

## 5 Anthropology

Department of Anthropology  
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Chair — Michael S. Bisson

### 5.1 Staff

#### Professors

Donald W. Attwood; A.B.(Calif.), Ph.D.(McG.)  
Fumiko Ikawa-Smith; B.A.(Tsuda), A.M.(Radcliffe), Ph.D.(Harv.)  
Margaret Lock; B.Sc.(Leeds), M.A., Ph.D.(Calif.) (*joint appt. with Social Studies of Medicine*)  
Jérôme Rousseau; M.A.(Montr.), Ph.D.(Cantab.)  
Philip Carl Salzman; A.B.(Antioch), M.A., Ph.D.(Chic.)  
Bruce G. Trigger; B.A.(Tor.), Ph.D.(Yale), F.R.S.C.  
Allan Young; B.A.(Penn.), M.A.(Wash.), Ph.D.(Penn.) (*joint appt. with Social Studies of Medicine*)

#### Associate Professors

Michael S. Bisson; B.A., M.A., Ph.D.(Calif.)  
Laurel Bossen; B.A.(Barnard), M.A., Ph.D.(SUNY, Albany)  
Ellen Corin; B.A., M.A., Ph.D.(Louvain) (*joint appt. with Psychiatry*)  
John Galaty; M.A., Ph.D.(Chic.)  
Carmen Lambert; B.A.(Montr.), M.A., Ph.D.(McG.)  
Toby Morantz; B.A.(Man.), M.A.(Br.Col.), Ph.D.(Tor.) (on leave 2000-01)  
James M. Savelle; B.Sc., M.Sc.(Ott.), M.A.(Ark.), Ph.D.(Alta.)  
Colin H. Scott; B.A.(Regina), M.A., Ph.D.(McG.) (on leave Jan.-Dec. 2000)

#### Assistant Professor

Kristin Norget; B.A.(Vic.,B.C.), M.Phil., D.Phil.(Cantab.)

### 5.2 Programs Offered

The Department offers training leading to the M.A. and Ph.D. in Anthropology. Admission is to the M.A. program, except when a student already holds a Master's degree. It is expected, however, that most applicants will be oriented towards achievement of the Ph.D.

The Department offers several alternative M.A. programs:

- 1) M.A. with thesis;
- 2) M.A. with research paper;
- 3) M.A. in Medical Anthropology, with or without thesis.

### 5.3 Admission Requirements

#### Master's

Admission to the M.A. program is open competitively to students holding an Honours or Major B.A. in Anthropology. Outstanding candidates with B.A. degrees in other disciplines but with substantial background related to anthropology are sometimes admitted on the condition that they complete a specified number of additional courses in Anthropology.

The applicants admitted usually have undergraduate Grade Point Averages of 3.5 or above on a 4.0 point scale.

#### Ph.D.

Admission to the Ph.D. program is open competitively to students with a Master's degree in Anthropology. In very special circumstances candidates with Master's degrees in related disciplines may be admitted.

### 5.4 Application Procedures

The deadlines for receipt of all application material for September admission are as follows: those applying for admission and McGill Fellowships – January 1; those applying only for admission – February 15.

Applications will be considered upon receipt of:

1. Graduate Faculty Application Form;
2. application fee, official transcripts;
3. two letters of recommendation;
4. statement of research interests (including reasons for wanting to pursue them at McGill); and
5. test results (GRE, TOEFL), if required.  
(Canadian applicants are exempted from the GRE.)  
(For international students, a minimum TOEFL score of 550 is required by Graduate Faculty.)

The Department admissions committee announces its selections by April 1.

A number of teaching assistantships are available to graduate students in the Department. Applicants who wish to be considered for an assistantship, a McGill Recruitment Fellowship, or for Differential Fee Waivers (for international students) should include a note to that effect with their applications. For information regarding a variety of other fellowship programs, see the "Graduate Fellowships and Awards" section of the Faculty of Graduate Studies and Research Calendar.

Application packets, including a brochure on the Department, are available directly from the Administrative Assistant of the Department.

### 5.5 Program Requirements

#### M.A. Degree

The purpose of the M.A. program is to provide advanced level training in anthropology and to prepare students for research at the Ph.D. level.

#### M.A. Degree with Thesis (48 credits)

The Master's degree with thesis is a 48-credit program: 4 courses (12 credits) and the M.A. thesis (36 credits).

The student's program of work, which is based on his/her research interests, is developed in consultation with the student's supervisor and the two other members of his or her advisory committee. Students are required to take four courses in the form of seminars and/or tutorials. The set of four courses should be directed toward and converge in the thesis research. M.A. thesis research may take the form of fieldwork but a library thesis is strongly advised so that students can proceed more rapidly to the Ph.D.

#### M.A. Degree with Research Paper (45 credits)

The Master's degree with research paper is a 45-credit program: 5 courses (15 credits), Proseminar (6 credits) and the research paper (24 credits).

The student's program of work is developed in consultation with the student's supervisor and the two other members of his or her advisory committee. It consists of: five courses (seminars or tutorials), only one of which is optional, a research paper proposal and the research paper. They must also attend the Proseminar. The research paper will normally be based on library research but can involve limited and preferably local fieldwork. The research paper should demonstrate the student's ability to define a problem, place it in a theoretical and factual context, collect and analyze data, and write up a report.

#### M.A. Degree in Medical Anthropology (48 credits)

The M.A. program in Medical Anthropology is given jointly by the Department of Anthropology and the Department of Social Studies of Medicine (SSOM). For additional information, including seminar offerings, please refer to the SSOM section.

The program is open to students with backgrounds in the social sciences, the medical professions, or the medical sciences. The M.A. degree is awarded by the Anthropology Department and admission is granted by a joint admissions committee made up of representatives from Anthropology and SSOM. Within the medical anthropology program, candidates will apply for permission to take one of the following courses of study:

**a) M.A. with Thesis**

This course of study is taken by students with an academic background in anthropology. Course and thesis requirements are the same as described in the M.A. in Anthropology, with thesis, with the following differences: students are required to take two Seminars in Medical Anthropology (522-605, 151-615), as two of their four courses.

**b) M.A. with Research Paper**

This option is offered as an alternative for students with a background in Anthropology. Students are required to take five courses: two Seminars in Medical Anthropology (522-605, 151-615) as well as the following courses in anthropology: Theory I, Research Methods, and Quantitative Methods. They must also attend the Anthropology Proseminar. In addition, students are required to write a research paper.

**c) Special M.A. with Research Paper**

This course of study is taken by students who lack a strong academic background in anthropology. These students are required to take eight courses (24 credits), including two seminars in Medical Anthropology (522-605, 151-615) and at least five additional graduate courses in anthropology (Theory I and Research Methods are recommended). In addition, students are required to write a research paper.

**Ph.D. Degree**

The purpose of the Ph.D. program is to enable a student to make an original contribution to anthropological research in the form of a doctoral thesis. This must be based on a comprehensive understanding of prior research relevant to the topic investigated.

All requirements for the M.A. must be completed. Students holding an M.A. from another department may be requested to take seminars covering deficiencies in their previous training. Those who hold an M.A. without thesis are required to take 2 extra courses (Advanced Theory and Advanced Methods) in either Anthropology or Archaeology.

Candidates must (1) pass a language exam; (2) demonstrate comprehensive understanding of prior research in three subfields of anthropology through the successful completion of three courses; these courses are the Ph.D. Tutorials listed below; (3) submit and orally defend a research proposal; and (4) carry out field research and submit an original thesis for examination and oral defense.

- 1) A language examination, normally French, must be passed before an oral examination of the research proposal may be scheduled. Francophone students can satisfy the language requirement by demonstrating competency in English. The purpose of the language requirement is to ensure that the student has access to anthropological literature in at least two languages. Under special circumstances, a language other than English or French may be substituted, provided that there is sufficient anthropological literature on the student's research topic in that language.
- 2) Within the first year of Ph.D. study, students will select a thesis supervisor and at least two other thesis committee members. One of the latter may be from outside the Department. The committee as a whole helps the student to develop a topic for research, to learn the state of the art regarding the topic, and to write a research proposal. To ensure that students understand prior research, they must define three subfields which intersect with the thesis topic. One of these subfields is usually the literature on the geographic region where fieldwork will be carried out. One or more committee members will tutor the student in each selected subfield, and the student will prepare a

bibliography of works read and discussed as well as a concise evaluation of the material covered in each. This written work will demonstrate understanding of prior research in each subfield.

