Glendon’s Biology program provides a bilingual science degree option that integrates a comprehensive examination of major topics with a critical empirical approach, in a beautiful forested campus which offers a natural teaching and research environment in our own backyard.

BACHELOR OF SCIENCE IN BIOLOGY

Biology Office: 162 York Hall
Coordinator: Radu Guiasu
Administrative Assistant: Thérèse How
Telephone: 416.487.6732
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www.glendon.yorku.ca/biology
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ABOUT OUR PROGRAM

Interested in studying science at Glendon? We heard you! In response to the increasing demand for scientifically-literate grads, we are pleased to launch a BSc in Biology, the fastest growing and most sought after of the undergraduate sciences.

Our program draws on the success of our Environmental and Health Studies program and Glendon’s position as a leader in bilingual education to provide a top-quality program with courses in English and/or in French.

OUR FOCUS

Our biology program is a great option if you’re interested in exploring the major topics in biology with an emphasis on conservation biology, ecology and animal behaviour. Although the discipline of biology is diverse, conservation biology, ecology and animal behaviour are amongst the most important features of the environmental aspects of our daily activities. As a student in our program, you will be at the forefront of scientific research in ecology and conservation that shapes and reflects what the potential employers in relevant fields are looking for.
OUR PROFESSORS & INSTRUCTORS

RADU GXIASU (COORDINATOR)

Associate Professor, 361 York Hall
Telephone: 416.736.2100 ext. 88174
Email: rguiasu@glendon.yorku.ca
Teaching and research areas: Environment, Ecology, Conservation Biology, Biodiversity, Invasion Biology, Animal Behaviour, Animal Competition and Aggression, Freshwater Ecosystems, Crayfish, Ichthyology (Fishes), Phylogenetics (Cladistics), Biogeography.

JOCELYN MARTEL

Ph. D. (Carleton – Biology), M. Sc. (UQAM – Biology), B. Sc. (Sherbrooke – Biology (Ecology))
Associate Professor, 333 York Hall
Telephone: 416-736-2100 ext. 88274
Email: jmartel@glendon.yorku.ca
http://www.glendon.yorku.ca/jmartel
Teaching and research areas: Ecology, Biology, Climate Change, Environment, Entomology, Botany.

LAURA MCKINNON

NSERC Banting Postdoctoral Fellow (U. of Toronto), Ph. D. (Université du Québec à Rimouski – Biology), M. Sc. (U. of Michigan – Zoology)
Assistant Professor, D117 Hilliard
Telephone: (416) 736-2100 x88481
Email: lmck@glendon.yorku.ca
Teaching and research areas: Trade-offs between direct (physiological) and indirect (trophic interactions) effects of climate change on the growth and survival of chicks of Arctic nesting birds; Effects of spatial and temporal variations of trophic constraints (predation risk, food availability on reproduction of migratory birds), Ecology and evolution of migratory strategies of Arctic nesting birds.
WHY BIOLOGY AT GLENDON?

Studying biology at Glendon comes with features that set us apart. These are our top five:

- Our forested campus offers a natural teaching environment with direct access to field studies and research literally in our own backyard.
- Our small campus and personalized approach to teaching and learning go a long way to supporting our students’ success.
- We are the first and only BSc in biology in Southern Ontario to offer course options in both English and/or French.
- Our program integrates social sciences/humanities to add valuable breadth and critical thinking and communication skills to your degree.
- Glendon students can take biology courses in the Faculty of Science at York’s Keele Campus; biology is the longest-established scientific program at York and is home to internationally-recognized teaching and research professors.

INTERNATIONAL BSC OPTION

Our bilingual and trilingual international Bachelor of Science degree follows the same structure as the BSc, but has additional language courses, internationally-oriented courses and an international exchange – typically completed in your third year.

