc.ca/lachine/dashboard

Each year, the MUHC receives close to 600,000 ambulatory visits, over 35,000 in-patient stays, performs close to 33,000 surgeries, and delivers almost 3,000 babies. In addition to its clinical expertise, the MUHC is proud of the quality and rigor of its clinical and scientific training. Together with its Research Institute, each year 1,200 research trainees; 1,159 residents, pharmacists and fellows; 1950 nursing staff; 745 medical students; and 523 technical and professional students are trained. Continuing education programs are also an integral part of delivering excellent patient care. In addition, all MUHC physicians are appointed professors at the Faculty of Medicine at McGill University.

The MUHC has close to 12,000 health care and other personnel working within the organization's seven clinical missions:

- The Montreal Children's Hospital;
- Medicine;
- Surgery;

The Douglas Institute is one of the largest research centres in mental health in the country, with a team of over 70 scientists and clinical researchers and around 200 university students. This team is devoted to making better sense of the causes of mental disorders-whether genetic, environmental, cultural, or social-as well as developing diagnostic tools, treatments and prevention methods. Also, the Douglas Institute Research Centre is home to McGill University centres in schizophrenia, aging, and suicide, as well as the Montreal Pan American Health Organization/World Health Organization Collaborating Centre for Reference and Training in Mental Health, which offers consultation services, research, and teaching programs here and abroad.

More information is available at douglas.qc.ca.

5.5.2.2 Institutions Affiliated with McGill University

In addition to the Teaching Hospitals listed above, the following institutions are also affiliated with McGill University and have been approved by, and have contracted with, McGill University for participation in teaching and research in one or more departments and services:

CSSS de Gatineau (*CISSS de l'Outaouais*)

777 boulev

This Unit is capable of supporting 12 research subjects on an in-patient basis. The facility is unique in Canada, in that it allows strict, in-house monitoring and testing of research subjects over prolonged periods while they consume diets prepared in-house. The first floor houses a state-of-the-art metabolic kitchen to prepare foods in a controlled manner, including a sitting area for meal consumption. The second floor houses an interview room to provide for attainment of written ethical consent/assent. A research/clinical assessment room is dedicated to procedures that include blood sampling by a phlebotomy team or clinical staff in adults, infants, and children.

The Unit is a self-supporting initiative which is available for use by external researchers. For further information regarding collaborative or independent extramural research interests, contact the Director of the *School of Human Nutrition*.

5.5.5 Research Centres

- [section 5.5.5.1: Alan Edwards Centre for Research on Pain](#)
- [section 5.5.5.2: Artificial Cells and Organs Research Centre](#)
- [section 5.5.5.3: Biomedical Ethics Unit](#)
- [section 5.5.5.4: Centre for Bone and Periodontal Research](#)
- [section 5.5.5.5: Centre for Medical Education](#)
- [section 5.5.5.6: Centre for Research on Brain, Language and Music](#)
- [section 5.5.5.7: Centre for Research in Reproduction and Development](#)
- [section 5.5.5.8: Centre for Translational Research in Cancer](#)
- [section 5.5.5.9: Ludmer Centre for Neuroinformatics & Mental Health](#)
- [section 5.5.5.10: McGill AIDS Centre](#)
- [section 5.5.5.11: McGill Centre for Research in Neuroscience](#)
- [section 5.5.5.12: McGill International TB Centre](#)
- [section 5.5.5.13: McGill University Research Centre for Studies in Aging](#)
- [section 5.5.5.14: Rosalind and Morris Goodman Cancer Research Centre](#)

5.5.5.1 Alan Edwards Centre for Research on Pain

Genome Building, Suite 3100
740 Doctor Penfield Avenue
Montreal QC H3A 0G1
Telephone: 514-398-8975
Fax: 514-398-8121
Website: painresearchcenter.mcgill.ca

Pain research at McGill University is carried out by The Alan Edwards Centre for Research on Pain, which comprises researchers from the Faculties of Medicine, Dentistry and Science. The main goal of the Centre is to bring together the McGill community of basic and clinical pain researchers to promote research that will result in cures for chronic pain. Through its own activities and international collaborations, the Centre focuses on new discoveries and their clinical applications that will improve the prevention and treatment of chronic pain.