- 3) The thesis proposal is also prepared in consultation with the committee members and under the direction of the thesis supervisor. It contains a brief review of the literature and controversies in the three relevant subfields, and a discussion of the proposed research (background, methods and hypotheses to be tested). When the proposal is finished, it must be read and approved by all members of the committee before it is submitted for oral examination. Copies of the proposal and of the bibliographies relating to the three subfields must be made available to all professors in the Department at least one week before the hearing.

The oral examination of the proposal and the three subfields is open to all staff and students. The first part of the examination will explore the student's general understanding of the three subfields selected. In the second part, the student may be questioned on the merits of any part of the proposal: theoretical assumptions, hypotheses, methods, understanding of the literature.

- 4) If the proposal is passed, the student will then carry out field research and write a thesis. Thesis drafts are read and commented on by the thesis committee. When the thesis is ready for examination, it is submitted to the Graduate Faculty, which appoints an internal examiner (usually from within the Department) and an external examiner (an acknowledged authority in the field from outside the university). If both examiners approve the thesis, an oral defense is arranged before a committee appointed by Graduate Faculty.

## 5.6 Courses for Higher Degrees

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

N.B. Most of these are 3-credit courses that take the form either of seminars or tutorials, some of which may be spread over two terms, according to need. Please contact Department for a current course list.

**151-547A,B,D EARLY PREHISTORY OF THE NEW WORLD. (3)**

**151-552A,B,D PROBLEMS IN THE PREHISTORY OF EASTERN NORTH AMERICA. (3)**

**151-602A,B,D THEORY I. (3)**

**151-603A,B,D THEORY II. (3)**

**151-605A,B,D CULTURE AREA. (3)**

**151-607D PROSEMINAR IN ARCHAEOLOGY. (6)**

**151-609D PROSEMINAR IN ANTHROPOLOGY. (6)**

**151-610A,B,D SOCIAL ORGANIZATION. (3)**

**151-611A,B,D RESEARCH DESIGN. (3)**

**151-612A,B,D KINSHIP. (3)**

**151-614A,B,D ECONOMIC ANTHROPOLOGY. (3)**

**151-615A,B,D SEMINAR IN MEDICAL ANTHROPOLOGY. (3)**

**151-616A,B,D POLITICAL ANTHROPOLOGY. (3)**

**151-618A,B,D STRATIFICATION. (3)**

**151-620A,B,D ETHNICITY. (3)**

**151-625A,B,D CULTURAL ECOLOGY. (3)**

**151-630A,B,D SOCIAL CHANGE. (3)**

**151-631A,B,D SYMBOLIC ANTHROPOLOGY. (3)**

**151-633A,B,D WOMEN AND DEVELOPMENT. (3)**

**151-634A,B,D ANTHROPOLOGY OF DEVELOPMENT I. (3)**

**151-635A,B,D ANTHROPOLOGY OF DEVELOPMENT II. (3)**

**151-636A,B,D URBANIZATION. (3)**

**151-638A,B,D COMPLEX SOCIETIES. (3)**

**151-640A,B,D PSYCHOLOGICAL ANTHROPOLOGY. (3)**

**151-642A,B,D ANTHROPOLOGY OF EDUCATION. (3)**

**151-646A,B,D COGNITIVE ANTHROPOLOGY. (3)**

- 151-647A,B,D PEOPILING OF THE AMERICAS. (3)  
 151-648A,B,D STRUCTURAL ANTHROPOLOGY. (3)  
 151-650A,B,D ANTHROPOLOGY OF RELIGION. (3)  
 151-651A,B,D ANTHROPOLOGY AND HISTORY. (3)  
 151-652A,B,D ANTHROPOLOGY AND GENDER. (3)  
 151-653A,B,D ANTHROPOLOGY, LANGUAGE AND COGNITION. (3)  
 151-654A,B,D ANTHROPOLOGY OF CHINA. (3)  
 151-656A,B,D ANTHROPOLOGY OF ART. (3)  
 151-660A,B,D RESEARCH METHODS. (3)  
 151-665A,B,D QUANTITATIVE METHODS IN ANTHROPOLOGY. (3)  
 151-670A,B,D ARCHAEOLOGICAL THEORY I. (3)  
 151-671A,B,D ARCHAEOLOGICAL THEORY II. (3)  
 151-673A,B,D ARCHAEOLOGICAL FIELD METHODS. (3)  
 151-674A,B,D ARCHAEOLOGICAL LABORATORY METHODS. (3)  
 151-676A,B,D ARCHAEOLOGICAL AREA. (3)  
 151-678A,B,D ETHNOHISTORY. (3)  
 151-680A,B,D M.A. TUTORIAL READING. (3)  
 151-681A,B,D M.A. TUTORIAL READING. (3)  
 151-682A,B,D M.A. TUTORIAL READING. (3)  
 151-683A,B,D M.A. TUTORIAL READING. (3)  
 151-684A,B,D M.A. TUTORIAL READING. (3)  
 151-685A,B,D RESEARCH TUTORIAL 1. (3)  
 151-686A,B,D RESEARCH TUTORIAL 2. (3)  
 151-687A,B,D RESEARCH TUTORIAL 3. (3)  
 151-688A,B,D RESEARCH TUTORIAL 4. (3)  
 151-690A RESEARCH PAPER I. (6)  
 151-691B RESEARCH PAPER II. (6)  
 151-692B RESEARCH PAPER III. (6)  
 151-693B RESEARCH PAPER IV. (6)  
 151-694A,B M.A. THESIS TUTORIAL I. (6)  
 151-695A,B M.A. THESIS TUTORIAL II. (6)  
 151-696A,B,D M.A. RESEARCH PAPER. (15)  
 151-699A,B,D M.A. THESIS. (24)  
 151-700D PH.D. PRELIMINARY EXAMINATION.  
 151-702A,B,D ADVANCED ANTHROPOLOGICAL THEORY. (3)  
 151-760A,B,D ADVANCED ANTHROPOLOGICAL METHODS. (3)  
 151-770A,B,D ADVANCED ARCHAEOLOGICAL THEORY. (3)  
 151-773A,B,D ADVANCED ARCHAEOLOGICAL METHODS. (3)  
 151-780A,B,D READING AND RESEARCH. (3)  
 151-781A,B,D READING AND RESEARCH. (3)  
 151-790 A,B,D PH.D. TUTORIAL 1. (3)  
 151-791 A,B,D PH.D. TUTORIAL 2. (3)  
 151-792 A,B,D PH.D. TUTORIAL 3. (3)

## 6 Architecture

School of Architecture  
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 Canada

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Director — David Covo  
 Chair, Graduate Program — Vikram Bhatt

### 6.1 Staff

#### Emeritus Professors

John Bland; B.Arch.(McG.), A.A. Dipl., D.Sc.(Carl.), R.C.A.,  
 F.R.A.I.C., O.A.Q.

Norbert Schoenauer; B.Arch.(Bud.), M.Arch.(McG.), R.C.A.,  
 F.R.A.I.C., O.A.Q., C.U.Q., M.C.I.P. (*William C. Macdonald  
 Emeritus Professor of Architecture*)  
 Harold Spence-Sales; B.A.(Well.), A.A.Dipl., L.L.D.(S. Fraser)

#### Professors

Bruce Anderson; B.Arch.(McG.), M.Arch.(Harv.), F.R.A.I.C.,  
 O.A.Q., A.A.P.P.Q.  
 Vikram Bhatt; N.Dip Arch.(Ahmed.), M.Arch.(McG.), M.R.A.I.C.  
 Derek Drummond; B.Arch.(McG.), F.R.A.I.C., O.A.Q., O.A.A.  
 (*William C. Macdonald Professor of Architecture*)  
 Alberto Pérez-Gómez; Dipl.Eng.(Nat.Pol.Inst.Mexico), M.A.,  
 Ph.D.(Essex) (*Saidye Rosner Bronfman Professor of  
 Architectural History*)  
 Radoslav Zuk; B.Arch.(McG.), M.Arch.(M.I.T.), D.Sc.(U.A.A.),  
 F.R.A.I.C., O.A.Q., O.A.A.