HANDS-ON EXPERIENCE

Our program includes advanced research opportunities rarely offered at the undergraduate level. You will regularly experience the results of original current research, learn theory through practice (for example, on-campus insect sampling), and keep up to date with the latest developments in ecology and conservation-related fields.
CAREER CONNECTIONS

A worldwide focus on public health and environmental issues calls for more biology and health science graduates who can work in the science professions. In Ontario in particular, there is a need to provide health-related services in English and French.

If you are interested in conservation biology, field ecology, biotechnology, forensic science, veterinary medicine, medical school or other science-based graduate work, you may be able to complete the required science courses while studying biology.

http://biology.csusb.edu/careers
COURSE LISTINGS

ONLY THOSE COURSES IN BOLD PRINT ARE OFFERED IN 2016-2017

CORE COURSES

GL/BIOL 2300 3.0 (EN) General Ecology
GL/BIOL 2300 3.0 (FR) Écologie générale
GL/BIOL 2305 3.0 (EN) Evolution and Ecology of Humans
GL/BIOL 2310 3.0 (EN) Fundamentals of Conservation Biology
GL/BIOL 2310 3.0 (FR) Biologie de conservation
GL/BIOL 2320 3.0 (EN) Botany
GL/BIOL 2320 6.0 (FR) Botanique
GL/BIOL 2325 6.0 (EN) Zoology
GL/BIOL 2325 6.0 (FR) Zoologie

COURSES OFFERED BY OTHER DEPARTMENTS IN SUPPORT OF THE BIOLOGY BSC PROGRAM

GL/ITEC 2635 3.0 (EN) Creation and Management of a site on the WWW
GL/ITEC 2635 3.0 (FR) La création et la gestion d'un site sur le WWW
GL/ITEC 2915 3.0 (EN) Computer Usage and Software Applications I
GL/ITEC 2915 3.0 (FR) L'utilisation de l'ordinateur et des logiciels d'application I

GL/ITEC 2925 3.0 (EN) Computer Usage and Software Applications II
GL/ITEC 2925 3.0 (FR) L'utilisation de l'ordinateur et des logiciels d'application II

GL/MATH 1610 3.0 (EN) Introduction to Statistical Methods I
GL/MATH 1620 3.0 (EN) Introduction to Statistical Methods II
GL/MATH 1660 3.0 (EN) Linear Algebra I
GL/MATH 1930 3.0 (FR) Calcul différentiel et intégral I
GL/MATH 1930 3.0 (EN) Calculus I
GL/MATH 1940 3.0 (FR) Calcul différentiel et intégral II
GL/MATH 1940 3.0 (EN) Calculus II
GL/MATH 2660 3.0 (EN) Linear Algebra II
GL/MATH 2670 6.0 (EN) Second Year Calculus
GL/MATH 2670 6.0 (FR) Calcul des fonctions des plusieurs variables
GL/NATS 1000 6.0 (EN) Energy, Physical Sciences and the Environment
GL/NATS 1540 6.0 (EN) Introductory Biology
GL/NATS 1540 6.0 (FR) Principes de Biologie
GL/NATS 2203 6.0 (FR) Utilisation et conservation des ressources biologiques
GL/NATS 2205 6.0 (FR) Ressources énergétiques et santé des écosystèmes
GL/NATS 2315 6.0 (EN) Human Physiology in Health and Disease
GL/NATS 3200 6.0 (EN) Historical Trends in Human-Environmental Interrelationships
GL/NATS 3206 3.0 (EN) Human Parasitology (Summer 2016)
GL/NATS 3230 6.0 (FR) Génétique et santé humaine
GL/NATS 4100 3.0 or 6.0 (EN) Individualized Studies / (FR) Travail
individual

GL/NATS 4205 3.0 (EN) Human-Insect Interactions

GL/NATS 4210 3.0 (EN) Environmental Physiology

GL/NATS 4215 3.0 (EN) Communication and Sensory Ecology

GL/PSYC/NATS 3670 3.0 (EN) Psychobiology

GL/PSYC/NATS 3670 3.0 (FR) Psychobiologie

GL/PSYC/NATS 3675 3.0 (EN) Humans as Primates: Comparative Evolution

GL/PSYC/NATS 3680 3.0 (EN) Evolution of Behavior in Animals
ACADEMIC ADVISING & RESOURCES

Glendon’s Office of Academic Services provides a range of registration and support services to students. This office is responsible for maintaining the integrity of student academic records and offers information on University and College rules and regulations, courses and registration, grade reporting and degree audit, graduation and transcripts, and academic advising. You will be able to obtain information on all academic matters from initial registration through to graduation.

