2006-2007 Graduate Calendar

The information published in this Graduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2006-2007 academic years, including the Summer Semester 2006, the Fall Semester 2006, the Winter Semester 2007 and the Summer 2007.

For your convenience the Graduate Calendar is available in PDF format.

If you wish to link to the Graduate Calendar please refer to the Linking Guidelines.

The University is a full member of:

- The Association of Universities and Colleges of Canada

Contact Information:

University of Guelph
Guelph, Ontario, Canada
N1G 2W1

519-824-4120
http://www.uoguelph.ca

Revision Information:	
May 9, 2006	Initial Publication
February 8, 2007	Revision I

Disclaimer

The Office of Graduate Program Services has attempted to ensure the accuracy of this on-line Graduate Calendar. However, the publication of information in this document does not bind the university to the provision of courses, programs, schedules of studies, fees, or facilities as listed herein.

Limitations

The University of Guelph reserves the right to change without notice any information contained in this calendar, including any rule or regulation pertaining to the standards for admission to, the requirements for the continuation of study in, and the requirements for the granting of degrees or diplomas in any or all of its programs.

The university will not be liable for any interruption in, or cancellation of, any academic activities as set forth in this calendar and related information where such interruption is caused by fire, strike, lock-out, inability to procure materials or trades, restrictive laws or governmental regulations, actions taken by the faculty, staff or students of the university or by others, civil unrest or disobedience, or any other cause of any kind beyond the reasonable control of the university.

The University of Guelph reaffirms section 1 of the Ontario Human Rights Code, 1981, which prohibits discrimination on the grounds of race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, handicap, age, marital status or family status.

The university encourages applications from women, aboriginal peoples, visible minorities, persons with disabilities, and members of other under-represented groups.

Table of Contents

Molecular Biology and Genetics

The Molecular Biology and Genetics program offers MSc and PhD degrees. The four major areas of emphasis and the faculty associated with those areas are:

- **Molecular Biology** -- Bag, Baker, Bendall, Colasanti, Lu, Mosser, Nazar, Phillips, Rothstein, Wildeman, Yankulov
- **Genetics** -- Baker, Bendall, Colasanti, Robb, Rothstein
- **Cell Biology** -- Bag, Bendall, Harauz, Lu, Mosser, Nazar, Robb, Wildeman
- **Biochemistry** -- Baker, Brauer, Coppolino, Dawson, Graether, Harauz, Josephy, Keates, Kimber, Mangroo, Merrill, Mosser, Sharom

Interdepartmental programs are available for students wishing to specialize in biophysics, plant genetics and toxicology.

Administrative Staff

Chair
Chris Whitfield (1252 Science Complex, Ext. 53361)
cwhitfie@uoguelph.ca

Graduate Co-ordinator
Richard Mosser (239 Axelrod, Ext. 58059)
rmosser@uoguelph.ca

Graduate Secretary
Carol Schlaht (1250 Science Complex, Ext. 53815)
cschlaht@uoguelph.ca

Graduate Faculty

Jnanankur Bag
BSc, MSc, PhD Calcutta - Professor

Mark D. Baker
BSc Laurentian, MSc, PhD Waterloo - Professor

Andrew J. Bendall
BSc, MSc Australian National, PhD Macquarie - Assistant Professor

Joseph L. Colasanti
BSc, PhD Western Ontario - Assistant Professor

George Harauz
BASc, MSc, PhDToronto - Professor

Ray Lu
BSc Wuhan (China), MSc Beijing Medical, PhD Saskatchewan - Assistant Professor

Jaideep Mathur
BSc, MSc Lucknow (India), PhD Gorakhpur (India) - Associate Professor

Richard D. Mosser
BSc, PhD Waterloo - Associate Professor

Ross N. Nazar
BSc, PhD Toronto - Professor

E. Jane Robb
BSc York, PhD British Columbia - Professor

Steven Rothstein
BA Swarthmore College, PhD Wisconsin - Professor

Alan G. Wildeman
BSc, MSc Saskatchewan, PhD Guelph - Professor

Krassimir (Joseph) Yankulov
BSc Sophia, PhD ICRF London - Associate Professor

MSc Program

Admission Requirements

The minimum requirement for admission is a baccalaureate in an honours science program, or the equivalent, from a recognized university or college. The applicant must have achieved an average standing of at least second-class honours (`B-' standing) in the work of the last two undergraduate years.