5.5.5.2 Artificial Cells and Organs Research Centre

McIntyre Medical Sciences Building, Room 1004
3655 Promenade Sir-William-Osler
Montreal QC H3G 1Y6
Telephone: 514-398-3512
Fax: 514-398-7452
Website: www.medicine.mcgill.ca/artcell

This Centre concentrates on interdisciplinary research on artificial cells first invented here (Chang, McGill, 1957, Science 1964) and since evolved into micro-nano systems; nanomedicine; nanobiotherapeutics; nanobiotechnology; nanotechnology; blood substitutes based on nanobiotechnology; hemoperfusion; bioencapsulation of enzymes, cells, stem cells, probiotics; regenerative medicine; delivery systems for drug, enzymes, genes, etc.

At present, the members of this centre at McGill come from different specialties: Physiology, Biomedical Engineering, Medicine, Surgery, Bioengineering, Biotechnology, and Chemical Engineering. This is an international centre with 2 international societies, which coordinates biannual meetings around the world; see www.medicine.mcgill.ca/artcell/centrechart.pdf. It is the editor-in-chief's office for an international journal on Artificial Cells, Nanomedicine, and Biotechnology (2017 Reuter World Ranking of 4th among 77 biomedical engineering journals) and a book series on Regenerative Medicine, Artificial Cells, and Nanomedicine. This [centre's website](#) is a public service website with complimentary reviews, papers, videos, and monographs. It is the major international reference source in this area.

5.5.5.3 Biomedical Ethics Unit

3647 Peel Street
Montreal QC H3A 1X1
Telephone: 514-398-6668
Website: www.mcgill.ca/biomedicaethicsunit

The Biomedical Ethics Unit (BEU) offers graduate courses in bioethics. These include electives for medical students, in-hospital courses, lectures, and rounds for residents and other health care workers. The BEU also administers the Master's specialization in Bioethics, which is available to students in the Faculties of Medicine, Law, Religious Studies, and the Department of Philosophy. The program emphasizes the conceptual and practical aspects of bioethics and ordinarily takes two years to complete. Current faculty members have training in philosophy, medicine, history, anthropology, sociology, epidemiology, and molecular biology. The BEU faculty and trainees are active in a variety of interdisciplinary research areas and have expertise in clinical trial methods, research ethics, genetics, reproductive technologies, access to care, public health ethics, health inequalities, biosecurity, anti-aging research, end-of-life care policies, and pharmaceutical development. We also provide in-hospital clinical ethics consultation services and serve on various Clinical and Research Ethics Committees for the McGill teaching and affiliated hospitals.

BEU members and research associates actively collaborate with faculty across McGill, as well as nationally and internationally in research, teaching, and clinical activities. There are currently five faculty members plus affiliate members, postdoctoral fellows, and graduate students.

5.5.5.4 Centre for Bone and Periodontal Research

740 Doctor Penfield Avenue, Room 2207
Montreal QC H3A 0G1
Telephone: 514-398-6028
Fax: 514-933-8784
Website: bone.mcgill.ca

The Centre for Bone and Periodontal Research was established in October 2001 to promote and facilitate research and training in the areas of bone, cartilage and periodontal disease. The Bone Centre currently represents the interests of more than 60 clinical and fundamental scientists, many of whom are recognized leaders in research pertaining to disorders such as arthritis, osteoporosis, metastatic and metabolic bone disease, and developmental disorders of the skeleton and oral cavity.

The Centre provides advanced instrumentation for hard tissue research, acts to increase the research capacity of its members and to translate advances into improved diagnosis, prevention and treatment of diseases involving the skeleton and oral cavity.

5.5.5.5 Centre for Medical Education

Lady Meredith House
1110 Pine Avenue West, Room 205
Montreal QC H3A 1A3
Telephone: 514-398-4987
Fax: 514-398-7246
Website: www.mcgill.ca/centreformeded

The Centre for Medical Education promotes excellence and scholarship across the continuum of health sciences education. More specifically, the Centre for Medical Education at McGill:

- Encourages innovation and excellence in teaching and learning.
- Serves as a resource for curriculum development in undergraduate, postgraduate, and continuing health sciences education.
-

5.5.5.6 Centre for Research on Brain, Language and Music

3640 rue de la Montagne
Montreal QC H3G 2A8
Telephone: 514-398-6962
Fax: 514-398-8123
Website: crblm.ca