ACADEMIC SERVICES

Room C102 York Hall
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Website: www.glendon.yorku.ca/acadservices

QUICK LINKS:

Undergraduate Calendar: http://calendars.registrar.yorku.ca

Lecture Schedule: https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm

Policies, Procedures and Regulations (incl. Academic Honesty):
http://www.yorku.ca/secretariat/policies/index-policies.html
http://www.yorku.ca/secretariat/policies/index-policies.html
COURSE DESCRIPTIONS
DESCRIPTION DES COURS

ONLY THOSE COURSES MARKED WITH AN ASTERISK ARE OFFERED IN 2016-2017 / SEULEMENT LES COURS MARQUÉS D’UN ASTÉRISQUE SONT OFFERTS EN 2016-2017

*GL/BIOL 2300 3.0 (EN) GENERAL ECOLOGY

This course is an introduction to the scientific study of relationships between organisms and their physical and biological environments. General principles will be used to interpret patterns in the distribution, abundance and characteristics of organisms in space and time.

Prerequisites: SC/BIOL 1000 3.0 and SC/BIOL 1001 3.0 (or SC/BIOL 1010 6.0) or permission of the department.
Course credit exclusion: GL/NATS 2300 3.0.
Instructor: Professor Valerie Schoof

*GL/BIOL 2305 3.0 (EN) EVOLUTION AND ECOLOGY OF HUMANS

This course contrasts the ecological conditions attendant upon early human evolution with the complex environmental situations now faced by modern technological societies. Essential themes are Darwinism, the effect of earlier cultures upon the environment and selected modern examples in human ecology.

Prerequisites: SC/BIOL 1000 3.0 and SC/BIOL 1001 3.0 (or SC/BIOL 1010 6.0) or permission of the department.
Course credit exclusion: GL/NATS 1800 3.0.
Instructor: Professor Valerie Schoof

*GL/BIOL 2310 3.0 (EN) FUNDAMENTALS OF CONSERVATION BIOLOGY

This course explores species preservation methods, the causes of their decline and the effects of human intervention. Concepts and theories underlying conservation biology are used to develop critical thinking in matters related to biodiversity and the protection of endangered and vulnerable species. Controversial topics related to the diverse roles of non-native species in ecosystems are also analyzed.

Prerequisites: SC/BIOL 1000 3.0 and SC/BIOL 1001 3.0 (or SC/BIOL 1010 6.0) or permission of the department.
Course credit exclusion: GL/NATS 2310 3.0.
Instructor: Professor Radu Guiasu

GL/BIOL 2310 3.0 (FR) BIOLOGIE DE CONSERVATION

Ce cours explore les méthodes de préservation des espèces, les causes de leur déclin et les effets de l'intervention humaine. Les concepts et théories sous-jacentes à la biologie de conservation sont utilisés pour développer la pensée critique sur des sujets reliés à la biodiversité et la protection des espèces menacées.

Condition préalable : SC/BIOL 1000 3.00 et SC/BIOL 1001 3.00 (ou SC/BIOL 1010 6.00) ou permission du département. Cours incompatible : GL/NATS 2310 3.0.

GL/BIOL 2320 6.0 (EN) BOTANY

This course is an overview of our present knowledge of plants, their function, their origin, their evolution and their role in ecosystems. The course includes three lecture hours per week and three hours laboratory tutorials every two weeks.

Prerequisites: SC/BIOL 1000 3.00 et SC/BIOL 1001 3.00 (ou SC/BIOL 1010 6.00) ou permission of the Department.

