

**M.Sc.(Applied) Degree in Communication Sciences and Disorders**

The professional degree leads to a **Doctor of Science (Applied)** with a specialization in Speech-Language Pathology. The program involves two academic years of full-time study and related practical work followed by a summer internship. To prepare students as creative professionals, the program emphasizes the understanding of principles and theories, and their present or potential clinical applications, in addition to the teaching of specific techniques for assessment and intervention. Active participation in the learning process is encouraged.

The profession of Speech-Language Pathology concerns assessment and intervention in speech and language disorders. In particular, the Speech-Language Pathologist is concerned with two major parameters of communication sciences and disorders: language and speech. At present, most speech-language pathologists in Canada work in hospitals, public school systems, rehabilitation centres, and in special education facilities.

**Requirements for Licensure** – The majority of provinces in Canada and certain states in the U.S.A. require that those intending to practice as Speech-Language Pathologists within their borders comply with special provincial or state licensing regulations. Graduates wishing to practice in the province of Quebec must be members of l'Ordre des Orthophonistes et Audiologistes du Québec (OOAQ) in order to call themselves Speech-Language Pathologists. Further information is available from the OOAQ,

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## 17.1 Staff

### *Emeritus Professor*

Donald Doehring; B.A.(Buff.), M.A.(N.M.), Ph.D.(Ind.)

### *Professor*

Athanasios Katsarkas; M.D.(Thess.), M.Sc.(McG.), F.R.C.P.(C)

### *Associate Professors*

Shari Baum; B.A.(C'nell), M.S.(Vt.), M.A., Ph.D.(Brown)

Martha Crago; B.A., M.Sc.A., Ph.D.(McG.)

Vincent Gracco; B.A., M.A.(San Diego), Ph.D.(Wis.-Madison)

Rachel Mayberry; B.A.(Drake), M.S.(Wash.), Ph.D.(McG.)

James McNutt; B.S.(Edin.), M.Ed.(Penn. St.), Ph.D.(Kent St.)

Linda Polka; B.A.(Slippery Rock), M.A.(Minn.), Ph.D.(S.Flor.)

### *Assistant Professors (Special Category)*

Marc Pell; B.A.(Ott.), M.Sc., Ph.D.(McG.)

Susan Rvachew; B.Sc.(Alta.), M.Sc., Ph.D.(Calgary)

Elin Thordardottir; B.A., M.Sc., Ph.D.(Wis.-Madison)

### *Assistant Professors (Part-Time)*

Gabriel Leonard; B.A.(Dublin), D.A.P., M.Sc., Ph.D.(McG.)

Sybil Schwartz; B.Sc.(McG.), M.Sc.A.(Iowa St.), Ph.D.(McG.)

Rosalee Shenker; B.Sc.(Syr.), M.A.(Calif. St.), Ph.D.(McG.)

### *Faculty Lecturer*

Jeanne Claessen; M.A.(Reading), Dip. Clinical Communication Studies (City University, London)

### *Faculty Lecturers (Part-Time)*

Patrick Boudreault; B.A.(Montr.), M.Sc.(McG.)

Joane Déziel; B.Sc, M.Sc.(Montr.)

Ruth Gesser; B.A.(C'dia), M.Sc.A.(McG.)

Jill Harrisson; B.A., M.Sc.(McG.)

Helena Kisilevsky; B.A.(McG.), M.A.(UCLA), M.O.A.(Montr.)

Judith Robillard-Shultz; B.A., M.Sc.A.(McG.)

Navid Shahnaz; B.Sc.(Iran), M.Sc.(McG.)

Megha Sundara; B.Sc., M.Sc.(All India Inst. of Speech & Hearing)

Colleen Timm; B.A.(C'dia), M.Sc.A.(McG.)

### *Associate Member*

Yuriko Oshima-Takane (Psychology)

### *Adjunct Members*

David Caplan (*Harvard*); B.Sc., Ph.D.(M.I.T.), M.D.,C.M.(McG.)

Howard Chertkow (*Jewish Gen.*); M.D.(W. Ont.), F.R.C.P. (Neurology)

David McFarland (*U. of Montreal*); B.A., M.A.(Calif. St.), Ph.D.(Purdue)

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## 17.2 Programs Offered

The School offers a professional degree in Communication Sciences and Disorders at the M.Sc. (Applied) level with specialization in Speech-Language Pathology, and two research degrees, an M.Sc. (Research) and a Ph.D. in Communication Sciences and Disorders.

**Please note:** The Audiology specialization of the M.Sc. (Applied) program has been suspended indefinitely.

3. students with degrees in related fields who wish to do research but not obtain professional qualification in Communication Sciences and Disorders.

#### **Ph.D. in Communication Sciences and Disorders**

Applicants should normally have a Master's degree with thesis or its equivalent in Communication Sciences and Disorders or a related field (e.g. psychology, linguistics).

Students who possess an appropriate Bachelor's degree or Master's degree without thesis will also be considered for the Ph.D. program, but, if admitted, must first complete a qualifying year of coursework and a research project in the School ("fast-track" option).

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### **17.4 Application Procedures**

#### **M.Sc.(Applied)**

The complete application should be submitted directly to the School's Admissions Secretary and must be received by February 1, or it may not be considered for the following academic year. Applications will be considered upon receipt of:

1. completed application and information forms
2. two official copies of all university transcripts (only one official transcript from McGill University)
3. two letters of recommendation from professors (on the appropriate forms)
4. listing of relevant courses completed and in progress, relevant

ability to complete a research project and related coursework during the initial year. An examination in a foreign language is not required.

**Required Courses**

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**17.6 Courses**

involving speech and language disorders will be presented. General descriptions of the disorders and specific assessment and remedial procedures will be addressed.

#### **401-670B TOPICS IN COMMUNICATION SCIENCES AND DISORDERS II.**

(3) Current research and professional issues in communication sciences and disorders will be discussed. Specific topics to be selected yearly.

**401-679C ADVANCED CLINICAL PRACTICUM.** (2) This course enhances professional practice independence through intensive exposure to a variety of clinical populations.

**401-681A PRACTICUM AND SEMINAR I.** (1) Course provides initial practicum experiences including a combination of the following: speech/language and hearing screenings, facility tours, short term placements and laboratory assignments.

**401-682B PRACTICUM AND SEMINAR II.** (1) This course provides clinical experience through short-term placements and screenings, as well as discussions of current practicum issues.

**401-683A PRACTICUM AND SEMINAR III.** (1) Professional practice experiences focusing on a variety of clinical populations are provided. Discussion of advanced issues in clinical practice is included.

**401-684B PRACTICUM AND SEMINAR IV.** (1) This course provides clinical practicum experiences in a range of settings. Professional practice issues are considered.

**401-685A,B,C,T RESEARCH PROJECT I.** (3) Supervised research project.

**401-686A,B,C,T RESEARCH PROJECT II.** (3) Supervised research project.

## 18 Communication Studies

Department of Art History and Communication Studies  
Arts Building, W-225 (West Wing, top floor)  
853 Sherbrooke Street West  
Montreal, QC. H3A 2T6  
Canada

Telephone: (514) 398-6541

Fax: (514) 398-7247

Website: <http://www.arts.mcgill.ca/programs/AHCS>

*Chair* — Christine Ross (on leave Jan.-Dec. 2001)

*Director, Graduate Programs in Art History* — Hans J. Böker

*Director, Graduate Programs in Communication* — Will Straw

### 18.1 Staff

#### *Emeritus Professors*

John M. Fossey; B.A.(Birm.), D.U.(Lyon II), F.S.A., R.P.A.  
George Galavaris; M.A.(Athens), M.F.A., Ph.D.(Prin.), F.R.S.C.  
George Szanto; B.A.(Dart.), Ph.D.(Harv.)