#### Associate Professors

Annamarie Adams; B.A.(McG.), M.Arch., Ph.D.(Calif.), M.R.A.I.C.  
 Ricardo Castro; B.Arch.(Los Andes, Col.), M.Arch., M.A.(Oregon),  
 M.R.A.I.C.  
 David Covo; B.Sc.(Arch.), B.Arch.(McG.), F.R.A.I.C., O.A.Q.  
 Avi Friedman; B.Arch.(Technion), M.Arch.(McG.), Ph.D.(Montr.),  
 O.A.Q., I.A.A.  
 Robert Mellin; B.Arch., M.Sc.(Arch.) (Penn.State), M.Arch.(McG.),  
 M.Sc., Ph.D.(U.Penn.), M.R.A.I.C., N.A.A.  
 Adrian Sheppard; B.Arch.(McG.), M.Arch.(Yale), O.A.Q.,  
 A.A.P.P.Q., F.R.A.I.C.  
 Pieter Sijpkes; B.Sc.(Arch.), B.Arch.(McG.)

#### Adjunct Professors

Manon Asselin, Julia Bourke, Joseph Baker, Nathalie David,  
 Howard Davies, François Dufaux, Gordon Edwards,  
 François Émond, Julia Gersovitz, Dan Hanganu, Alka Jain,  
 Phyllis Lambert, Seymour Levine, Harry Mayerovitch,  
 Serge Melanson, Joanna Nash, Daniel Pearl, Mark Poddubiuk,  
 Daniella Rohan, Jacques Rousseau, Richard Russell,  
 Robert Stanley, Robert Thibodeau, Catherine Vezina,  
 Fred Weiser, Samson Yip, Jozef Zorko

### 6.2 Programs Offered

M.Arch.I (professional), M.Arch. II (post-professional), Graduate  
 Diploma in Housing, Ph.D.

The professional M.Arch.I replaces the Bachelor of Architecture  
 degree, which is accredited by the CACB for a five-year period to  
 December 31, 2000, and recognized as accredited by the National  
 Accreditation Board (NAAB) in the U.S.A.

There are two areas of study in the M.Arch.II and Ph.D.  
 programs: Architectural History and Theory, and Housing (which  
 includes Affordable Homes, Domestic Environments, and Mini-  
 mum Cost Housing).

Information concerning the duration of programs, documents  
 required of applicants, etc., may be obtained from:  
 mlanni@po-box.mcgill.ca (M.Arch.I), mking@po-box.mcgill.ca  
 (M.Arch.II and Graduate Diploma in Housing), or hdyer@po-  
 box.mcgill.ca (Ph.D.)

#### Architectural Certification in Canada

In Canada, all provincial associations recommend a degree from  
 an accredited professional degree program as a prerequisite for  
 licensure. The Canadian Architectural Certification Board (CACB),  
 which is the sole agency authorized to accredit Canadian profes-  
 sional degree programs in architecture, recognizes two types of  
 accredited degrees: the Bachelor of Architecture and the Master of  
 Architecture. A program may be granted a five-year, three-year, or  
 two-year term of accreditation, depending on its degree of con-  
 formance with established educational standards.

Masters degree programs may consist of a pre-professional  
 undergraduate degree and a professional graduate degree, which,  
 when earned sequentially, comprise an accredited professional  
 education. However, the pre-professional degree is not, by itself,  
 recognized as an accredited degree.

Since all provincial associations in Canada recommend any  
 applicant for licensure to have graduated from a CACB-accredited

program, obtaining such a degree is an essential aspect of preparing for the professional practice for architecture. While graduation from a CACB-accredited program does not assure registration, the accrediting process is intended to verify that each accredited program substantially meets those standards that, as a whole, comprise an appropriate education for an architect.

### 6.3 Admission Requirements

#### M.Arch. I (professional) Program

Students holding the McGill B.Sc.(Arch.) degree, or equivalent, with a cumulative grade point average of at least 3.0, are eligible to apply for admission.

#### M.Arch. II (post-professional) and Graduate Diploma in Housing

Students holding an accredited professional degree in architecture, or equivalent, with a cumulative grade point average of at least 3.0, are eligible to apply for admission. In special cases, candidates with a degree in a related field may be considered.

#### Ph.D.

Candidates with high standing in McGill's M.Arch.II, or who hold an equivalent degree from another university, are eligible to apply to this program. Those who do not have an appropriate background in the chosen research area may be admitted to Ph.D.I. Candidates who have an adequate background at the post-professional Master's level in the proposed area of research will be admitted to Ph.D.II.

A working knowledge of a language or languages relevant to the area of research may be required.

### 6.4 Application Procedures

#### Professional Master of Architecture: M.Arch.I

##### McGill B.Sc.(Arch.) Graduates:

1. Completed and signed application form.
2. Work experience reports.
3. A non-refundable application fee of \$60 (Cdn) made payable to McGill University.

##### Others:

1. Completed and signed application form.
2. A non-refundable application fee of \$60 (Cdn) made payable to McGill University.
3. Two sets of official transcripts sent directly from previous university programs.
4. Two confidential letters of reference sent directly by the referees to the School of Architecture.
5. Course calendar descriptions of previous college and/or university studies.
6. A portfolio (8 1/2" x 11" format) containing the following:
  - samples of studio work from previous studies,
  - samples of freehand drawing and sketching,
  - samples of professional work.
7. Proof of English language proficiency – minimum TOEFL score of 550 (or 213 on the computerized test). Please refer to Graduate Studies General Information section #[CR].

##### Post-professional programs:

#### M.Arch. II, Ph.D. and Graduate Diploma in Housing

1. Completed and signed application form.
2. A non-refundable application fee of \$60 (Cdn) made payable to McGill University.
3. Two sets of official transcripts sent directly from previous university attended.
4. Two confidential letters of reference sent directly by the referees to the School of Architecture.
5. A statement indicating the option chosen and the general area of research to be undertaken. Ph.D. applicants must submit a 3-page research proposal.
6. A portfolio (8½" x 11" format) containing at least five examples of the applicant's work. Folded drawings are unacceptable.

7. At least one example of a report or paper written by the applicant.
8. Proof of English language proficiency (TOEFL) – minimum score of 550 (or 213 on the computerized test). Please refer to Graduate Studies General Information section #[CR].

### 6.5 Program Requirements

#### M.Arch. I

McGill's professional program in Architecture is structured as a four-and-a-half-year, or nine-semester, course of study divided into two parts. The first part is a six-semester design program leading to a non-professional degree, Bachelor of Science (Architecture). Further information on the B.Sc.(Arch.) Program is contained in the Faculty of Engineering Undergraduate calendar, available at <http://www.aro.mcgill.ca>. The second part, for students with the B.Sc.(Arch.) degree, or the equivalent, is the professional Master of Architecture program.

The professional Master of Architecture program is a one-and-a-half year, or three-semester course of studies leading to the M.Arch. I degree.

#### M.Arch.I Program of Study (45 credits)

- 301-550 (3) Urban Planning I
- 301-551 (3) Urban Planning II
- 301-554 (2) Mechanical Services
- 301-555 (2) Environmental Acoustics
- 301-671 (4) Design Research and Methodology
- 301-672 (6) Architectural Design I
- 301-673 (8) Architectural Design II
- 301-674 (2) Professional Practice I
- 301-675 (2) Professional Practice II
- 301-676 (2) Specifications and Building Costs
- 301-678 (3) Advanced Construction
- 301-679 (1) Architectural Journalism
- 301-680 (1) Sketching School II

6 credits of complementaries/electives, of which a minimum of 3 credits must be from an architectural complementary.

Unless otherwise indicated, the above courses are restricted to students in the professional program.

#### M.Arch.II

The post-professional Masters (M.Arch.II) is open to applicants who have a professional degree in architecture. Students holding the McGill B.Arch. (former) or M.Arch.I (new) degree, or an equivalent professional qualification, with a CGPA of at least 3.0 on a 4.0 point scale, are eligible for admission to the graduate programs. In special cases, applicants with a degree in a related field may be considered. The primary requirement for the M.Arch.II is 30 credits of course work, to be completed in the first two terms, and a 15-credit project report that can be completed during the summer, or in the following fall term. The residence requirement for the M.Arch.II degree is three academic semesters, making it possible for students who elect to work on their project report in the summer term to obtain their degree after twelve calendar months in the program.

#### Ph.D.

Doctoral candidates must have their thesis proposal approved by an Advisory Committee before embarking on their research. Upon completion of Progress Report I (301-701), a comprehensive research proposal is required. Candidates will submit two further reports in formal meetings with the Committee, who will review the work in progress (courses 301-702 and 301-703). The final meeting takes place after a review of the full draft of the dissertation by the Advisory Committee. If approved, the dissertation will then be submitted to the Thesis Office. Acceptance of the thesis by the examiners is followed by an oral defense.