Degree Requirements

In addition to a research thesis, three courses (1.5 credits) including the Research Topics Course, MBG*6080, are normally required for the MSc degree. Students must also take part in Seminars in Molecular Biology and Genetics, MBG*6000, and present a formal seminar on their thesis research at the end of their program.

PhD Program

Admission Requirements

Admission to doctoral programs normally requires at least high second-class honours as well as a recognized master of science degree. Direct admission of a BSc graduate to the PhD program will only be considered in the Department if the student has an average of 80% or greater in their last two undergraduate years.

Degree Requirements

In addition to a research thesis, the minimum course requirement following an MSc degree includes the completion of the Research Topics Course, MBG*6080, and Seminars in Molecular Biology and Genetics, MBG*6000. Students must present a formal seminar on their thesis research at the end of their program. For a PhD degree following a BSc degree, four courses (2.0 credits) including the research topics course and the seminar course are required.

Interdepartmental Programs

Biophysics MSc/PhD Program

The Department participates in the MSc/PhD programs in biophysics. Professor Frances Sharom is a member and Chair of the Biophysics Interdepartmental Group (BIG). Please consult the Biophysics listing for a detailed description of the graduate programs offered by the Biophysics Interdepartmental Group (BIG). Additional department members who participate in the BIG program are Manfred Brauer, George Harauz, Robert Keates, Dev Mangroo, and Rod Merrill.

Courses

Molecular Biology

MBG*6020 Topics in Molecular Biology and Biotechnology W [0.50]

The course will review recent publications in molecular genetics and developmental biology, and provide opportunity for discussion of how recombinant DNA technology is being used in basic research and in biotechnology. This course is offered yearly.

MBG*6050 Recombinant DNA Technology S [0.50]

A laboratory course including DNA and vector purification, preparation of genomic libraries and subcloning using plasmid vectors, PCR, and Southern blotting. Please contact the department for detailed information.

MCB*6110 Protein Structural Biology and Bioinformatics W [0.50]

This course will explore the relationship between protein sequences and structure. Students will gain hands-on experience with web-based resources and tools, particularly methods relating to protein structural prediction.

MCB*6210 Structure and Function of Biological Membranes F [0.50]

This course covers multidisciplinary investigations of the basic structure of membranes, and their role in eukaryotic and prokaryotic cell biology. Topics will include structural biology of membrane proteins, experimental approaches for studying membranes, membrane transport systems, import-export systems and membrane trafficking.

Cell Biology and Genetics

MBG*6060 Topics in Cell Biology and Genetics F [0.50]

The course will review recent publications in transmission genetics, chromosome structure and recombination, and provide opportunity for discussion of cell biology topics where advances in genetics are having an impact. This course is offered yearly.

MBG*6100 High Resolution Microscopy for Molecular Biologists W [0.50]

A laboratory course to acquaint students with high resolution light and electron microscopy technology common to molecular biologists and geneticists. The course includes hybridization and immunological probing techniques being applied to the cellular apparatus for gene expression as well as technology used with purified DNA and nucleoprotein complexes. This course is offered yearly.

General

MBG*6000 Seminars in Molecular Biology and Genetics F,W [0.00]

A forum for topical discussions in molecular biology and genetics. Students in the MSc and PhD programs in molecular biology and genetics are required to register in this course for four and six semesters, respectively.

MCB*6010 Advanced Topics in Biochemistry U [0.50]

This course provides opportunities for graduate students to study special topics in contemporary biochemical research under the guidance of graduate faculty members with pertinent expertise. Proposed course descriptions are considered by the Department of Molecular and Cellular Biology on an ad hoc basis, and the course will be offered according to demand.

MBG*6080 Research Topics Course F,W,S [0.50]

This course will require that students research and write a proposal for the work they plan to pursue for their thesis topic. It must be taken within the first two semesters of a graduate program, and will be under the supervision of the student's advisory committee. Students will present a seminar on this literature review and proposal as part of their participation in this course.

Additional courses within the Department of Molecular and Cellular Biology can be found under the course descriptions for the Botany graduate program and the Microbiology graduate program.