The Centre for Research on Brain, Language and Music (CRBLM) at McGill University is a *Regroupement Stratégique* whose mission is to promote research and training in the areas of language and music neuroscience, performance, and development. Participating universities include McGill, *Université de Montréal*, UQAM, and Concordia. Our infrastructure for language and music research is unparalleled, including research facilities located in the McGill Faculties of Medicine, Science, Arts, and Education, as well as the International Laboratory for Brain and Music Research (BRAMS) located at the *Université de Montréal*. Our specific objectives include:

1. promoting the scientific study of language and music neuroscience, performance, and development;
2. stimulating interdisciplinary and cross-domain collaboration among researchers on basic and applied problems in language and music;
3. fostering innovative research training for graduate and postdoctoral students;
4. disseminating research findings to clinical and educational end-users;
5. forming national and international partnerships.

Our goal is to develop a fundamental theoretical, behavioral, and neuroscientific understanding of the neurobiological, social, and communicative processes of language and music.

5.5.5.7 Centre for Research in Reproduction and Development

McIntyre Medical Sciences Building, Room 1324
3655 Promenade Sir-William-Osler
Montreal QC H3G 1Y6
Telephone: 514-207-9887
Fax: 514-398-2045
Website: www.mcgill.ca/crrd

The Centre for Research in Reproduction and Development (CRRD), originally established as the Centre for the Study of Reproduction in 1982, is among the longest-standing research centres at McGill and was a founding partner of the FQRNT-funded *Réseau Québécois en Reproduction* (RQR). Today, the interdepartmental and interdisciplinary CRRD is home to more than 30 principal investigators, 60 graduate students, 40 fellows and research associates, and 20 technical support staff from 11 departments, 3 f

The Centre provides a high quality environment for training clinician-scientists in cancer research. The trainees include both graduate students (Experimental Medicine, Pharmacology and Therapeutics, Pathology) as well as Ph.D. and M.D. scientists interested in postdoctoral experience working specifically on clinically oriented or relevant models or problems.

5.5.5.9 Ludmer Centre for Neuroinformatics & Mental Health

Email: info@ludmercentre.ca

Website: ludmercentre.ca

The Ludmer Centre for Neuroinformatics & Mental Health was founded on the belief that science is on the cusp of a revolution in our ability to understand and treat brain disorders, provided we can bring together the right computational infrastructure, datasets, and expertise to apply a big-data approach to brain research.

An innovative partnership between three cutting-edge McGill-affiliated research facilities, the Centre brings together four complementary research pillars—neuroinformatics, neuroimaging, epigenetics, and statistical genetics—under the scientific leadership of three world-renowned leaders supported by a cadre of over 75 researchers and neuroinformatics staff. Together, they lead innovative research that is generating novel datasets and insights, while concurrently innovating and expanding the "big-data" tools and computational infrastructure required for their analysis.

- Dr. Michael Meaney leads the Centre's epigenetics pillar, the Sackler Program for Epigenetics & Psychobiology at the Douglas Mental Health University Institute Research Centre.
- Dr. Alan Evans leads the neuroimaging and neuroinformatics pillars, the McGill Centre for Integrative Neuroscience (MCIN) at the Montreal Neurological Institute.
- Dr. Celia Greenwood leads the statistical genetics pillar, the Genomics, Bioinformatics & Statistical Genetics lab at the Lady Davis Institute for Medical Research at the Jewish General Hospital.

A key Ludmer Centre goal is the mentorship of new researchers across varied disciplines—to develop transdisciplinary research cadres capable of maximizing the potentials inherent in the Centre's neuroinformatics infrastructure, tools, and datasets. Supported by a team of informatics experts, graduate, master's, and doctoral students are offered unique hands-on opportunities to advance mental health and neurodegenerative research while contributing to the expansion of Canada's leading neuroinformatics infrastructure.

To learn more, [contact us](#) to join our mailing list.

5.5.5.10 McGill AIDS Centre

Based at the Lady Davis Institute for Medical Research at the Jewish General Hospital

3755 Côte Ste-Catherine, Room F-318

Montreal QC H3T 1E2

Telephone: 514-340-7536

Fax: 514-340-7537

Website: www.ladydavis.ca/en/mcgillaidscentre

The McGill AIDS Centre was founded at the Lady Davis Institute, Jewish General Hospital, to coordinate, facilitate, and promote teaching, research, and treatment activities relating to HIV infection and AIDS. It has made McGill University one of the preeminent institutions of its kind in Canada. Led by founding director, Dr. Mark A. Wainberg, the McGill AIDS Centre has made significant contributions since the outbreak of the AIDS pandemic in 1981, helping to transform HIV from a deadly infection to a manageable chronic disease.