#### *Professor*

Hans J. Böker; Ph.D.(Saarbrücken), Dr. Ing.-habil(Hannover)

#### *Associate Professors*

David Crowley; B.A.(Johns H.), M.Sc.(Penns.), Ph.D.(McG.)  
Christine Ross; M.A.(C' dia.), Ph.D.(Paris I) (on leave Jan. to June 2001)

Will Straw; B.A.(Carl.), M.A., Ph.D.(McG.)

#### *Assistant Professors*

Ting Chang; B.A.(McG.), M.A.(Tor.), Ph.D.(Sussex)  
Sheryl N. Hamilton; L.L.B.(Sask.), B.A., M.A.(Carl.), Ph.D.(C' dia)  
Bronwen Wilson; B.A., M.A.(U.B.C.), Ph.D.(Northwestern)

#### *Assistant Professor (Special Category)*

Johanne Sloan; B.F.A.(C' dia), M.A.(Montr.), Ph.D.(Kent)

#### *Adjunct Professors*

David W. Booth; B.A., M.A., M.Phil., Ph.D.(Tor.)  
Johanne Lamoureux; B.A., M.A.(Montr.), Ph.D.(E.H.E.S.S., Paris)  
Louis De Moura Sobral; M.A., Ph.D.(Louvain)

Grant McCracken; B.A.(Antioch), M.A., Ph.D.(Chic.)  
Don McGregor; B.A.(Tor.), M.A.(Carl.), Federal Government  
Interchange Canada  
Constance Naubert-Riser; B.A., M.A.(Ott.), Ph.D.(Lyon III)  
Jocelyne Picot; B.A.(Montr.), M.A.(Con.), Ph.D.(S. Fraser)

### 18.2 Programs Offered

The Communication Studies Program offers courses and directs project research in preparation for the M.A. (Thesis and Non-thesis options) and Ph.D. in Communications.

The Program is concerned with the study of communications phenomena through an interdisciplinary activity that includes both theoretical and practical considerations of the various modes and media of communication. The Program does not provide the purely technical training which can be more appropriately carried out by institutions of technology and communication arts, rather the focus is on broadening the understanding of the interplay between practical needs and theoretical perspectives. The special theoretical interest of the Program centres on the nature and scope of human communications as they emphasize the relationship of cognitive, social and aesthetic problems.

The Program is subdivided into the following areas: Cultural Theory and Cultural Practice, History and Theory of Communications, Media Studies. Degree candidates are encouraged to explore these aspects of communication studies by drawing upon the resources of the various departments throughout the University with which the Program has established close working relations. For more information on the Program, please visit our website.

A number of financial aid opportunities and scholarships are available to Graduate students, some from the University itself (Teaching and Research Assistantships, McGill Major Fellowships), and others from governmental agencies. Application deadlines are early in the Fall. Information on eligibility can be obtained from the Program or through the Graduate Faculty's Fellowships Office, McGill University, James Administration Building, Room 400, 845 Sherbrooke Street W., Montreal, Quebec, H3A 2T5. (514) 398-3990. (<http://www.mcgill.ca/fgsr/fellow.htm>)

For programs in Art History refer to [section 7](#).

### 18.3 Admission Requirements

#### **M.A.**

An Honours Bachelor's degree or equivalent is required of applicants for the M.A. program with a minimum CGPA of 3.3 on 4.0. In any case, the transcript must show breadth or depth in related areas of study.

#### **Ph.D.**

Applicants for the Ph.D. program are expected to have completed the equivalent of an M.A. degree. Admission will be based on academic achievement and evidence of talent and strong motivation in communications studies.

### 18.4 Application Procedures

Applications will be considered upon receipt of:

1. Application form.
2. \$60 application fee.
3. Transcripts (2 official copies).
4. Letters of Recommendation (2 official letters).
5. Written samples (2 samples, English or French translations).
6. Statement of Interest (4 copies).
7. Proof of Citizenship.
8. TOEFL (minimum score of 550 on paper-based test or 213 on the computer-based test).

Deadline for application is January 15.

Inquiries regarding the Program should be addressed to the Admissions Coordinator, Department of Art History and Communication Studies, McGill University, 853 Sherbrooke Street West, Montreal, QC H3A 2T6.

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## 18.5 Program Requirements

### **M.A. Degree** (48 credits)

The Master's Program consists of a three-semester program of





ing, gravity casting, stereolithography, NC-machining and tolerancing metrology.

**308-610A INFORMATION STRUCTURES I.** (4) (3 hours) Study of elementary data structures: lists, stacks, queues, trees, hash tables, binary search trees, red-black trees, heaps. Augmenting data structures. Sorting and selection, Recursive algorithms. Advanced data structures including binomial heaps, Fibonacci heaps, disjoint set structures, and splay trees. Amortizing. String algorithms. Huffman trees and suffix trees. Graph algorithms.

**308-611B INFORMATION STRUCTURES II.** (4) (3 hours) Graphs play an important role in computer science: as data structures, as tools in algorithmic analysis, and as a source of algorithmic problems. This course is an introduction to graph theory for computer scientists via the problem-solving approach. Emphasis on developing oral and written communication skills.

**308-612A DATABASE SYSTEMS.** (4) (3 hours) Database programming using the relational algebra. Introduces the relational model of databases and high level programming techniques with applications to data processing, text and picture processing, knowledge bases and logic programming on secondary storage.

**308-617B INFORMATION SYSTEMS.** (4) (3 hours) (Prerequisite: 308-612) Seminar course. A major area of application of the techniques covered in 308-612 is discussed. No prior expertise in the application area is required, since the emphasis of the course is on methods of computation. Storage structures and algorithms for efficient retrieval and processing of data for the application will be discussed.

**308-621B OPTIMIZING COMPILERS.** (4) (3 hours) (Prerequisite: 308-251 or equivalent, 308-302 or equivalent, 308-520 is useful but not strictly necessary.) This course examines the components of optimizing compiler, tree-like and graph-like intermediate representations, flow analysis, abstract interpretation, program transformation, register allocation, an introduction to instruction scheduling and parallelization techniques. Students complete assignments and a course project.

**308-622B COMPILING FOR PARALLEL MACHINES.** (4) (3 hours) (Prerequisites: 308-520 and 308-505 or equivalents, suggested prerequisites/corequisites 308-621 and 308-623) This course studies the contemporary work in compiler design and implementation for parallel computer systems such as vector/pipelined machines, superscalar/superpipelined machines, and SIMD/MIMD multiprocessor systems. Compiling issues for novel architectures with fine-grain parallelism.

**308-623B CONCURRENT PROGRAMMING LANGUAGES.** (4) (3 hours) (Prerequisite: 308-302 or equivalent.) The course will include the following topics: deadlock, fairness, liveness and safety properties, distributed protocols, standard concurrent programming problems, a comparative study of concurrent programming paradigms. Additional topics: dataflow programming, concurrent constraint programming, concurrent logic programming, process algebra, fault tolerant distributed systems, parallel object-oriented languages.