#### Graduate Diploma in Housing

The Graduate Diploma in Housing is open to applicants who have a professional degree in architecture. The Diploma program is a

two-semester program which is intended for professionals who have worked in the area of housing in North America or in the developing world. The program is designed for those who, while wishing to advance their knowledge in the housing field, are not able, or inclined, to undertake studies towards a Master's degree.

## 6.6 Courses

- Denotes not offered 2000-01.

**301-520B MONTREAL: URBAN MORPHOLOGY.** 3(2-1-6) (Prerequisite: 301-251B) Historical, geographical, demographical, and regional evolution of the metropolis of Montreal. Topics include: important *quartiers*, the Montreal urban grid, industrialization, reform movements, geographical diversity, and urban culture, local building techniques and materials, basic concepts of urban morphology and their relationships to the contemporary urban context. Section 01 reserved for Architecture students. Section 02 reserved for others, limited enrolment. **Professor Rohan**

- **301-521B STRUCTURE OF CITIES.** 3(2-0-7)

**301-522A HISTORY OF DOMESTIC ARCH. IN QUEBEC.** 3(2-0-7) (Prerequisite: 301-251B) The architecture of houses in Quebec from 1650 to the present. Distinguished buildings are reviewed from the point of view of form, style, siting and material, as influenced by climate, culture and architectural antecedents in France, England and the United States. The course material is presented through alternating bi-weekly lectures and seminars. Limited enrolment; password card required. **Professor Anderson**

- **301-523B SIGNIFICANT TEXTS & BUILDINGS.** 3(2-0-7) (Prerequisite: 301-251B) (Alternating with 301-524B)

**301-524B SEMINAR ON ARCHITECTURAL CRITICISM.** 3(2-0-7) (Prerequisite: 301-251B) (Alternating with 301-523B) The development and current role of architectural criticism with particular reference to its affinities with art and literary criticism. Limited enrolment; password card required. **Professor Castro**

**301-525A SEMINAR ON ANALYSIS AND THEORY.** 3(2-0-7) Analysis and evaluation of significant architectural projects with reference to contemporary architectural theories. Limited enrolment; password card required. **Professor Zuk**

**301-526B PHILOSOPHY OF STRUCTURE.** 3(2-0-7) (Prerequisite: 301-202B or permission of instructor.) Philosophy of Structure aims to investigate structure in its broadest sense. The course is divided in two halves; the first one gives an overview of the development of theoretical structural frameworks such as mathematics and geometry, while the second one highlights physical structures constructed by nature (geology, turbulence), man or animals. Section 01 reserved for Architecture students. Section 02 reserved for others; password card required. **Professor Sijpkes**

**301-527B CIVIC DESIGN.** 3(2-0-7) The elements of form in buildings and their siting design in the urban setting. Section 01 reserved for Architecture students. Section 02 reserved for others. **Professor Drummond**

**301-528A HISTORY OF HOUSING.** 3(2-0-7) Indigenous housing both transient and permanent, from the standpoint of individual structure and pattern of settlements. Principal historic examples of habitat including housing in the age of industrial revolution, and contemporary housing. Section 01 reserved for B.Sc.(Arch.) students. Section 02 reserved for Masters of Architecture students. Section 03 reserved for Urban Planning students. Section 04 reserved for Urban Systems students. Section 05 reserved for Engineering students. **Professor Sijpkes**

**301-529B HOUSING THEORY.** 3(2-0-7) (Prerequisite: 301-528A) A review of environmental alternatives in housing; contemporary housing and the physical and sociological determinants that shape it; Canadian housing. Section 01 reserved for Architecture students. Section 02 reserved for others. **Professor Schoenauer**

**301-531A ARCH. INTENTIONS FROM VITRUVIUS TO RENAISSANCE.** 3(2-0-7) (Prerequisite: 301-251B) Architectural intentions embodied in buildings and writings of architects from Antiquity to the Renaissance. Special emphasis is placed on the cultural connections

of architecture to science and philosophy. Section 01 reserved for Architecture students. Section 02 reserved for others.

**Professor Perez-Gomez**

**301-532B ORIGINS OF MODERN ARCHITECTURE.** 3(2-0-7) (Prerequisite: 301-251B) Examination of architectural intentions (theory and practice) in the European context (especially France, Italy and England), during the crucial period that marks the beginning of the modern era. Section 01 reserved for Architecture students. Section 02 reserved for others. **Professor Perez-Gomez**

**301-540A,B SELECTED TOPICS IN ARCHITECTURE I.** 3(2-0-7)

A course to allow the introduction of new topics in Architecture as needs arise, by regular and visiting staff. **Staff**

**301-541A,B SELECTED TOPICS IN ARCHITECTURE II.** 3(2-0-7)

A course to allow the introduction of new topics in Architecture as needs arise, by regular and visiting staff. **Staff**

**301-550B URBAN PLANNING I.** 3(2-0-7) (Prerequisite: B.Sc.(Arch.) or permission of instructor.) Theory and practice. An examination of different basic approaches to urban planning with special reference to Quebec. Section 01 reserved for Architecture students. Section 02 reserved for others, limited enrolment, password card required. **Staff**

**301-551A URBAN PLANNING II.** 3(2-0-7) (Prerequisite: 301-550B) Urban design and project development, theory and practice. Detailed analysis of selected examples of the development process and of current techniques in urban design. Includes case studies from Quebec and elsewhere. Section 01 reserved for Architecture students. Section 02 reserved for others, limited enrolment, password card required. **Staff**

**301-554A MECHANICAL SERVICES IN BUILDINGS.** 2(2-0-4) (Prerequisite: 301-405A or permission of instructor.) Problems encountered in providing mechanical services in buildings. Physiological and environmental aspects of heat, ventilation and air conditions, estimation of heating and cooling loads and selection and specification of equipment. Sprinkler systems and plumbing. Construction problems produced by installations of this equipment. Section 01 reserved for Architecture students. Section 02 reserved for others, limited enrolment, password card required. **Professor Levine**

**301-555B ENVIRONMENTAL ACOUSTICS.** 2(2-0-4) (Prerequisite: 301-405A or permission of instructor.) Acoustics in architectural design, and in environmental control of buildings. Acoustical requirements in the design of auditoria such as theatres, lecture halls, opera houses, concert halls, churches, motion picture theatres, studios. Principles of noise and vibration control, sound insulating in building construction. Practical noise control in various types of buildings. Section 01 reserved for Architecture students. Section 02 reserved for others, limited enrolment, password card required. **Professor Melanson**

**301-622A CRITICAL WRITING.** 3(2-1-6) Seminar to critically review an architectural topic. **Professor Perez-Gomez**

**301-623B PROJECT PREPARATION.** 3(2-1-6) Guided background preparation for the project. **Professors Adams, Bhatt, Friedman and Perez-Gomez**

**301-624C HISTORY & THEORY PROJECT.** 15(0-15-30) Visit of a chosen city for a minimum of 2 weeks. The course work includes three separate stages: 1) surveying, 2) preparation of text and architectural drawings, and 3) development of an alternative guide to the city. **Professor Perez-Gomez**

**301-627A RESEARCH METHODS.** 3(2-1-6) Different approaches and research methods in housing. Setting of goals and objectives, identification of appropriate research methods, collection and evaluation of information, analysis and synthesis of data, and presentation of the findings. **Professors Adams, Bhatt and Friedman**

**301-628C HOUSING PROJECT REPORT.** 15(0-15-30) A supervised project report based on material developed by candidates in the project preparation course. It may include on-site explorations of housing projects, surveying and documentation, critical analysis, and creative mapping of the same, plus an evaluation report.