The Centre believes in a multidisciplinary approach, and has been the home of a large group of talented McGill researchers who have been working on HIV from diverse aspects with the goal of furthering prevention and treatment options. We are proud of the many groundbreaking discoveries that we have made in understanding the basic biology of HIV infection, elucidating host immune responses to control HIV infection, discovering the transmission of drug-resistant HIV in human populations, and characterizing the development of drug resistance to HIV, to name just a few examples of the initiatives that have earned the McGill AIDS Centre a national and international reputation. In particular, Dr. Wainberg became an icon in the International AIDS Society (IAS). As President of the IAS from 1998 to 2000, he was responsible for holding the 2000 IAS meeting in Durban, South Africa, a milestone event in the international fight against AIDS. He chaired the 2006 IAS meeting in Toronto. Dr. Wainberg's lab discovered the anti-HIV-1 activity of 3TC in the early 1990s and, recently, demonstrated the superior anti-HIV-1 activity of Dolutegravir. Both of these drugs are now used in first line antiretroviral regimens.

McGill AIDS Centre scientists have played an important role in developing countries where HIV is endemic, collaborating with local scientists and health authorities to help stave off the spread of the infection. Our scientists have played lead roles in articulating a need for access to antiretroviral drugs for all in need, regardless of where they live or their ability to pay.

Over the past three decades, the McGill AIDS Centre has built a strong team of excellent researchers and clinicians who have broad expertise in basic virology, immunology, drug discovery, epidemiology, population studies, and clinical research. Based at the Lady Davis Institute are the level 3 biocontainment facility, genotyping platform and other state-of-the-art research equipment that can be readily employed to study other emerging and re-emerging pathogenic human viruses.

Educational and training activities will be augmented to ensure there is sufficient manpower for the growing HIV epidemic. The care and treatment of persons who are infected with HIV or who have developed AIDS will be enhanced through coordination across the McGill network of hospitals and clinics. Furthermore, the Centre will provide a forum for the input and participation of patients with HIV infection or AIDS in all aspects of research, teaching, and care.

In honor of Dr. Mark Wainberg, for his dedication to HIV research, his tireless advocacy for the rights and benefits of HIV patients, and his vision to go beyond HIV to combat other important emerging pathogenic human viruses, the McGill AIDS Centre will be renamed the “Wainberg Centre for Complex and Emerging Viral Infections.” More details will follow.

5.5.5.11 McGill Centre for Research in Neuroscience

Montreal General Hospital, Livingston Hall, L7 128
Research Institute of the McGill University Health Centre

The MCSA has established a computational infrastructure devoted for teaching neuroimaging in dementia for fellows, graduate, and postdoctoral students. This infrastructure program is under the direction of Dr. Pedro Rosa-Neto, M.D., Ph.D. The Translational Neuroimaging Laboratory at the MCSA aims to understand how toxic proteins cause brain damage in Alzheimer's disease patients. We also develop novel methodologies for early detection of these toxic proteins in the persons without symptoms (see the

Barton Building
21,111 Lakeshore Road
Ste. Anne de Bellevue QC H9X 3V9
Website: www.mcgill.ca/library/branches/macdonald

6 Prizes, Awards, and Loans for Returning Students

Undergraduate Prizes and Awards (Eligibility subject to change)

McGill Alumnae Society Prize

Presented upon graduation to a distinguished student for excellence and high academic standing. Preference given to female students.
Value: \$150.

Patricia Ann Macdonald Wells Van Daele Memorial Award

Established in 2003 by family, friends, and colleagues of Patricia Ann MacDonald Wells Van Daele as well as graduates of the School of Physical and Occupational Therapy. Awarded by the School of Physical and Occupational Therap

7.2 M.Sc.A.OT. & M.Sc.A.PT. Requirements

Entry to professional practice requires the completion of a Master of Science, Applied, degree in Occupational Therapy (M.Sc.A.OT.) or in Physical Therapy (M.Sc.A.PT.). Therefore, students who graduate from the **B.Sc.(Rehab. Sc.) – Major in Occupational Therapy** or the **B.Sc.(Rehab. Sc.) – Major in Physical Therapy** degree must continue to the M.Sc.A.OT. or to the M.Sc.A.PT. to obtain entry to professional practice.