**308-627B THEORY OF PROGRAMMING LANGUAGES.** (4) (3 hours) (Prerequisites: 308-524 and 308-530) Programming language semantics. Lambda calculus, the Church Rosser theorem, typed lambda calculus, the strong normalization theorem, polymorphism, type inference, elements of domain theory, models of the lambda calculus, relating operational and denotational semantics, full abstraction. Reasoning about programs. Soundness and relative completeness of program logics.

**308-630A SOFTWARE DEVELOPMENT ENVIRONMENT TECHNIQUES.** (4) (3 hours) (Prerequisite: 308-434) The course aims to teach the main features of, and the techniques to construct, Software Development Environments (SDEs). Students would benefit from this course by obtaining an understanding of the practical problems in large scale software development projects, and how formal and practical approaches may be put to use in solving these problems.

**308-631A SOFTWARE PROCESS ENGINEERING.**



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## 20 Dentistry

Department of Dentistry  
 Faculty of Dentistry  
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 Canada

Telephone: (514) 398-7227

Fax: (514) 398-8900

Website: <http://www.mcgill.ca/dentistry/>

*Dean, Faculty of Dentistry* — J.P. Lund

*Associate Dean, research* — M.D. McKee

*Director, Graduate Studies* — J.S. Feine

*Director, Graduate Program in Oral and Maxillofacial Surgery* —  
 T.W. Head

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### 20.1 Staff

#### *Professors*

M.C. Bushnell; B.A.(Maryland), M.A., Ph.D.(American U.)

J.S. Feine; D.D.S., M.S.(Texas), H.D.R.

J.P. Lund; B.D.S.(Adel.), Ph.D.(W.Ont.)

C.E. Smith; D.D.S., Ph.D.(McG.)

#### *Associate Professors*

G. Bennet; B.A.(Rutgers), M.A., Ph.D.(Virginia)

P.J. Chauvin; B.Sc.,D.D.S.(McG.), M.Sc.(W.Ont.), F.A.A.O.P.,  
 F.R.C.D.(C)

M. Dagenais; D.M.D.(Montr.), Dip. Oral Radiology(Tor.)

T.W. Head; B.Sc.(Sir G. Wms.), D.D.S., M.Sc.(McG.),

F.R.C.D.(C), Dipl. A.B.O.M.S.

M.D. McKee; Ph.D.(McG.)

S. Schwartz; D.M.D.(Montr.), M.Sc. Cert. Pedo.(Boston), F.I.C.D.,  
 F.A.C.D.

E.D. Shields; B.Sc.(Ball State), D.D.S., Ph.D.(Ind.)

#### *Assistant Professors*

P.J. Allison; B.D.S., F.D.S.R.C.S.,M.Sc.(London), Ph.D.(McG.)

J.R. Emery; D.D.S., M.Sc.(McG.), F.R.C.D.(C), Dipl. A.B.O.M.S.

E.P. Klemetti; D.D.S.(Helsinki), Ph.D.(Kuopio, Finland)

Hervé Lemoual; D.E.A., M.Sc.(Paris), Ph.D.(Montr.)

Jean-Marc Retrouvey; D.M.D.(Montr.), M.Sc.(Boston)

#### *Adjunct Professors*

A. Charbonneau; D.M.D., M.Sc., Ph.D.(Montr.)

Other complementary courses in the University may be taken with the approval of the supervisor or research director.

**Thesis Research Courses** (24 – 30 credits)

The required number of Master's thesis credits (minimum 24) will be made up from among the following:

**M.SC. IN ORAL AND MAXILLOFACIAL SURGERY**

(Revisions to this program are awaiting University approval.)

Duration: Four calendar years commencing July 1. Students will register in the four-year graduate-training program, which leads to a McGill Certificate of Residency Training. They will concurrently register with the Faculty of Graduate Studies and Research during the Third and Fourth years of the program and complete the requirements for the M.Sc. degree during these two years.

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**20.6 Courses for the M.Sc. in Dental Sciences**

**590-671D GRADUATE SEMINARS IN DENTAL SCIENCES.** (4) One advanced research seminar every week over the fall and winter terms given by invited local and out-of-town speakers on their current research in Oral Biology.

**590-562B CALCIFIED TISSUES.** (3) (3 hours of lecture supplemented by 1 hour laboratory or conferences) An advanced course on the morphology and cell biology of calcified tissues. This course provides a problem-oriented analysis of research on the structure and mechanism of formation of connective tissue, cartilage and bone, but with particular emphasis on the tissues of the tooth.

**590-650A,B,C THESIS RESEARCH I.** (3) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

**590-651A,B,C THESIS RESEARCH II.** (6) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

**590-652B,C,D,E,G THESIS RESEARCH III.** (9) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

**590-653A,B,D,K THESIS RESEARCH IV.** (15) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

**590-654B MECHANISMS AND MANAGEMENT OF PAIN.** (3) Presentation of the neurobiology of pain and analgesia, clinical pain conditions, basic and applied research methods in the study of pain, and the theory and practice of pain management. The course is designed for graduate students interested in pain mechanisms and clinical residents interested in pain management.

**590-771D GRADUATE SEMINARS IN DENTAL SCIENCES.** (4) One advanced research seminar every week over the fall and winter terms given by invited local and out-of-town speakers on their current research in Oral Biology.

*Documentalist* — Iain Blair

Email: [cdasdoc@leacock.ian.mcgill.ca](mailto:cdasdoc@leacock.ian.mcgill.ca)

The Centre focuses on research concerning social and economic problems within countries in Africa, Asia, the Caribbean, Latin America and the Middle East, using an interdisciplinary framework. It organizes seminars and conferences on development issues and globalization, primarily in the social sciences.

The Centre has a specialized documentation room, open to the public. In addition, it maintains an active publications program centred around the internationally respected journal *Labour, Capital and Society* and has research fellows and research groups in residence.

The Centre works with an international community of 4w8tyscholina,he

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**21 Developing Area Studies**

Centre for Developing Area Studies  
3715 Peel Street  
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Website: <http://www.mcgill.ca/cdas>

Director — R.E. Boyd, Ph.D.

*Associate Members*

Louis Beaumier (Medicine); Selim Kermasha (Food Sc./Agr. Chem.); Rejeanne Gougeon (Medicine); Jean-François Yale (Medicine)

*Adjunct Professors*

Kevin A. Cockell (Health Canada), Jeffrey S. Cohn (Clinical Research Inst. of Canada), Shi-Hsiang Shen (National Research Council Canada)

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**22.2 Programs Offered**

M.Sc., M.Sc. Applied and Ph.D. in Human Nutrition.

English, by appropriate exams, e.g. TOEFL (minimum score 560 on the paper-based test, 220 on the computer-based) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. The School reserves the right to request TOEFL results. Please contact the School for details. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); department code is 31 (graduate schools), Biological Sciences - Agriculture.

**Graduate Record Exam (GRE)** – The GRE is required for all applicants to the School of Dietetics and Human Nutrition who are submitting non-Canadian and non-U.S. transcripts.

**Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.**

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

**Qualifying Students** – Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program*. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in the Faculty of Graduate Studies and Research, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

Canada and elsewhere. Changing patterns of food use; health related to diet; systems of traditional and market food; techniques and ethics of nutritional and environmental research with indigenous peoples.

**382-651A,B,C M.Sc. (APPLIED) NUTRITION I.** (3) (Corequisites: 382-606, 382-695) Review of literature and problem definition for both the project option or for placement preparation for practicum option. This course relates to the Human Nutrition M.Sc. (Applied) degree and is required for both project and practicum options.

**382-652A,B,C M.Sc. (APPLIED) PROJECT I.** (3) (Prerequisite: 382-651) Project design and planning.

**382-653A,B,C M.Sc. (APPLIED) PROJECT II.** (3) (Prerequisite: 382-652) Project execution. This project relates to the Human Nutrition M.Sc. (Applied) degree.

**382-654A,B,C M.Sc. (APPLIED) PROJECT III.** (3) (Prerequisite: 382-653) Continuation of project execution and data collection; preliminary analysis. This project relates to the Human Nutrition M.Sc. (Applied) degree.

**382-655A,B,C M.Sc. (APPLIED) PROJECT IV.** (3) (Prerequisite: 382-654) Data analysis. Submission of project report. This project relates to the Human Nutrition M.Sc. (Applied) degree.

**382-656A,B,C M.Sc. (APPLIED) PRACTICUM I.** (3) (Prerequisite: 382-651) Clinical or community placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

**382-657A,B,C M.Sc. (APPLIED) PRACTICUM II.** (3) (Prerequisites: 382-656) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

**382-658A,B,C M.Sc. (APPLIED) PRACTICUM III.** (3) (Prerequisite: 382-657) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

**382-659A,B,C M.Sc. (APPLIED) PRACTICUM IV.** (3) (Prerequisites: 382-658) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

**382-660A,B,C M.Sc. (APPLIED) NUTRITION II.** (1) (Prerequisites: 382-653; 382-659 or 382-655) Oral presentation. This presentation relates to the Human Nutrition M.Sc. (Applied) degree, project and practicum options.

**382-680A,B,D,N HUMAN NUTRITION M.Sc. THESIS I.** (6) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis.

**382-681A,B,D,N HUMAN NUTRITION M.Sc. THESIS II.** (6) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis. Presentation of a thesis proposal.

**382-682A,B,D,N HUMAN NUTRITION M.Sc. THESIS III.** (9) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis.

**382-683A,B,D,N HUMAN NUTRITION M.Sc. THESIS IV.** (10) Final submission, thesis defense seminar and approval of the M.Sc. thesis.

**382-695A,B HUMAN NUTRITION SEMINAR I.**

**Environmental Geology and Low Temperature Geochemistry**

Low-temperature geochemistry and chemical oceanography; chemical thermodynamics and kinetics of solid solution reactions in natural environments; early diagenesis of marine, coastal, and estuarine sediments; crystal growth mechanisms in low-temperature aqueous solutions and their influence on element partitioning in minerals.

**Geochronology**

U-Pb geochronology, Sr and Nd isotopic tracing, seismic risk assessment (paleoseismology).

**Igneous Petrology**

Origin and evolution of basic magmas in the mantles of the terrestrial planets; non-orogenic magmatism, alkali feldspars as indicators of magmatic and post-magmatic processes; high-temperature geochemistry, experimental investigation of petrogenetic processes, structure and properties of silicate melts and glasses, physical and chemical controls on volcanic eruptions.

**Planetary Sciences**

Geophysical potential fields, dynamics of planetary interiors; global geodynamics and physics of Earth's interior; seismology – tectonophysics, geophysical systems analysis.

**Sedimentary Geology**

Sedimentology of modern and ancient continental margins (clastic sediments, diagenesis, marine geology and plate tectonics); sedimentation and diagenesis, ancient and modern carbonates, Cordilleran structure and stratigraphy.

**Tectonics**

Tectonics and structural geology, transpression in the Canadian Cordillera, origin of the Hudson Bay Arc, gravity features of sutures in the Canadian Shield, uplift of the Laurentides, paleomagnetism and plate motions.

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**23.3 Admission Requirements**

Applicants should have an academic background equivalent to that of a McGill graduate in the Honours or Major program in geology, geophysics, chemistry, or physics (3.0 out of 4.0). The admissions committee may modify the requirements in keeping with the







The names of course instructors are listed on the Course Time-table available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

Please consult the Department to see which courses are being given in any one academic year.

The course credit weight is given in parentheses after the title.

- 117-501A ADVANCED TOPICS IN JAPANESE STUDIES I. (3)
- 117-502B ADVANCED TOPICS IN JAPANESE STUDIES II. (3)
- 117-503A ADVANCED TOPICS IN CHINESE STUDIES I. (3)
- 117-504B ADVANCED TOPICS IN CHINESE STUDIES II. (3)
- 117-515A,B SEMINAR: BEYOND ORIENTALISM. (3)
- 117-529A,B CONTEMPORARY CHINA: ANALYSIS OF CHANGE. (3)
- 117-530D FOURTH LEVEL CHINESE. (6)
- 117-537D CHINA TODAY THROUGH TRANSLATION. (6)
- 117-540D FOURTH LEVEL JAPANESE. (6)
- 117-543A,B CLASSICAL JAPANESE I. (3)
- 117-544A,B CLASSICAL JAPANESE II. (3)
- 117-547A,B ADVANCED READING AND TRANSLATION IN JAPANESE. (3)
- 117-550A,B CLASSICAL CHINESE POETRY. (3)
- 117-551A,B TECHNOLOGIES OF THE SELF IN EARLY CHINA. (3)
- 117-559A,B ADVANCED TOPICS IN CHINESE LITERATURE. (3)
- 117-562A,B JAPANESE LITERARY THEORY AND PRACTICE. (3)
- 117-563A,B IMAGES, IDEOGRAMS, AESTHETICS. (3)
- 117-564A,B STRUCTURES OF MODERNITY: JAPAN. (3)
- 117-569A,B ADVANCED TOPICS IN JAPANESE LITERATURE. (3)
- 117-580A,B JAPAN: THE SOCIOPOLITICAL FRAMEWORK. (3)
- 117-584A,B INDUSTRY IN JAPAN. (3)
- 117-590A,B MULTIPLE NARRATIVES OF THE "ORIENT". (3)
- 117-600A,B EAST ASIAN STUDIES I. (3)
- 117-601A,B EAST ASIAN STUDIES II. (3)
- 117-651A,B SEMINAR IN TAOIST STUDIES I. (3)
- 117-652A,B SEMINAR IN TAOIST STUDIES II. (3)
- 117-653A,B CHINESE POPULAR CULTURE I. (3)
- 117-654A,B CHINESE POPULAR CULTURE II. (3)
- 117-655A,B PREMODERN CHINESE POETRY. (3)
- 117-656A,B PREMODERN CHINESE NARRATIVE. (3)
- 117-657A,B WOMEN'S WRITINGS IN TRADITIONAL CHINA. (3)
- 117-660A,B SEMINAR: JAPANESE FICTION. (3)
- 117-661A,B PREMODERN JAPANESE POETRY AND NARRATIVE. (3)
- 117-662A,B SEMINAR: POPULAR CULTURE IN JAPAN. (3)
- 117-663A,B SEMINAR: JAPANESE CULTURE

*Postdoctoral Fellow*

Chris Minns; B.A.(Queen's), M.A.(Alta.), Ph.D.(Essex)

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**25.2 Programs Offered**

M.A. in Economics, thesis and non-thesis options.