**Professors Adams, Bhatt and Friedman**

**301-630A, 301-631B HOUSING SEMINAR I, II.** 3(2-0-7) Strategies for affordable and low-cost housing. Investigation of cost-saving measures both at urban and dwelling unit levels. An analysis of recent low-cost housing projects. **Professors Adams, Bhatt and Friedman**

**301-634B HOUSING REPORT.** 6(2-10-6) Human settlements problems in poverty areas; design of components and servicing systems for low cost housing; economic and technological evaluation of housing designs. Lectures and studio work leading to a comprehensive project report. **Professor Bhatt**

**301-635A,B SELECTED TOPICS IN HOUSING I.** 3(3-0-6) Special topics related to housing. **Professors Adams, Bhatt and Friedman**

**301-636A,B SELECTED TOPICS IN HOUSING II.** 3(3-0-6) Special topics related to housing. **Professors Adams, Bhatt and Friedman**

**301-644C SHELTER FIELD OPERATIONS.** 6(0-0-18) Fieldwork related to housing research. **Professors Adams, Bhatt and Friedman**

**301-645A, 301-646B HOUSING PROJECT I, II.** 6(2-10-6) Innovative housing designs; lectures and studio work leading to a design project. **Professors Bhatt and Friedman**

**301-650A ARCHITECTURAL HISTORY SEMINAR I.** 8(3-5-16) Western Architectural history from Antiquity to the Renaissance. A hermeneutic reading of primary sources, i.e. a section or chapter of an historical treatise, a frontispiece or image, in the framework of recent scholarship on the subject. **Professor Perez-Gomez**

**301-651B ARCHITECTURAL HISTORY SEMINAR II.** 8(3-5-16) Early Modern European theory of architecture, 17th - 19th centuries. A hermeneutic reading of primary sources, i.e. a section or chapter of an historical treatise, a frontispiece or image, in the framework of recent scholarship on the subject. **Professor Perez-Gomez**

**301-652A ARCHITECTURAL THEORY SEMINAR I.** 4(4-0-8) Phenomenology and hermeneutics. **Professor Perez-Gomez**

**301-653B ARCHITECTURAL THEORY SEMINAR II.** 4(4-0-8) The experience of modernity in cultural criticism, philosophy, literature and art. **Professor Perez-Gomez**

**301-671B DESIGN RESEARCH AND METHODOLOGY.** 4(1-4-7) An architectural design problem is selected, bibliographic research undertaken, site selection established: program developed and theoretical approach evolved in preparation for course 301-673A. **Professor Mellin**

**301-672A ARCHITECTURAL DESIGN I.** 6(2-10-6) A series of complex architectural and urban design issues are addressed with the intention of improving the student's facility to critically assess existing design solutions, to seek alternatives and to articulate clearly the rational and the impact of alternative proposals. **Staff**

**301-673A ARCHITECTURAL DESIGN II.** 8(2-14-8) (Prerequisite: 301-671 and 301-672) An individual, student-selected and faculty-approved study of complex architectural design objectives involving site and building program constraints, the integration of building systems and the demonstration of comprehensive design and presentation skills. **Staff**

**301-674A PROFESSIONAL PRACTICE I.** 2(2-0-4) The architect's relationship to his/her client: responsibility, business conduct, supervision, arbitration, issuing of certificates, competitions, standard forms of contracts, payments, liens, servitudes, public health, building regulations, fees. **Professor Sheppard**

**301-675B PROFESSIONAL PRACTICE II.** 2(2-0-4) (Prerequisite: 301-674A) The construction process will be examined. Topics include project and construction management, contracting methods, tendering, sureties, site safety, negotiations, cost control, quality control, delay claims, legal hypothecs. Standard documentation and procedures will be reviewed, including CCDC contract, OAQ forms, CSC MasterFormat. **Professor Stanley**

**301-676B SPECIFICATIONS AND BUILDING COSTS.** 2(2-0-4) Principles of writing architectural specifications; discussion of actual specifications and practice in specifying for common trades;

essays on common building materials; costing of materials and building assemblies. **Professor Poddubiuk**

**301-678A ADVANCED CONSTRUCTION.** 3(2-0-7) (Prerequisite: 301-674A) An exploration of construction in relation to architectural design; research in advanced methods of construction and structure related to design problems and built projects; appropriate technologies and alternatives. **Professor Pearl**

**301-679A ARCHITECTURAL JOURNALISM.** 1(0-0-3) (Prerequisite: 301-674A) The project deals with the review and criticism of a recently constructed controversial building, **Staff**

**301-680A SKETCHING SCHOOL II.** 1(0-0-3) An eight-day supervised field trip in the late summer to sketch places or things having specific visual characteristics. **Professors Castro and Covo**

**301-690A,B,C THESIS RESEARCH I.** 3(0-2-7) Ongoing research pertaining to thesis. **Staff**

**301-691A,B,C THESIS RESEARCH II.** 6(0-2-16) Ongoing research pertaining to thesis. **Staff**

**301-692A,B,C THESIS RESEARCH III.** 6(0-2-16) Ongoing research pertaining to thesis. **Staff**

**301-693A,B,C THESIS RESEARCH IV.** 12(0-2-34) Ongoing research pertaining to thesis. **Staff**

**301-700 PRELIMINARY PH.D. EXAMINATION.**

**301-701 PROGRESS REPORT I.**

**301-702 PROGRESS REPORT II.**

**301-703 PROGRESS REPORT III.**

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## 7 Art History

Department of Art History and Communications Studies  
Arts Building  
853 Sherbrooke Street West  
Montreal, QC H3A 2T6  
Canada

Telephone: (514) 398-6541

Fax: (514) 398-7247

Website: [http://www.mcgill.ca/programs/art\\_history](http://www.mcgill.ca/programs/art_history)

*Chair* — Christine Ross

*Director, Art History Graduate Studies* — H. J. Böker

*Director, Communication Studies* — Dr. W. Straw

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### 7.1 Staff

*Emeritus Professor*

G. Galavaris; M.A.(Athens), M.F.A., Ph.D.(Prin.), F.R.S.C.

*Professors*

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

J.M. Fossey; B.A.(Birm.), D.U.(Lyon II)

*Associate Professors*

D. Crowley; B.A.(John H.), M.Sc.(Penn.), Ph.D.(McG.)

T.L. Glen; B.A.(McG.) M.F.A., Ph.D.(Prin.) (*on leave Jan. to June 2001*)

C. Ross; M.A.(C' dia.), Ph.D.(Paris I) (*on leave Jan. to June 2001*)

W. Straw; B.A.(Car.), M.A., Ph.D.(McG.)

*Assistant Professor*

T. Chang; B.A.(McG.), M.A.(Tor.), Ph.D.(Sussex)

*Adjunct Professors*

D. W. Booth; B.A., M.A., M.Phil., Ph.D.(Toronto)

J. Lamoureux; B.A., M.A.(UdM), Ph.D.(E.H.E.S.S. Paris)

L. De Moura Sobral; M.A., Ph.D.(Louvain)

C. Naubert-Riser; B.A., M.A.(Ottawa), Ph.D.(Lyon III)

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### 7.2 Programs Offered

M.A. and Ph.D.

Areas of Specialization:

1. Classical and Aegean Archaeology

2. Greek Epigraphy
3. Archaeological Methods and Archaeometry
4. Western Medieval Art
5. Medieval Architecture
6. Post Medieval Architecture
7. Renaissance Art
8. Baroque Art
9. Late Eighteenth, Nineteenth and Early Twentieth-Century Art
10. The Art of W.W. I to the Present
11. Canadian Art
12. Methodology
13. Feminist Art History

For programs in Communications refer to [section 18](#).

### 7.3 Admission Requirements

Entrance into either the M.A. or Ph.D. programs is limited to the best qualified applicants. A minimum CGPA of 3.3 or the equivalent, i.e. 75%, is required.

To apply to the M.A. program, candidates are normally expected to have a B.A. Honours degree either in Art History alone or in Art History and one other closely related field. But regardless of the program, the Department normally requires a minimum of 39 credits (at least 13 courses) in Art History with emphasis on European art and architecture. For candidates from institutions not offering the above number of credits in Art History, provision is made, upon consultation with the Director of Graduate Studies, for a program of study which would then qualify the candidate to apply for M.A. work.

In order to apply to the Ph.D. program, candidates must normally hold an M.A. degree preferably in Art History or an M.A. degree in a closely related field together with an appropriate number of Art History credits such as are described for entrance into the M.A. program. Applicants are strongly encouraged to consult with the Director of Graduate Studies. The number of entrants to the doctoral program is necessarily limited to the most highly qualified applicants.

It should be noted that courses in studio practice, although useful, cannot be counted among the 39 Art History credits for either the M.A. or Ph.D. programs. Also please see as well the language requirements given under the degree programs below.

The Department also requires a 200-250 word statement outlining the candidate's major interest in Art History as well as an example of his/her written work. Applicants should send complete dossiers by December 15.

### 7.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. two letters of reference;
4. \$60 application fee;
5. a statement (200-50 words) outlining the candidate's major interest in Art History;
6. an example of written work;
7. Test result (TOEFL)

All information is to be submitted directly to the Graduate Coordinator.