Amongst other topics for which you can find information are:

- Student Grading and Promotion requirements
- Student Exchanges
- Student Athletes
- Student Services and Campus Life and Engagement
- McGill Office for Students with Disabilities
- Resource Centre and Assessment Library

For complete rules and regulations regarding student promotions, refer to the following School of Physical and Occupational Therapy program documents:

- *Important Information for Students*
- *Rules and Regulations*
- *Curriculum*
- *Code of Conduct*
- *Required Skills and Attributes*

Program documents are updated annually and are available at [Occupational Therapy](#) and [Physical Therapy](#).

Students are required to complete the program on a full-time basis except when they have obtained written permission from the Promotions and Review Committee to register part-time.

No evaluation, examination mark, etc., shall be considered final until passed by the O

1. The Occupational Therapy and Physical Therapy programs are highly structured and students must receive the approval of the Program Director to determine what course changes, if any, are allowed. Students can consult the [Student Affairs Office](#) for information on policies and procedures.



Note: Courses with a Subject Code OCC1, PHTH, or POTH are reserved for students enrolled in programs within the School of Physical & Occupational Therapy.



Note: If students choose to voluntarily withdraw from the OT or PT program, they will not be permitted to remain registered in professional courses (OCC1, PHTH, or POTH).

2. The responsibility for initiating a withdrawal rests solely with the student. Neither notification of the course instructor nor discontinuance of class attendance will suffice. The date on which a student's withdrawal is entered on Minerva is the official date of withdrawal, even if the student stopped attending lectures earlier.
3. Fee refunds, if any, will be in accordance with [University Regulations & Resources > Undergraduate > Fees > : Fees and Withdrawal from the University](#).
4. You may still withdraw from a complementary or elective course after the Course Change deadline without academic penalty provided that you do so within the appropriate withdrawal deadlines for the term. Otherwise, after this time, your name will continue to appear on the class list and grade reports and, in the event that you do not take the exam, you will be given a J grade. A "J" grade (unexcused absence/failure) is equivalent to a zero in your GPA, and is a permanent part of your record.
5. After the Withdrawal (without refund) deadline but before the end of term, and only under exceptional circumstances, you may be granted permission to withdraw from a course. Permission will not be granted merely because you are doing unsatisfactory work. A grade of W or WF, as appropriate, will appear on your transcript but will not be calculated in your GPA. For further information, consult the [Student Affairs Office](#).
6. If you are prevented from dropping a OCC1, PHTH, or POTH course in Minerva, and have received permission to do so, you must contact the [Student Affairs Office](#) to obtain the necessary forms by the appropriate deadlines.

7.5.2 University Withdrawal

Withdrawal (W) deadline dates are specified on the [Important Dates website](#). For general information concerning university withdrawal, please see [University Regulations & Resources > Undergraduate > Registration > : University Withdrawal](#).

Students considering withdrawal are strongly urged to consult with the Program Director and [Student Affairs Office](#) before making a final decision. The Student Affairs Office will supply any forms necessary to complete the University withdrawal.

Students who decide to withdraw from the University are required to follow the procedures indicated at : [University Withdrawal](#).

Notes:

1. All students who have accessed Minerva to register must officially withdraw from/drop courses within appropriate deadlines if they decide not to attend the term(s) for which they have registered. If you are prevented from withdrawing from a OCC1, PHTH, or POTH course on Minerva, contact the [Student Affairs Office](#) to obtain the necessary forms.
2. Fee refunds, if any, for the term in which the student withdraws will be in accordance with [University Regulations & Resources > Undergraduate > Fees > : Fees and Withdrawal from the University](#).
3. Upon withdrawal students are required to return their ID card to the University as stated in [University Regulations & Resources > Undergraduate > Personal Information > : Identification \(ID\) Cards](#).

In the event that a student is required to withdraw or abandons their studies in occupational therapy or physical therapy, the School of Physical and Occupational Therapy will proceed with the withdrawal procedure.

Students who are withdrawn or who withdraw voluntarily from their program of study must also withdraw from courses with a prefix OCC1, PHTH, or POTH, which are reserved for students enrolled in programs within the School of Physical & Occupational Therapy.

Students who are required to withdraw from either the occupational therapy or physical therapy programs will not be readmitted to either program. The School has the right to dismiss, at any time, any student who is considered incompetent and/or unsuitable for the practice of occupational therapy or physical therapy.