Ph.D.

Because this Calendar is prepared early in the year, changes may take place after it has been printed. Students are advised to contact the Department Office for supplementary information which may be important to their choice of program.

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**25.3 Admission Requirements**

An Honours B.A. in Economics is the normal requirement, although students holding an ordinary B.A., whether in economics or another discipline, may also be eligible for admission. Students judged by the admissions committee to have deficiencies in their preparation in economics may be admitted to a qualifying year in which they undertake advanced undergraduate work.

Students who have not previously passed a suitable course in statistics must take the undergraduate honours statistics course, Economics 154-257D. A course in the history of economic thought is also a prerequisite for a graduate degree in economics, and students who have not taken such a course will be required to take Economics 460A and 461B or 154-660A/B (the M.A. course in History of Economic Thought). Students are also expected to have completed or to complete three semesters of introductory calculus and at least one semester of linear algebra.

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**25.4 Application Procedure**



the instructor.) Surveys the empirical techniques used in applied microeconomic fields, particularly development and labour economics. Focus is on the formulation of empirical models derived from economic theory, and on various estimation methodologies, including panel data econometrics, limited dependent variable models, and duration analysis. A hands on approach is emphasized.

**154-744B HEALTH ECONOMICS.** (3) The emphasis will be on describing and analyzing the structure and performance of the Canadian health system, though some attention will be given to recent attempts by the federal and provincial governments to deal with current problems in this field. Readings will be selected from the economics and health literature.

- **154-750A SELECTED TOPICS IN MICROECONOMICS.** (3)
- **154-751A SELECTED TOPICS IN MACROECONOMICS.** (3)
- **154-752B TOPICS IN FINANCIAL ECONOMICS.** (3)
- **154-753A SELECTED TOPICS IN MATHEMATICAL ECONOMICS.** (3)
- **154-760B HISTORY OF ECONOMIC THOUGHT.** (3) .
- **154-761A ECONOMETRICS – TIME SERIES ANALYSIS.** (3) (Not open to students who have taken 154-762D.)

**154-762A ECONOMETRICS – ASYMPTOTIC AND FINITE – SAMPLE THEORY.** (3) Exact and asymptotic distribution theory in econometrics: basic results for estimation and inference in regression models, extensions and other selected topics including nonparametric and distribution-free methods for econometric models.

- **154-763A FINANCIAL ECONOMETRICS.** (3)
- **154-764B SELECTED TOPICS IN APPLIED ECONOMETRICS.** (3)

**154-767A,B APPLIED QUANTITATIVE ECONOMICS.** (3) Co-ordinated quantitative research projects under the guidance of the instructors to increase facility in quantitative research.

**154-799D PH.D. COMPREHENSIVE EXAMINATION.**

**Courses offered only in some years:**

**154-738A,B TOPICS IN ECONOMIC THEORY.**

**154-753B SELECTED TOPICS IN MATHEMATICAL ECONOMICS.**

**154-761A,B ECONOMETRICS-TIME SERIES ANALYSIS.**

## 26 Educational and Counselling Psychology

Department of Educational and Counselling Psychology  
Education Building, Room 513  
3700 McTavish Street  
Montreal, QC H3A 1Y2

Telephone – Program Information: (514) 398-4241

Fax: (514) 398-6968

Website: <http://www.education.mcgill.ca/ecp>

Chair — TBA

*Program Directors:*

*Professional Psychology Program Grouping/*

*Counselling Psychology* — Theodore J. Maroun

*School/Applied Child Psychology* — Jacob A. Burack

*Associate Program Director* — Joyce F. Benenson (Applied Developmental Psychology)

*Professional Education Program Grouping/*

*Educational Psychology* — F. Gillian Rejskind

*Associate Program Directors* —

Joan Stafford (Family Life Education)

F. Gillian Rejskind (General Educational Psychology, Gifted Education, Inclusive Education, and Psychology of Gender)

*Cognition and Instruction Program Grouping* —

Susanne P. Lajoie

*Associate Program Directors* —

Susanne P. Lajoie (Educational Technology)

Lynn M<sup>c</sup>Alpine (Adult Education)

### 26.1 Staff

*Emeritus Professors*

Eigil Pedersen, B.A.(Sir G. Wms.), M.A.(McG.), Ed.D.(Harv.)

Howard A. Stutt, B.A.(Queen's), B.Ed., M.Ed.(Montr.), F.C.C.T.

*Professors*

Mark W. Aulls, B.S.(Ball St.), M.Ed.(Ind.), Ed.D.(Georgia)

Jacob A. Burack, B.A.(Col.), M.S., M.Phil., Ph.D.(Yale)

Glenn F. Cartwright, B.A.(Sir G. Wms.), M.A.(McG.), Ph.D.(Alta.), F.A.A.S.P., F.C.C.T.

Jeffrey L. Derevensky, B.A.(C. W. Post), M.A., Ph.D.(McG.)

Janet G. Donald, B.A., M.A.(W. Ont.), Ph.D.(Tor.) (*joint appt. with the Centre for University Teaching and Learning*)

Florent R. Dumont, A.B.(Col.), M.S.(S. Conn. St.), Ed.D.(Mass.)

Carl H. Frederiksen, B.A.(Harv.), M.A., Ph.D.(Ill.)

Susanne P. Lajoie, B.A., M.A.(McG.), Ph.D.(Stan.)

Bruce M. Shore, B.Sc., M.A.(McG.), Ph.D.(Calg.)

*Associate Professors*

Joyce F. Benenson, B.Sc.(Duke), Ph.D.(Harv.)

Antonio Bernardelli, B.Sc.(Loy. Coll. Montr.), M.Ed., Ed.D. (McG.) (PT)

Robert J. Bracewell, B.Sc., M.A.(McM.), Ph.D.(Tor.)

Alain Breuleux, B.Sc., M.Sc., Ph.D.(Montr.)

Jack de Stefano, B.A.(Loy. Coll. Montr.), M.A., Ed.D.(McG.) (PT)





sellors (OPCCOQ) or Quebec Order of Psychologists (OPQ) or for acceptance into the McGill Ph.D. in Counselling Psychology.

Graduates of the M.A. program will also need a supplementary internship experience if they wish to fulfil the requirements for membership in the Professional Order of Guidance Counsellors of Quebec (OPCCOQ). This will require an additional year of field-work experience. M.A. students are admitted to an internship/field-work only with approval of the program staff and if supervisory staff is available.

**Admission Requirements**

Same as for the M.A.(non-thesis) Counselling Psychology.

**Program Requirements**

Credit for the thesis will be awarded upon satisfactory completion of the thesis components listed below. This degree requires a minimum of 4 semesters and one summer session of full-time study.

**M.A. Counselling Psychology** (48 credits)

**Required Courses** (21 credits)

**Thesis Component – Required** (24 credits)

**Elective Course** (3 credits)

**Ph.D. IN COUNSELLING PSYCHOLOGY**









**Additional Entrance Notes:****School/Applied Child Psychology**

Applicants are required to supply results of the Graduate Record Examinations (Verbal, Quantitative, and Psychology) at the time of initial application. An undergraduate Major or Honours degree in Psychology is required including courses in developmental, abnormal and cognitive psychology, history and systems in psychology, and statistics. McGill Psychology graduates completing the 36-credit B.A. Major Concentration must complete at least 18 additional credits of senior undergraduate study in psychology or related subjects.