Deadline: December 15.

### 7.5 Program Requirements

#### Master of Arts

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

- 1) Five 3-credit courses approved by the Department of which, with the approval of the Director of Graduate Studies, not more than two may be taken outside the Department. (15 credits)
- 2) The M.A. written examinations. (123-601, 123-602) (9 credits)
- 3) Thesis (123-699) on a topic approved by the Department in one of the following areas:  
Classical and Aegean Archaeology, Greek Epigraphy,

Archaeological Method and Archaeometry, Western Medieval Art, Medieval Architecture, Post Medieval Architecture, Renaissance Art, Baroque Art, Late Eighteenth, Nineteenth and Early Twentieth-Century Art, The Art of W.W.I to the Present, Canadian Art, Methodology, Feminist Art History (24 credits)

Language requirements for the M.A. degree: reading knowledge of English and French and a minimum of one additional approved classical or modern language, before admission to the second year of the M.A. program.

#### Ph.D. Degree

The Ph.D. requirements are fulfilled progressively with five 3-credit courses of which, with the approval of the Director of Graduate Studies, not more than two may be taken outside the Department. The Ph.D. examinations both written and oral, the Doctoral dissertation and its oral defence.

Language requirements for the Ph.D. degree: reading knowledge of three modern languages and, depending on the field, at least one classical language, approved by the Department.

The Department is prepared to direct dissertations in fields wherein adequate supervision and resources can be provided. See [section 7.2](#). Candidates are also advised to consult the General Information and Regulations section of the Faculty of Graduate Studies and Research Calendar.

### 7.6 Courses for Higher Degrees

Each year, courses, given in the form of seminars or tutorials (the material varies yearly), are offered in some of the areas listed below. For a precise list of topics for the forthcoming session, students should contact the Graduate Coordinator.

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

☐ Denotes limited enrolment.

**123-601A,B MASTERS COMPREHENSIVE PREPARATION.** (3)

**123-602A,B MASTERS COMPREHENSIVE EXAM.** (6)

The general examination for the M.A. degree (123-602, 6 credits; including preparation for it, 123-601, 3 credits) carries a total of nine (9) credits.

**123-617A,B MODERN ART.** (3)

**123-618A,B STUDIES IN ART HISTORY FROM 1400-1900 I.** (3)

**123-619A,B STUDIES IN ART HISTORY FROM 1400-1900 II.** (3)

**123-641A,B GREEK ART AND ARCHAEOLOGY I.** (3)

**123-642A,B GREEK ART AND ARCHAEOLOGY II.** (3)

**123-643A,B GREEK ART AND ARCHAEOLOGY III.** (3)

**123-645A,B MEDIEVAL ART AND ARCHAEOLOGY I.** (3)

**123-646A,B MEDIEVAL ART AND ARCHAEOLOGY II.** (3)

**123-648A,B ART OF THE ITALIAN RENAISSANCE I.** (3)

**123-649A,B ART OF THE ITALIAN RENAISSANCE II.** (3)

**123-650A,B NORTHERN RENAISSANCE ART I.** (3)

**123-651A,B NORTHERN RENAISSANCE ART II.** (3)

**123-654A,B BAROQUE ART AND ARCHITECTURE I.** (3)

**123-655A,B BAROQUE ART AND ARCHITECTURE II.** (3)

**123-657A,B 19TH CENTURY PAINTING AND SCULPTURE I.** (3)

**123-658A,B 19TH CENTURY PAINTING AND SCULPTURE II.** (3)

☐ **123-660A,B CONTEMPORARY ART AND CRITICISM I.** (3)

☐ **123-661A,B CONTEMPORARY ART AND CRITICISM II.** (3)

**123-675A,B RENAISSANCE AND POST-RENAISSANCE STUDIES I.** (3)

**123-678A,B RENAISSANCE AND POST-RENAISSANCE STUDIES II.** (3)

**123-679A,B ROMAN ART AND ARCHAEOLOGY I.** (3)

**123-680A,B ROMAN ART AND ARCHAEOLOGY II.** (3)

**123-681A,B ROMAN ART AND ARCHAEOLOGY III.** (3)

**123-684A,B SEMINAR IN THE ART OF BYZANTIUM.** (3)

- 123-687A,B PROBLEMS IN WESTERN MEDIEVAL ARCHITECTURE AND SCULPTURE. (3)  
 123-689A,B STUDIES IN MANUSCRIPT ILLUMINATION I. (3)  
 123-690A,B STUDIES IN MANUSCRIPT ILLUMINATION II. (3)  
 123-693A,B ARTISTIC THEORY IN THE RENAISSANCE. (3)  
 123-699D THESIS RESEARCH. (24)  
 123-701D PH.D. COMPREHENSIVE EXAMINATION. (6)  
 123-713A,B STUDIES IN THE GRAPHIC ARTS. (3)  
 123-714A,B RESEARCH IN MODERN ART AND ARCHITECTURE – 1750 TO THE PRESENT I. (3)  
 123-715A,B RESEARCH IN MODERN ART AND ARCHITECTURE – 1750 TO THE PRESENT II. (3)  
 123-719A,B SEMINAR IN URBAN PLANNING AND TOPOGRAPHY. (3)  
 123-722A,B STUDIES OF DRAWINGS. (3)  
 123-723A,B ART CRITICISM I. (3)  
 123-724A,B ART CRITICISM II. (3)  
 123-725A,B METHODS IN ART HISTORY. (3)  
 123-730A,B CURRENT PROBLEMS IN ARCHITECTURAL HISTORY I. (3)  
 123-731A,B CURRENT PROBLEMS IN ARCHITECTURAL HISTORY II. (3)

## 8 Atmospheric and Oceanic Sciences

Department of Atmospheric and Oceanic Sciences  
 Burnside Hall  
 805 Sherbrooke Street West, Room 705  
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 Canada

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 Website: <http://zephyr.meteo.mcgill.ca>

Chair — C.A.Lin

### 8.1 Staff

#### *Emeritus Professors*

R.R. Rogers; B.S.(Texas), S.M.(M.I.T.), Ph.D.(N.Y.)  
 E.J. Stansbury; M.A., Ph.D.(Tor.)

#### *Professors*

J.F. Derome; B.Sc., M.Sc.(McG.), Ph.D.(Mich.)  
 L.A. Mysak; B.Sc.(Alta.), M.Sc.(Adel.), A.M. Ph.D.(Harv.), F.R.S.C.  
 I.I. Zawadzki; B.Sc.(Buenos Aires), M.Sc., Ph.D.(McG.)

#### *Associate Professors*

J.R. Gyakum; B.Sc.(Penn.St.), M.Sc., Ph.D.(M.I.T.)  
 H.G. Leighton; B.Sc., M.Sc.(McG.), Ph.D.(Alta.)  
 C.A. Lin; B.Sc.(Br.Col.), Ph.D.(M.I.T.)  
 D. Straub; B.S., M.S.(SW Louisiana), Ph.D.(Wash.)  
 M.K. Yau; S.B., S.M., Sc.D.(M.I.T.)

#### *Assistant Professors*

P. Ariya; B.Sc., Ph.D.(York) (*joint appt. with Chemistry*)

#### *Assistant Professors (Special Category)*

P. Bartello; B.Sc., M.Sc., Ph.D.(McG.)  
 F. Fabry; B.Sc., M.Sc., Ph.D.(McG.)

#### *Lecturer*

A.P. Schwartz

#### *Adjunct Professors*

J.-P. Blanchet, G. Brunet, E. Carmack, R.G. Ingram, R. Laprise,  
 S. Laroche

### 8.2 Programs Offered

The Department of Atmospheric and Oceanic Sciences offers courses and research opportunities in atmospheric, physical oceanographic, and climate fields leading to the M.Sc. and Ph.D.

degrees. Research programs include the main areas of atmospheric science, such as cloud and precipitation physics, dynamic meteorology, numerical weather prediction, atmospheric chemistry, radar and satellite meteorology, and mesoscale meteorology. Research projects in physical oceanography include the modelling of ocean circulations as well as studies of sea ice and paleo-climates. Some faculty members are associated with the Centre for Climate and Global Change Research, which brings together researchers from several departments to work on problems affecting the evolution of our planet, with emphasis on climate-related questions. Topics of research of this nature in the Department include large scale air-sea interaction, air-sea-ice interaction, interannual and longer term variability of the atmosphere and oceans, and cloud-radiation climate interaction.