Instructor: Professor Jocelyn Martel

GL/BIOL 2320 6.0 (FR) BOTANIQUE

Cours est une synthèse de nos connaissances actuelles sur les plantes, leur fonctionnement, leur origine, leur évolution et leur rôle dans les écosystèmes. Le cours comprend trois heures de cours théoriques par semaine et trois heures de travaux pratiques en laboratoires toutes les deux semaines.

Condition préalable : SC/BIOL 1000 3.0 et SC/BIOL 1001 3.0 (ou SC/BIOL 1010 6.0) ou permission du département.
Instructor : Professor Jocelyn Martel
*GL/Biol 2325 6.0 (EN) ZOOLOGY

This course is an overview of our present knowledge of animals, their function, their origin, their evolution and their role in ecosystems. The course includes three lecture hours per week and three hours of laboratory tutorials every two weeks. Prerequisites: SC/Biol 1000 3.0 and SC/Biol 1001 3.0 (or SC/Biol 1010 6.0) or permission of the department. 
Instructor: Professor Laura McKinnon

GL/Biol 2325 6.0 (FR) ZOOLOGIE

Ce cours est une synthèse de nos connaissances actuelles sur les animaux, leur fonctionnement, leur origine, leur évolution et leur rôle dans les écosystèmes. Le cours comprend trois heures de cours théorique par semaine et trois heures de travaux pratiques en laboratoire toutes les deux semaines. Condition préalable : SC/Biol 1000 3.00 et SC/Biol 1001 3.00 (ou SC/Biol 1010 6.00) ou permission du département.

Courses Offered by Other Departments in Support of the Biology BSc Program

Only those courses marked with an asterisk are offered in 2016-2017.

*GL/ITEC 2635 3.0 (EN) CREATION AND MANAGEMENT OF A SITE ON THE WWW

This course presents the client server model of the Web with different methods to secure a Web site. The students will learn how to build and manage a Web site using DHTML, Java Script, and animation and sound manipulation software. Prerequisite: GL/ITEC 2915 3.0.

*GL/ITEC 2635 3.0 (FR) LA CRÉATION ET LA GESTION D’UN SITE SUR LE WWW

Le cours présente le modèle client serveur du Web et plusieurs méthodes pour sécuriser un site Web. Les étudiants apprendront comment construire et gérer un site Web en utilisant DHTML, Java Script et des logiciels d’animation et de manipulation du son.
Condition préalable : GL/ITEC 2915 3.00.

*GL/ITEC/MODR 2915 3.0 (EN) COMPUTER USAGE AND SOFTWARE APPLICATIONS I

The course will present the main components (hardware and software), advanced topics for use, editing and layout of documents alone or as part of a team, the creation and use of dynamic Web pages, advanced Internet information search techniques, and the design and implementation of a relational database using a database management system (DBMS) with applications to specific environments. Course credit exclusion: GL/CSLA 1960 3.00, GL/CSLA 1970 3.00, GL/MODR 1960 3.00, GL/MODR 1970 3.00, GL/SOSC 1960 3.00 and GL/SOSC 1970 3.00.
*GL/ITEC 2915 3.0 (FR) L’UTILISATION DE L’ORDINATEUR ET DES LOGICIELS D’APPLICATION I

Le cours présentera les principales composantes (matériel et logiciel) d’un ordinateur, des méthodes avancées pour l’utilisation et l’édition des documents dans un contexte de travail en équipe ou individuel, comment créer et utiliser des pages Web dynamiques, l’utilisation des techniques avancées pour la recherche de information sur Internet et comment concevoir et réaliser une base de données relationnelle en utilisant un système de gestion de bases de données (SGBD) avec applications dans une environnement spécifique.


*GL/ITEC 2925 3.0 (EN) COMPUTER USAGE AND SOFTWARE APPLICATIONS II

This course presents advanced options in Microsoft Word and Excel used to format: correct a document automatically; create and manipulate a collaborative document; create, use, and store macros in a document; secure a document. The students will learn how to enhance a Web site using image animation and sound.