Students will enrol for two years in the M.A. (Non-thesis) in Educational Psychology, and will follow the course sequence noted below. At the end of the first semester or thereafter students may request to change to the M.A. with thesis if supervision is available. Students will receive the M.A. following the second year having completed all the requirements and to proceed directly to Ph.D. 2 in their third year of study unless advised after the third M.A. semester that they are not maintaining a sufficiently high standard to continue to the Ph.D. Such students may elect to complete the M.A. or withdraw.

**Applied Developmental Psychology**

Applications to the Ph.D. are normally only accepted from the thesis M.A. to Ph.D. route (see the M.A. in Educational Psychology). Other entrance requirements are the same as for School/Applied Child Psychology.

Applicants with exceptional strength in academic studies who do not meet the above requirements may apply for admission to the doctoral program. Such students may be required to complete a qualifying year or term prior to applying for Ph.D. admission.

**Program Requirements**

All students are required to elect and follow a Major and a Minor sequence. Students who are making satisfactory progress in their studies may be permitted to fulfil the requirements of a second Minor within the programs. Courses from Major and Minor sequences taken during M.A. and M.Ed. studies are counted toward the total. A Major consists of five courses (15 credits), except in School/Applied Child Psychology, and a Minor consists of three courses (9 credits). Each Major and Minor is specified below and the degree of choice of courses within each is indicated separately.

Candidates admitted into Ph.D. 2 are required to complete a minimum of two full years of study. Candidates admitted into Ph.D. 1 are required to complete a minimum of three full years of study.

A dissertation must be submitted displaying original scholarship expressed in satisfactory literary form and constituting a distinct contribution to knowledge on a problem in educational psychology. Work on the thesis normally begins in the Ph.D. 2 year and becomes the major concern in the Ph.D. 3 year of a student's program of study.

Each student will be supervised by an advisor who will chair the student's doctoral committee. This committee will have a minimum of three members. It will assist the student and advisor in planning the student's program. It will also be consulted in the nomination of external examiners for the thesis.

**Ph.D. Core Courses**

These requirements apply to all Majors and except for 416-708 (Comprehensive Examination) they may partly or wholly be completed in the M.A. or M.Ed.

Students may replace any course for which they have equivalent background, subject to approval by the Program Director.

**Required Courses and Comprehensive Examination****Complementary Courses (6 credits)****Language Requirement**

Students are not required to demonstrate knowledge of a second language within this program, but anyone wishing to be licensed as a psychologist in Quebec must at that point demonstrate a working knowledge of French. Appropriate courses are available at McGill.

**Major Sequences in the Ph.D.(Educational Psychology)****(a) Applied Cognitive Science**

Research on the cognitive processes and knowledge structures that underlie learning, competence and performance in educationally significant domains and populations of learners; applied research employing the theories, methods and findings of the cognitive sciences to the analysis of cognitive processes underlying performance in instructional tasks including: reading comprehension, written composition and other literacy skills; computation, mathematical problem solving and other mathematical skills; learning and the acquisition of knowledge and skill in other content domains of school learning and cognitive processes, including differences between novices and experts, and comparative studies of different populations of learners; applications of cognitive analyses of school learning and performance to the improvement of learning and instruction and the diagnosis and remediation of learning difficulties.

**Required Courses (6 credits)****Complementary Courses (9 credits)****(b) Applied Developmental Psychology**

Child and adolescent development including cognitive, language, social issues, and personality development, and gender issues in relation to processes of learning, problems and practices of educative processes

environments including educational applications of computers; application of research methods, models and results in evaluating and improving the capacity of classrooms and other instructional environments to support high levels of educational accomplishment in learners with varied backgrounds of knowledge, ability and experience.

**Required Courses** (15 credits)

**Complementary Courses** (6 credits)

**(d) School/Applied Child Psychology**

This program is constructed according to the scientist-practitioner model. Child and adolescent problems faced by practicing school and child psychologists. Research on the educational impact of intellectual deficits, emotional disorders, pervasive developmental disorders, abuse, social-effective and cognitive development, high risk indices, and psychological assessment in school and educa-

**(e) Family Life Education**

**(f) Higher Education**

**Required Courses** (9 credits)

**(g) Instructional Psychology**

**Required Courses** (6 credits)

**Complementary Courses** (3 credits)

**(h) Psychology of Gender**

Please see the description of the Ph.D. Educational Psychology Major in School Applied Child Psychology for the full list of requirements from which each student's Graduate Diploma program will be constructed.

### Language Requirement

Students are not required to demonstrate knowledge of a second language within this program, but any student wishing to be licensed as a professional psychologist in Quebec must at that point have a working knowledge of French.

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## 26.6 Courses

**Note:** Some courses are open only to students in specific programs or concentrations. For specific program applicability consult the program profiles above. Some courses, particularly in psychological assessment, have supplementary lab fees. Details are available from the Program Coordinator (Secretary).

Some courses are offered in alternate years and others only when numbers warrant. Annual lists are available. Please consult the Department before attempting to register.

The course credit weight is given in parentheses after the title.

Courses are listed in numerical order, with the 3-digit prefix indicating the areas, as follows:

**412-501 HELPING RELATIONSHIPS.** (3) (Open to Educational and Counselling Psychology students.) A course in basic principles of human relationships and communication skills, approached from a theoretical and experiential viewpoint. Emphasis will be given to training in basic listening skills, interviewing techniques, and the interpretation of non-verbal behaviour in communication.

**412-502 GROUP PROCESSES AND INDIVIDUALS.** (3) (Open to Educational and Counselling Psychology students.) A laboratory course in which participants observe individual dynamics within a group setting as well as analyze the developmental phases of the group. Participants will be encouraged to experiment with their own behaviour, in order to increase their own awareness of functioning.

**412-503 HUMAN SEXUALITY FOR PROFESSIONALS.** (3) (Open to Educational and Counselling Psychology students.) Historical, biological, anthropological, psychological and sociological perspectives of human sexual development. Sexual dysfunctions and approaches to sex therapy will be discussed. Attitudes toward sexuality held by professional helpers will be examined relative to their implications for the learning and teaching of human sexuality and sex therapy.

**412-504 PRACTICUM IN INTERVIEWING SKILLS.** (3) (Prerequisite: 412-501) (Open to Educational and Counselling Psychology students.) This course will enable students to become practitioners in the field of Applied Social Sciences. Theoretical principles of the helping relationship will be applied in particular situations. Demonstration, lecture, role-playing and psychodrama techniques will be used.

**412-505 CRISIS INTERVENTION PROCESSES.** (3) (Open to Educational and Counselling Psychology students.) Instruction in the skills of working with crisis situations involving persons emotionally

plans will be subjects of study. Models of record keeping and referral procedures will be reviewed.

**412-616 INDIVIDUAL READING.** (3) Candidates may, with the consent of the Department, elect this individual reading and conference course in lieu of one of the above courses.