Other faculty members are associated with the Cooperative Centre for Research in Mesometeorology which also includes researchers in several other departments at McGill, in the Département de Physique at the Université du Québec à Montréal, and in Montreal offices of the Atmospheric Environment Service of Canada. The objective of the Centre is to study the evolution, maintenance and decay of mesoscale precipitation systems. Such systems, whose sizes range from 10 to 300 km, are important for the precipitation climatology of southern Quebec.

Facilities include the J. Stewart Marshall Radar Observatory, a radar wind profiler and a laser ceilometer and several years of global atmospheric data. Graduate students have access to large and small computers, including the NEC supercomputer of the Atmospheric Environment Service. Financial assistance in the form of research or teaching assistantships is available for all qualified graduate students.

### 8.3 Admission Requirements

Applicants for the M.Sc. program must meet the general requirements of the Faculty of Graduate Studies and Research and hold a bachelor's degree with high standing in atmospheric science, physics, mathematics, engineering, or equivalent.

The normal requirement for admission to the Ph.D. program is an M.Sc. degree in atmospheric science, physical oceanography, or related discipline with acceptably high standing. Students without a Master's degree in Atmospheric Science (Meteorology) or Physical Oceanography but with a strong background in related disciplines (physics, mathematics, engineering) may be admitted to the Ph.D. program. They enter at the Ph.D. I rather than the Ph.D. II level, and devote the first year of the program mainly to course work.

Inquiries should be addressed directly to the Chair of Admissions, Department of Atmospheric and Oceanic Sciences.

### 8.4 Program Requirements

#### **M.Sc. Degree**

Depending on their background, students must take from 9 to 27 credits of courses chosen from any course offered by the Department at the 500 and 600 levels, up to but not including 195-691. Normally, students select either an atmospheric or joint atmosphere-ocean stream of courses during the first year of the program. In some instances, courses in this Department may be replaced by courses given by other departments at the 500 level or higher with the approval of the Department. Usually, students with no previous background in atmospheric science (or physical oceanography) are requested to take 27 credits of courses, while students with a strong B.Sc. or Diploma in meteorology or a related field may take as few as 9 credits of courses.

Students must also complete a minimum of 24 thesis-research credits from 195-691, -692, -693, -694, -695, -696 and 195-699. All students must take seminar course 195-694 and complete 195-699. The M.Sc. degree requires a minimum of 45 credits in total. This includes course credits, a minimum of 12 thesis credits and the completion of a thesis satisfying all the requirements of the Faculty of Graduate Studies and Research. Normally the equivalent of 12 months of full-time work is required to obtain these thesis-research credits, in addition to the time needed for the

courses mentioned in the preceding paragraph. It is possible for students to write a thesis based on research in atmospheric, oceanic, or climate topics.

#### Ph.D. Degree

The Ph.D. program consists of supervised research and normally a minimum of two approved courses. Candidates are required to submit a written thesis proposal and to take the Ph.D. oral comprehensive examinations. The ordinary Faculty requirements concerning a thesis must be satisfied.

Ph.D. students may also register in the Collaborative McGill-UQAM Ph.D. program. These students register at McGill University but are supervised by a faculty member at l'Université du Québec à Montréal. Further details are available from the Department's Graduate Coordinator and from the Chair.

### 8.5 Courses for Higher Degrees

- Denotes not offered 2000-01.

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

**195-512A ATMOSPHERIC AND OCEANIC DYNAMICS.** (3) (3 hours) Introduction to the fluid dynamics of large-scale flows of the atmosphere and oceans. Stratification of atmosphere and oceans. Equations of state, thermodynamics and momentum. Kinematics, circulation, and vorticity. Hydrostatic and quasi-geostrophic flows. Brief introduction to wave motions, flow over topography, Ekman boundary layers, turbulence.

**195-513B WAVES AND STABILITY.** (3) (3 hours) Linear theory of waves in rotating and stratified media. Geostrophic adjustment and model initialization. Wave propagation in slowly varying media. Mountain waves; waves in shear flows. Barotropic, baroclinic, symmetric, and Kelvin-Helmholtz instability. Wave-mean flow interaction. Equatorially trapped waves.

- **195-515B TURBULENCE IN THE ATMOSPHERE AND OCEANS.** (3) (3 hours)

**195-530A CLIMATE DYNAMICS I.** (3) (3 hours) Introduction to the components of the climate system. Review of paleoclimates. Physical processes and models of climate and climate change.

**195-531B CLIMATE DYNAMICS II.** (3) (3 hours) The general circulation of the atmosphere and oceans. Atmospheric and oceanic general circulation models. Observations and models of the El Niño and Southern Oscillation phenomena.

**195-540A SYNOPTIC METEOROLOGY I.** (3) (2-hour lecture, 2-hour lab) Analysis of current meteorological data. Description of a geostrophic, hydrostatic atmosphere. Ageostrophic circulations and hydrostatic instabilities. Kinematic and thermodynamic methods of computing vertical motions. Tropical and extratropical condensation rates. Barotropic and equivalent barotropic atmospheres.

**195-541B SYNOPTIC METEOROLOGY II.** (3) (2-hour lecture, 2-hour lab) Analysis of current meteorological data. Quasi-geostrophic theory, including the omega equation, as it relates to extratropical cyclone and anticyclone development. Frontogenesis and frontal circulations in the lower and upper troposphere. Cumulus convection and its relationship to tropical and extratropical circulations. Diagnostic case study work.

**195-546B CURRENT WEATHER DISCUSSION.** (1) (1.5 hours) Thrice-weekly briefings on atmospheric general circulation and current weather around the world using satellite data, radar observations, conventional weather maps, and analyses and forecasts produced by computer.

**195-550A SPECIAL TOPICS IN METEOROLOGY AND OCEANOGRAPHY I.** (1) (1 hour) Lectures and seminars on special topics such as hydrology, agricultural meteorology, the limits of predictability, planetary atmospheres, atmospheric and oceanic pollution, coastal currents, and research reviews.

- **195-551B SPECIAL TOPICS IN METEOROLOGY AND OCEANOGRAPHY II.** (1) (1 hour)

- **195-558B NUMERICAL METHODS AND LABORATORY.** (3) (1 hour lecture; 4 hours lab)

- **195-568B OCEAN PHYSICS.** (3) (3 hours) (Prerequisite: 195-512A or permission of instructor)

- **195-616A OR B TOPICS IN GEOPHYSICAL FLUID DYNAMICS.** (3) (3 hours)

★**195-619B ADVANCED ATMOSPHERIC CHEMISTRY.** (4) (3 hours) (Prerequisites: 180-213, 180-273, 189-222 and 189-315 or equivalents, or permission of instructor) (Restriction(s): Offered in odd years. Students should register in 180-619 in even years. Not open to students who have taken or are taking 195-419, 180-419, or 180-619.) Selected areas of atmospheric chemistry from field and laboratory to theoretical modelling are examined. The principles of atmospheric reactions (gas, liquid and heterogeneous phases in aerosols and clouds) and issues related to chemical global change will be explored.

**195-620A PHYSICAL METEOROLOGY I.** (3) (2 hours) Thermodynamics of the atmosphere. Instability and convection. Solar and terrestrial radiation. Radiative transfer. Radiation budgets.

**195-621B PHYSICAL METEOROLOGY II.** (3) (2 hours) Atmospheric aerosols, nucleation of water and ice. Formation and growth of cloud droplets and ice crystals. Initiation of precipitation. Severe storms and hail. Weather modification. Numerical cloud models.

- **195-626A OR B ATMOSPHERIC AND OCEANIC REMOTE SENSING.** (3) (3 hours)

- **195-646A OR B MESOSCALE METEOROLOGY.** (3) (3 hours)

**195-666B TOPICS IN OCEAN CIRCULATION.** (3) (3 hours) Recent observations of mesoscale and large-scale ocean circulation. Inverse methods and their application to tracer distributions and deep ocean circulation. Review of modern theoretical developments such as geostrophic turbulence, homogenization of potential vorticity, ventilated thermoclines, wind and buoyancy driven ocean circulation models, and coupled ice-ocean circulation models.

**195-670A,B,C READING COURSE IN METEOROLOGY I.** (3) Assigned reading of a specialized topic in meteorology with formal evaluation.

**195-671A,B,C READING COURSE IN METEOROLOGY II.** (3) Assigned reading of a specialized topic in meteorology with formal evaluation.