Prerequisite: GL/ITEC 2915 3.00.

Course credit exclusion: GL/CSLA/ITEC 1960 3.00 and GL/CSLA 1970 3.00.

GL/ITEC 2925 3.0 (FR) L’UTILISATION DE L’ORDINATEUR ET DES LOGICIELS D’APPLICATION II

Le cours présente les options avancées des logiciels Word et Excel de Microsoft: formatage, correction automatique des textes, collaboration et partage des documents, création, utilisation et mémorisation des macro-commandes, sécuriser un document; et l’utilisation et l’animation et du son sur un site Web.

Condition préalable : GL/ITEC 2915 3.00.


*GL/MATH 1610 3.0 (EN) INTRO TO STATISTICAL METHODS I

This course covers the elements of probability theory and standard probability distributions, the measures and techniques used in descriptive statistics, principles of sampling and tests of significance.

Prerequisite: OAC or Grade 12 mathematics

Course credit exclusions: SC/MATH 1131 3.0, SC/MATH 2560 3.0.

*GL/MATH 1620 3.0 (EN) INTRO TO STATISTICAL METHODS II

This course covers the correlations and regression analysis, analysis of variance and parametric tests, and problem work emphasizing applications of statistics in the social sciences.

Prerequisite: GL/MATH 1610 3.0 or permission of the Department.

Course credit exclusion: SC/MATH 2570 3.0.

*GL/MATH 1660 3.0 (EN) LINEAR ALGEBRA I

This is a basic mathematics course as well as a very useful course for someone who wishes to do applied research in the social sciences. Among the topics considered are vectors, bases, matrices, systems of linear equations, rank and determinants. Some applications of linear algebra to various other disciplines, such as economic, are also included.

Course credit exclusions: SC/MATH 1021 3.0, SC/MATH 2221 3.0, and GL/MATH/MODR 2650 3.0.

*GL/MATH 1930 3.0 (FR) CALCUL DIFFÉRENTIEL ET INTÉGRAL I

Ce cours est le premier cours de base de mathématique de niveau universitaire. Les notions traitées sont : les fonctions, les limites, la continuité, la différentiation, le graphe des fonctions, les problèmes de maximisation et de minimisation de fonctions d’une variable, l’intégrale de Riemann et les primitives.

Condition préalable : au moins un crédit en mathématiques CPO ou permission du département.

Cours incompatible : SC/MATH 1300 3.0.

*GL/MATH 1930 3.0 (EN) CALCULUS I

This is a basic course in university calculus. Topics covered are functions, limits, continuity, differentiation, curve sketching, maximization and minimization problems for functions of one variable, the Riemann integral and antiderivatives.

Prerequisite: At least one OAC mathematics credit or permission of the department.

Course credit exclusion: SC/MATH 1300 3.0.
**GL/MATH 1940 3.0 (FR) CALCUL DIFFERENTIEL ET INTEGRAL II**


Condition préalable : GL/MATH 1930 3.0.
Cours incompatible : SC/MATH 1310 3.0.

**GL/MATH 1940 3.0 (EN) CALCULUS II**

A continuation of Calculus I. Topics covered are logarithms and exponentials, trigonometry including inverse trigonometric functions, hyperbolic trigonometry, the techniques or integration, indeterminate forms and L'Hospital's Rule, an introduction to sequences and series. Applications of the integral to the calculations of areas, volumes, work.
Prerequisite: GL/MATH 1930 3.0
Course credit exclusion: SC/MATH 1310 3.0.

**GL/MATH 2660 3.0 (EN) LINEAR ALGEBRA II**

This is a continuation of Linear Algebra I. More about vectors spaces, subspaces, linear transformations, Eigenvalues, eigenvectors, similarity, diagonalization, positive definite quadratic form, inner product spaces and Gram-Schmidt orthogonalization.
Prerequisite: GL/MATH 1660 3.0
Course credit exclusion: SC/MATH 2222 3.0, SC/MATH 2022 3.0.