**412-618 PROFESSIONAL ETHICS AND THE LAW.** (3) (For Counselling Psychology and School/Applied Child Psychology students.) Ethics in the helping professions and some of the philosophical bases for making ethics decisions. Quebec and Canadian law relative to human rights of clients; responsibilities of counselling and school psychologists toward clients and society in general.

**412-620 ADVANCED CHILD PSYCHOLOGY.** (3) Study of the growing person from birth to pre-adolescence with emphasis on the background and methods as well as research on the principles of child development, disturbances in child development, various areas of development, and characteristics of different age levels.

**412-624 GROUP COUNSELLING: PRACTICE.** (3) (Prerequisite: 412-608) The practical dimension of planning and designing a group. Setting up and conducting a group in a professional setting over a period of sessions and evaluating a group in terms of models studied in 412-608.

**412-630 FEMINISM, WOMEN , W**





**414-671 CURRICULUM DEVELOPMENT FOR STUDENTS WITH MENTAL HANDICAPS.** (3) Issues in the definition and classification of students identified as mentally handicapped; methods for teaching academic, social and vocational skills.

**414-680 SELECTED TOPICS IN SPECIAL EDUCATION (I).** (3) A detailed examination of recent developments in specific topics of special education. The content of the seminar will vary from year to year and will be announced prior to registration.

**414-681 SELECTED TOPICS IN SPECIAL EDUCATION (II).** (3) A detailed examination of recent developments in specific topics of special education. The content of the seminar will vary from year to year and will be announced prior to registration.

**414-743 SEMINAR ON SPECIAL NEEDS.** (3) (Prerequisite: 414-643) Contemporary issues in the education of students with special needs. Professional and research issues.

**414-756 INTERNSHIP IN SPECIAL NEEDS EDUCATION.** (3) (Prerequisite: 414-656) Supervised internship in special needs education in a field setting tailored to the needs and interests of individual students.

**416-099 SUPERVISED TEACHING ASSISTANTSHIP IN EDUCATIONAL PSYCHOLOGY AND COUNSELLING.** (0)

**416-510 LEARNING AND TECHNOLOGY.** (3) Impact of virtual learning communities on learners/teachers in formal schooling and beyond. Information technologies as a resource to enhance learning experiences, creative/critical thinking. Principles of Internet

**416-616 COGNITIVE DEVELOPMENT.** (3) Assessment of theories of cognitive development including Piagetian, neo-Piagetian, and information-processing approaches. Theoretical models and empirical findings, and their application to educational and other settings.

**416-617 ADOLESCENT DEVELOPMENT.** (3) Normal development of adolescents through young adulthood. Problems and concerns of adolescence which occur with physical, social and personal development, in the context of family and school adjustment.

**416-619 CHILD AND ADOLESCENT THERAPY.** (3) (For School/ Applied Child and Counselling Psychology students only.) Therapeutic models for individual and group interventions for children and adolescents; case histories; gender and cultural minority issues; emphasis on classical and innovative strategies and methods for school and counselling psychologists.

**416-620 DEVELOPMENTAL PSYCHOPATHOLOGY.** (3) (Prerequisite: 416-615) Theory, research, and practice in developmental processes in the study of psychopathology, including aberrant behavior in childhood, at-risk and resilient children, and mental illness.

**416-622 MULTICULTURALISM AND GENDER.** (3) (Prerequisite: 416-615) Theory, research, and practice in multiculturalism and gender issues in the study of psychopathology, including aberrant behavior in childhood, at-risk and resilient children, and mental illness.

Topics include expert systems, intelligent computer-assisted instruction, tutoring systems, fifth-generation languages, and logic programming (e.g. Prolog). Lectures, discussion, demonstrations, and where possible site visits and hands-on experience will be pro-

providing elementary education. Weekly class meetings. Students must also register for either 416-722 or 416-723 in the same academic year.

**416-722 SCHOOL PSYCHOLOGY: SECONDARY.** (6) (Prerequisite: 416-626) Open only to Ph.D. students in School/Applied Child Psychology. Field experience. Two days or 16 hours per week supervised by faculty members and a field supervisor in a school providing secondary education. Weekly class meetings. Students must also register for either 416-721 or 416-723 in the same academic year.

**416-723 SCHOOL PSYCHOLOGY: COMMUNITY.** (6) (Prerequisite: 416-626) Open only to Ph.D. students in School/Applied Child Psychology. Field experience. Two days or 16 hours per week supervised by faculty members and a field supervisor in an educationally relevant community or institutional setting. Weekly class meetings. Students must also register for either 416-721 or 416-722 in the same academic year.

**416-725 INTERNSHIP I IN SCHOOL PSYCHOLOGY.** (12) (Prerequisites: 416-708 and two of 416-721, 416-722 or 416-723) Open only to Ph.D. students in School/Applied Child Psychology. A 2½ day, 10 to 12-month supervised internship (minimum 600 hours) including assessment and diagnosis normally in a school-based setting. This also includes group supervision to discuss cases that arise in internship settings. May be combined with 416-726 in a single full-time year long internship; this full-time pattern is typical in accredited sites.

**416-726 INTERNSHIP II IN SCHOOL PSYCHOLOGY.** (12) (Prerequisites: 416-708 and two of 416-721, 416-722 or 416-723) Open only to Ph.D. students in School/Applied Child Psychology. A 2½ day, 10 to 12-month supervised internship (minimum 600 hours) including assessment and diagnosis normally in an educationally relevant community-based center (e.g., hospital, clinic), group supervision, case discussions. May be combined with 416-725 in a single full-time year long internship; this full-time pattern is typical in accredited sites.

**449-582 HIGHER EDUCATION THEORY AND POLICY.** (3) Major issues facing universities and colleges in Canada and internationally. Review of systems of higher education in Canada. Analysis of the most important issues across higher education institutions, for example, quality of programs, instruction.

**449-588 THE HIGHER EDUCATION ENVIRONMENT.** (3) Investigation of the postsecondary environment, its constraints and potential for facilitating intellectual development and higher order learning. The student in the learning environment. In-depth analysis of the learning environment provided by universities and colleges, with an emphasis on the steps that can be taken to ensure effective teaching and learning.

**449-681 HIGHER EDUCATION DEVELOPMENT.** (3) (Corequisite: 449-582 or permission of instructor.) Analysis of program and curriculum development across disciplines and multidisciplinary areas of study at the postsecondary level. Program organization and planning in particular disciplinary areas and in relation to that of other disciplines.

**449-689 TEACHING AND LEARNING IN HIGHER EDUCATION.** (3) Students will develop an understanding of teaching and learning as a process in which instruction is based on the learning to be accomplished. Students will design, develop, and evaluate a university course of their choice, and will develop facility and confidence in using teaching methods appropriate to their domains.

**449-692 PRACTICUM IN UNIVERSITY TEACHING I.** (3) Supervised by a professor in their Department, students will experience all aspects of planning and conducting a university course. This includes directed observation of course sessions, and the planning and implementation of teaching episodes. In order to enrol, the student must obtain agreement from the supervising professor in advance.

**450-610 FOUNDATIONS OF ADULT EDUCATION.** (3) Adult education in the North American context, with emphasis on Canada; historical development; conceptual bases; contemporary trends; major literature in the field.

**450-612 THE ADULT LEARNER.** (3) Patterns of adult development; application of theories of learning to the adult learner; influence of such factors as work history, family role, learner needs and motivation on the role of the adult as learner.