7.6 Academic Credit Transfer and IUT Agreements

The Inter-University Transfer (IUT) agreement permits concurrent registration at McGill and another Quebec institution. In certain cases, credits may be granted by the School for courses taken at other universities. Approval by the Program Director is required and must be obtained in advance.

Courses accepted for transfer credits must meet the following criteria:

- 1.



Note: If you are granted approval to take a course(s) at another university, the letter grades applied by the host institution take precedence over the numerical grades (if both are provided). In order to be granted transfer credits, the final grades earned at the host university must meet the minimum requirements as set by the Occupational Therapy or Physical Therapy programs. However, grades earned at the host university for transfer courses are not entered on the student's McGill transcript and are not included in the calculation of the TGPA or CGPA. For courses that are completed, the grade will be automatically submitted to the home university (McGill) by the host institution. Students who wish to drop or withdraw from the course(s) for which approval has been granted will need to drop or withdraw from the course as per the method of registration at the host university AND submit this change on the online IUT application. For universities outside of Quebec, it is the student's responsibility to ensure that an official transcript is sent from the host institution to the Student Affairs Office. Students studying at another Quebec university on an Inter-University Transfer Agreement (IUT) will have their grade(s) sent to McGill University automatically by the host university. **Transcripts not received by the appropriate date will be considered for the next graduation period only.**

7.7 Examinations

7.7.1 General Information

Please refer to [University Regulations & Resources > Undergraduate > : Examinations: General Information](#) and to the [University Student Assessment Policy](#) (available on the [Secretariat website](#)).

7.7.2 Final Examinations

Grades for final examinations and final course grades are presented to and approved by the

No supplemental examinations are av

Ottawa ON K2E 7J6

T

Student Health Service will provide students with cards that will attest the completion of the immunization requirements and will contain information regarding mask fit. Cards will be provided to students upon immunization and mask fitting completion. Students are required to submit the McGill Student Health Service card electronically by the third clinical seminar (submission details provided in Clinical Seminar 1).

Please also refer to [section 5.2.3: Vaccination/Immunization Requirements for Health Sciences Programs](#).

10 Browse Academic Programs

The programs and courses in the following sections have been approved for the **2018–2019** academic year as listed. The Faculty/School reserves the right to introduce changes as may be deemed necessary or desirable at any time throughout the year.

10.1 Physical and Occupational Therapy

10.1.1 Location

School of Physical and Occupational Therapy
Davis House
3654 Promenade Sir-William-Osler
Montreal QC H3G 1Y5
Telephone: 514-398-4500

10.1.3 Physical and Occupational Therapy Admission Requirements and Application Procedures

10.1.3.1 Admission Requirements for Undergraduate Programs

BIOL 111
 CHEM 110
 MATH 139 or MATH 140
 PHYS 101 or PHYS 131

Winter Term

BIOL 112
 CHEM 120
 *CHEM 212
 MATH 141
 PHYS 102 or PHYS 142

* Alternatively, CHEM 212 can be taken intensively in the Summer term in the month of May.

Students applying for an inter-faculty transfer into the B.Sc. (Rehabilitation Science) programs offered at the School of Physical and Occupational Therapy must apply directly to the School of Physical and Occupational Therapy. Students must complete an inter-faculty transfer form available on [Minerva](#) as of March 1, as well as the [CASPer test](#) for rehabilitation science, which complements the other elements in our applicant selection process.

All of the above documents must be submitted no later than April 1. Your application will be processed only if your file is complete. Late submission of documents or non-receipt of documents by the specified date may invalidate your application. Please refer to www.mcgill.ca/spot/admissions/inter-faculty-transfers and [University Regulations & Resources](#) > Undergraduate > Registration > : [Interfaculty Transfer](#) for details.

If you are accepted, you will enter the B.Sc.(Rehab. Sc.) program as a U1 student. Transfer credits will be reviewed following admission, and up to 30 transfer credits will be counted towards your degree. Progression through the curriculum is conditional upon successful completion of each year's courses. Since the curriculum is sequential, the order of the courses is set and only offered in that year of the program, *i.e.*, you must complete all courses in U1 to proceed to U2, etc. Students are not permitted to mix courses from different years in the same year. Therefore, the time required to complete the B.Sc.(Rehab. Sc.) degree is fixed at 3 years.