**195-672A,B,C READING COURSE IN OCEANOGRAPHY I.** (3) Assigned reading of a specialized topic in oceanography with formal evaluation.

**195-673A,B,C READING COURSE IN OCEANOGRAPHY II.** (3) Assigned reading of a specialized topic in oceanography with formal evaluation.

**195-691A,B,C MASTER'S THESIS LITERATURE REVIEW.** (3) Review of relevant literature in preparation for the M.Sc. research.

**195-692A,B,C MASTER'S THESIS RESEARCH I.** (6) Independent research under the supervision of the student's M.Sc. supervisor.

**195-693A,B,C MASTER'S THESIS RESEARCH II.** (6) Independent research under the supervision of the student's M.Sc. supervisor.

**195-694A,B,C MASTER'S THESIS REPORT AND SEMINAR.** (3) Written report on the M.Sc. research progress and oral presentation of the report in seminar form to staff and students.

**195-695A,B,C MASTER'S THESIS RESEARCH III.** (6) Independent research under the supervision of the student's M.Sc. supervisor.

**195-696A,B,C MASTER'S THESIS RESEARCH IV.** (6) Independent research under the supervision of the student's M.Sc. supervisor.

**195-699A,B,C MASTER'S THESIS.** (12) Independent research under the supervision of the student's M.Sc. supervisor leading to the M.Sc. thesis.

**195-700D PH.D. COMPREHENSIVE. (COGNATE SUBJECTS)**

**195-701D PH.D. COMPREHENSIVE. (GENERAL)**

**195-751D SEMINAR IN PHYSICAL METEOROLOGY.** (1) Seminars on topics in physical meteorology. Students are required to present one or more seminars during the year on their thesis research and to participate actively in the seminars given by others.

**195-752D ATMOSPHERIC, OCEANIC & CLIMATE DYNAMICS SEMINAR.** (1) Seminars on topics in atmospheric, oceanic and climate dynamics. Students are required to present one or more seminars during the year on their thesis research and to participate actively in the seminars given by others.

## 9 Biochemistry

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Chair — T.B.A.

### 9.1 Staff

#### Emeritus Professors

Angus F. Graham; M.Sc., Ph.D., D.Sc.(Edin.), F.R.S.C.  
Rose M. Johnstone; B.Sc., Ph.D.(McG.), F.R.S.C.  
Samuel Solomon; M.Sc., Ph.D.(McG.), F.R.S.C.  
Theodore L. Sourkes; M.Sc.(McG.), Ph.D.(C'hell), F.R.S.C.  
Leonhard S. Wolfe; M.Sc.(N.Z.), Ph.D.(Cantab.), F.R.S.C.

#### Professors

Rhoda Blostein; B.Sc., M.Sc., Ph.D.(McG.)  
Philip E. Branton; B.Sc., M.Sc., Ph.D.(Tor.)  
Peter E. Braun; M.Sc.(Br.Col.), Ph.D.(Berk.)  
Vincent Giguère; B.Sc., Ph.D.(Laval) (*joint appt. with Oncology*)  
Philippe Gros; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)  
Annette A. Herscovics; B.Sc. M.Sc. Ph.D(McG.) (*joint appt. with Oncology*)  
Robert E. MacKenzie; B.Sc.(Agr.) (McG.), M.N.S., Ph.D.(C'nell.)  
Edward A. Meighen; B.Sc.(Alta.), Ph.D.(Berk.)  
Walter E. Mushynski; B.Sc., Ph.D.(McG.)  
Gordon C. Shore; B.Sc.(Guelph), Ph.D.(McG.)  
Joseph Shuster; B.Sc.(McG.), Ph.D.(Calif.), M.D.(Alta.)  
John R. Silvius; B.Sc., Ph.D.(Alta.)  
Nahum Sonenberg; M.Sc., Ph.D.(Weizmann Inst.) F.R.S.C.  
Clifford P. Stanners; B.Sc.(McM.), M.A., Ph.D.(Tor.) (*joint appt. with Oncology*)  
Maria Zannis-Hadjopoulos; B.Sc., M.Sc., Ph.D.(McG.) (*joint appt. with Oncology*)

#### Associate Professors

Nicole Beauchemin; B.Sc., M.Sc., Ph.D.(Montr.) (*joint appt. with Oncology*)  
Alain Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.) (*joint appt. with Oncology*)  
Morag Park; B.Sc., Ph.D.(Glas.) (*joint appt. with Oncology*)  
Jerry Pelletier; B.Sc., Ph.D.(McG.)  
Michel L. Tremblay; B.Sc., M.Sc.(Sher.), Ph.D.(McM.)

#### Assistant Professors

Kalle Gehring; M.Sc.(Mich.), Ph.D.(Berk.)  
Alice Vrieling; B.Sc., M.Sc.(Cal.), Ph.D.(Lond.)

#### Associate Members

John J. Bergeron (*Anatomy & Cell Biology*); Katherine Cianflone (*Exp. Medicine, RVH*); L.Fernando Congote (*Exp. Medicine, RVH*); Robert Dunn (*Exp. Medicine, MGH*); Mark S. Featherstone (*Oncology*); William C. Galley (*Chemistry*); Michael A. Parniak (JGH, Lady Davis Inst.) Peter J. Roughley (*Shriners' Hosp.*); Erwin Schurr (*Exp. Medicine, RVH*); Charles Scriver (*Pediatrics,*

*MCH*); Bernard Turcotte (*Exp. Medicine, RVH*); Simon Wing (*Medicine*); Xiang-Jiao Yang (*Mol. Oncol., RVH*)

#### Adjunct Professors

Michael Cordingley (*Boehringer-Ingelheim*); Mirek Cygler (*B.R.I.*); Jacques Drouin (*Clin. Res. Inst.*); Michael Gresser (*Merck Frosst*); Feng Ni (*B.R.I.*); Donald Nicholson (Merck Frosst); Maureen D. O'Connor-McCourt (*B.R.I.*); Marc Therrien (*Clin. Res. Inst.*); Andrew C. Storer (*B.R.I.*); André Veillette (*Clin. Res. Inst.*); Lee A. Wall (*U. de Mtl.*)

### 9.2 Programs Offered

The Department of Biochemistry offers training at both the M.Sc. and Ph.D. levels. There are a wide variety of areas in which specialized training for the Ph.D. can be obtained.

The Department concentrates on the following key areas of research: signal transduction; molecular genetics; gene regulation; oncogenes; structure, function & regulation of proteins; membrane structure, function and assembly; intracellular protein targeting; embryonic development and cellular neurobiology. A summary of the research interest of faculty members is available on the Department homepage at <http://www.biochem.mcgill.ca>.

#### Funding

All graduate students in Biochemistry receive financial support. Any faculty member who agrees to supervise a graduate student who does not have their own funding (i.e. a fellowship), is financially responsible for that student. All students can expect a minimum of \$14,765 per annum.

Prospective students are urged to make every effort to secure their own funding. Applications may be made for a variety of fellowships administered by the University or by various private, provincial or federal agencies. Deadlines for completion of most fellowship applications vary from October to February for studies beginning the following September. For more information on fellowships and awards, see the Faculty of Graduate Studies and Research website <http://www.mcgill.ca/fgsr/>.

### 9.3 Admission Requirements

Candidates holding a B.Sc. in biochemistry or in related disciplines (e.g. biology, chemistry, physics, physiology and microbiology) are eligible to apply to a graduate program in Biochemistry. The minimum cumulative GPA for admission is 3.3 (75%).

All successful applicants to the graduate program must be accepted by a research director in the department prior to registration.

Applicants who are considered inadequately prepared for research in Biochemistry, may, upon recommendation by the Graduate Admissions Committee (GAC), be admitted to a Qualifying Year (QY). The courses to be taken in the QY are determined by the GAC. A QY does not automatically guarantee admission to the graduate program.

#### International Applicants

International students whose undergraduate degree was received outside of North America and whose mother tongue is not English, are required to submit the following documents in order to be considered for admission to the graduate program:

TOEFL: **Minimum score of 600.**

GRE: Subject Test in **Biochemistry, Cell and Molecular Biology** with a **minimum score of 550.**

### 9.4 Application Procedures

Applications will be considered upon receipt of:

1. completed application form including C.V.;
2. application fee (\$60);
3. two (2) letters of recommendation from professors;
4. two (2) official transcripts;
5. test results (GRE, TOEFL).

All information is to be submitted to the Student Affairs Officer. Interested candidates should contact the Department for an