**450-614 TEACHING THE ADULT.** (3) Teacher roles in adult education; instructional strategies and systems such as self-directed learning and learning contracts; comparisons and contrasts with the teaching of the young.

**450-615 ADMINISTERING ADULT EDUCATION PROGRAMS.** (3) Human resource management in relation to unique employment conditions in the field; the procurement, disbursement and control of funds.

**450-618 ISSUES IN ADULT EDUCATION.** (3) Selected issues related to policy, curriculum, and alternative models in adult education, with particular emphasis given to Quebec and Canadian settings.

**450-620 SELECTED TOPICS IN ADULT EDUCATION.** (3) Seminar on special topics such as adult literacy education, the education of handicapped adults, educational services to an aging population. Content of the seminar will vary from year to year.

**450-628 PRACTICUM IN ADULT EDUCATION.** (6) Observation of a skilled practitioner and supervised experience in an adult education setting.

**450-638 MONOGRAPH.** (6) An independent investigation of a topic in adult education leading to the submission of a substantial written report.

#### Courses in Other Departments

Students interested in statistical models and techniques in test theory are welcome to enrol in 204-510 (Dept. of Psychology):

#### 204-510 STATISTICAL ANALYSIS OF TESTS

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## 27 Electrical and Computer Engineering

Department of Electrical and Computer Engineering  
 McConnell Engineering Building  
 3480 University Street  
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 Canada

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 Fax: (514) 398-4470  
 Email: grad@ece.mcgill.ca  
 Website: <http://www.ece.mcgill.ca>

Chair — D.A. Lowther

Associate Chair (Director, Graduate Program) — J.P. Webb

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### 27.1 Staff

#### Emeritus Professors

E.L. Adler; B.Sc.(Lond.), M.A.Sc.(Tor.), Ph.D.(McG.), Eng.  
 G.W. Farnell; B.A.Sc.(Tor.), S.M.(M.I.T.), Ph.D.(McG.), F.I.E.E.E.,  
 Eng.  
 T.J.F. Pavlasek; B.Eng., M.Eng., Ph.D.(McG.), Eng.

#### Professors

P.R. Bélanger; B.Eng.(McG.), S.M., Ph.D.(M.I.T.), F.I.E.E.E., Eng.  
 P.E. Caines; B.A.(Oxon.), D.I.C., Ph.D.(Lond.), F.I.E.E.E.E.,  
 F.C.I.A.R.  
 C.H. Champness; M.Sc.(Lond.), Ph.D.(McG.) (part-time)  
 F.D. Galiana; B.Eng.(McG.), S.M., Ph.D.(M.I.T.), Eng.  
 P. Kabal; B.A.Sc., M.A.Sc., Ph.D.(Toronto)  
 T. Le-Ngoc; M.Eng.(McG.), Ph.D.(Ott.), F.I.E.E.E.  
 M.D. Levine; B.Eng.(McG.), Ph.D.(Lond.), F.C.I.A.R., Eng.  
 D.A. Lowther; B.Sc.(Lond.), Ph.D.(C.N.A.A.), F.C.A.E., Eng.  
 B.T. Ooi; B.E.(Adel.), S.M.(M.I.T.), Ph.D.(McG.), Eng.  
 N.C. Rumin; B.Eng., M.Sc., Ph.D.(McG.), Eng.  
 J.P. Webb; B.A., Ph.D.(Cantab.)

#### Associate Professors

B. Champagne; B.Eng., M.Eng.(Montr.), Ph.D.(Tor.)  
 J. Clark; B.Sc., Ph.D.(Br.Col.)  
 F. Ferrie; B.Eng., M.Eng., Ph.D.(McG.)  
 V. Hayward; Dip.d'Ing.(ENSM, Nantes), Doc.Ing.(Orsay), Eng.  
 H. Leib; B.Sc., M.Sc.(Technion-Israel), Ph.D.(Tor.)  
 S. McFee; B.Eng., Ph.D.(McG.)  
 H. Michalska; B.Sc., M.Sc.(Warsaw), Ph.D.(Lond.)  
 D. Plant; M.S., Ph.D.(Brown) (*James McGill Professor*)  
 G. Roberts; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.), Eng. (*James  
 McGill Professor*)  
 I. Shih; M.Eng., Ph.D.(McG.)

#### Assistant Professors

T. Arbel; M.Eng., Ph.D.(McG.)  
 J. Bajcsy; B.Sc.(Harv.), M.Eng., Ph.D.(Prin.)  
 B. Boulet; B.Sc.(Laval), M.Eng.(McG.), Ph.D.(Tor.)  
 L. Chen; B.Eng.(McG.), M.A.Sc., Ph.D.(Tor.)  
 J. Cooperstock; B.Sc.(Br.Col.), M.Sc., Ph.D.(Tor.)  
 M.El-Gamal; B.Sc.(Cairo), M.Sc.(Nashville), Ph.D.(McG.)  
 D. Giannacopoulos; M.Eng., Ph.D.(McG.)  
 A. Kirk; B.Sc.(Brist.), Ph.D.(Lond.) (*William Dawson Scholar*)  
 F. Labeau; M.S., Ph.D., (Louvain)  
 R. Negulescu; M.Sc.(Romania), M.Sc.(France), Ph.D.(Waterloo)  
 Z. Zelic; B. Eng.(Zagreb), M.Sc., Ph.D.(Toronto)

#### Lecturer

K.L. Fraser; B.Eng., M.Eng.(McG.), Eng.

#### Adjunct Professors

R. Bartnikas, M.L. Blostein, J.L. Bouchard, E. Cerny, S. Chamlian,  
 C. Charalambous, D. Grant, M. Huneault, C.K. Jen, G. Joos,  
 M. Kaplan, K. Khordoc, I.Leszkowicz, L. Lin, M. Marin, D. McGillis,  
 D. O'Shaughnessy, N. Puetz, J. Regnier, F. Rizk,  
 M.R. Soleymani.

#### Associate Members

M. Buehler (*Mechanical Engineering*); B. Segal; G. Dudek  
 (*Computer Science*); A.C. Evans, W.R. Funnell, H.L. Galiana,  
 J. Gotman, R.E. Kearney, B. Pike (*Biomedical Engineering*)

#### Visiting Professor

B. Prasada; M.Sc.(Ban), Ph.D.(Lond.)

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### 27.2 Programs Offered

The Department offers programs of graduate studies leading to a degree of Master of Engineering or Doctor of Philosophy.

An equivalent of one (1) calendar year of full time study is required to obtain a Master's in Engineering.





through space, refraction, diffraction, polarization, lens systems, ray-tracing, aberrations, computer-aided design and optimization techniques, Gaussian beam analysis, micro-optics and computer generated diffractive optical elements. Systems and applications will be stressed throughout.

● **304-528A TELECOMM. NETWORK ARCHITECTURE.** 3(3-0-6) (Prerequisite: 304-411 or 304-511. Corequisite: 304-509)

**304-529A IMAGE PROCESSING AND COMMUNICATION.** 3(3-0-6) (Prerequisite: 304-304) Introduction to vision in man and machine; computer vision systems; biological vision systems; biological signal processing; edge detection; spatial- and frequency-domain



The Graduate Units section is divided into six parts, for access to the others click on the link below to return to the Front Page of the Calendar.