Note: Intra-faculty transfers (between Occupational Therapy and Physical Therapy) are not available to students in the undergraduate program. Students who wish to change programs can apply to the Qualifying Year of their desired program of study, during their final year of undergraduate studies.

10.1.3.2 Admission Requirements for Qualifying Year – Master of Science, Applied

Students seeking admission to the **M.Sc.A. (Occupational Therapy)** or the **M.Sc.A. (Physical Therapy)** who have undergraduate degrees other than the B.Sc. (Rehab. Sc.) – Major in Occupational Therapy or the B.Sc. (Rehab. Sc.) – Major in Physical Therapy from McGill University are required to complete a **graduate Qualifying year (QY)** prior to beginning the master's program. Students apply through [Graduate and Postdoctoral Studies](#) to the Master's program.

Students wishing to enter the Qualifying year of the M.Sc.A. (Occupational Therapy) or the M.Sc.A. (Physical Therapy) degree must consult the School of Physical & Occupational Therapy's [Graduate & Postdoctoral Studies](#) section, and the School's website at www.mcgill.ca/spot/admissions.

10.1.4 Bachelor of Science (B.Sc.) (Rehabilitation Science) - Major in Occupational Therapy (90 credits)

Required Courses (72 credits)

ANAT 315	(3)	Clinical Human Musculoskeletal Anatomy
ANAT 316	(3)	Clinical Human Visceral Anatomy
ANAT 321*	(3)	Circuitry of the Human Brain
ANAT 323*	(3)	Clinical Neuroanatomy
OCC1 245	(3)	Introduction to Professional Practice 1
OCC1 443	(3)	Constructing Mental Health
OCC1 450	(3)	Enabling Leisure Occupations
OCC1 500D1	(0)	Pre-Clinical Practicum Seminar
OCC1 500D2	(0)	Pre-Clinical Practicum Seminar
OCC1 545	(8)	Therapeutic Strategies in OT 1
OCC1 547	(6)	Occupational Solutions 1
OCC1 548	(3)	Holistic Approaches in OT
OCC1 549	(4)	Therapeutic Strategies in OT 2
OCC1 550	(3)	Enabling Human Occupation

OCC1 551	(3)	Psychosocial Practice in OT
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
POTH 204	(3)	Introduction to Statistics for OT/PT
POTH 225	(3)	Introduction to Biomechanics in Rehabilitation Sciences
POTH 250	(3)	Introduction to Professional Practice 2
POTH 401	(3)	Research Methods
POTH 434	(3)	Musculoskeletal Biomechanics
POTH 455	(3)	Neurophysiology
POTH 563	(3)	Foundations of Professional Practice

* Note: Students may choose ANAT 321 or ANAT 323 but not both.

Interprofessional Education Activities (IPEAs)

These required non-credit activities address the competencies for interprofessional practice across the health professions such as professional roles, communication, collaboration in patient-entered care, and conflict resolution. Students will be advised at the beginning of each term which activities they should register for.

IPEA 500	(0)	Roles in Interprofessional Teams
IPEA 501	(0)	Communication in Interprofessional Teams

Complementary Courses (18 credits)

These courses are to be completed prior to entering third year (U3) and must include:

One 3-credit intermediate-level statistics course:

PSYC 305	(3)	Statistics for Experimental Design
----------	-----	------------------------------------

The remaining complementary credits are chosen by the student from a list of recommended courses or courses in the following areas:

- Psychology
- Management (in the area of personnel and private practice management)
- Academic Writing
- Sociology/Anthropology courses
- French or English second language course if not proficient in French or English (maximum of 6 credits)
- Students may also take the following three Sports practicum courses to replace one 3-credit complementary course. (Selection interview required for Sports practicum)
- Maximum of one 3-credit elective (personal interest) course

The complementary courses should be completed within these recommended time frames:

3 credits in Fall U1

3 credits in Winter U1

6 credits in Fall U2

6 credits in Winter U2

10.1.5 Bachelor of Science (B.Sc.) (Rehabilitation Science) - Major in Physical Therapy (90 credits)

Required Courses (72 credits)

* Note: Students choose either ANAT 321 or ANAT 323 but not both.

ANAT 315	(3)	Clinical Human Musculoskeletal Anatomy
----------	-----	--

The complementary courses should be completed within these recommended time frames:

3 credits in Fall U1

3 credits in Winter U1

6 credits in Fall U2

6 credits in Winter U2