**GL/MATH/MODR 2670 6.0 (EN) SECOND YEAR CALCULUS**

Numerical series and power series, vector algebra and calculus with applications to curves, and motions along curves in two and three dimensions. Functions of several variables, including partial differentiation, properties of surfaces, tangent lines and planes, and the problem of finding maximum and minimum values for such functions (with or without constraining side conditions. The rest of the course is devoted to double and triple integrals, line integrals and surface integrals, and some elementary differential equations.
Prerequisite: GL/MATH 1940 3.0
Course credit exclusion: SC/MATH 2310 3.0.

**GL/MATH 2670 6.0 (FR) CALCUL DES FONCTIONS DE PLUSIEURS VARIABLES**

Les sujets traités incluent le calcul vectoriel en Rn, les dérivées partielles des fonctions de plusieurs variables, les suites et les séries numériques, les séries de Taylor, l’optimisation des fonctions de plusieurs variables, les intégrales doubles et triples et le théorème de Green.
Condition préalable : GL/MATH 1940 3.00. Cours incompatibles : GL/MATH 2670 6.00 (EN), GL/MODR 2670 6.00 (EN) et SC/MATH 2310 3.00.

**GL/NATS 1000 6.0 (EN) ENERGY, PHYSICAL SCIENCES AND THE ENVIRONMENT**

This course examines the basic principles of Physics in order to study Energy, Earth and Environmental Sciences. This fundamental knowledge allows scrutiny in problems of sustainability. Energy, forms, and systems will be central themes through the course.

**GL/NATS 1540 6.0 (EN) INTRODUCTORY BIOLOGY**

This course is specifically designed for both non-science majors and those interested in pursuing a degree in a biologically related field. It provides an introduction to the diversity of life, how and why it arose, and the interactions of organisms with each other and their environment. To develop an understanding of the many ways living organisms are related, disciplines such as genetics, cell biology, evolutionary biology and ecology will be used.
Instructor: Professor Laura McKinnon

**GL/NATS 1540 6.0 (FR) PRINCIPES DE BIOLOGIE**

Ce cours se veut une introduction à la diversité du monde vivant. Il est conçu pour les étudiants en arts libéraux. Pour bien comprendre les multiples relations entre les organismes vivants, la génétique, la biologie cellulaire, la biologie évolution et l’écologie seront utilisées.

**GL/NATS 2203 6.0 (FR) UTILISATION ET CONSERVATION DES RESSOURCES BIOLOGIQUES**

Ce cours analyse les effets de l’activité humaine sur les ressources renouvelables biologiques : biodiversité, agriculture, forêts, pêcheries, etc. Le cours traite de sujets d’actualité tels que les invasions biologiques, la désertification, les perturbateurs endocriniens et les organismes transgéniques. Cours incompatible : GL/NATS 3720 6.00.
GL/NATS 2205 T.0 (FR) RESSOURCES ENERGETIQUES ET SANTE DES ECOSYSTEMES

Ce cours analyse l'impact de l'utilisation des ressources énergétiques (combustibles fossiles, hydroélectricité, énergie nucléaire, etc.) sur le fonctionnement et l'intégrité des écosystèmes. Le cours traite autant de l'impact local (ex: smog) que de l'impact global (ex: réchauffement climatique). Cours incompatible : GL/NATS 3720 6.00.

GL/NATS 2315 6.0 (EN) HUMAN PHYSIOLOGY IN HEALTH AND DISEASE

This course examines the basic structure and function of the human body and the underlying mechanisms of selected diseases. The course provides a broad overview of human physiology with a focus on current issues in human health. Human physiology is the major scientific discipline that forms the foundation of medicine and other health studies-related disciplines. The objective of this course is to provide students with a basic understanding of the structures and functions of the human body, introducing some fundamental concepts in physiology (the function of living systems). This course emphasizes the central concept of homeostasis – how human cells, tissues, organs and systems function to maintain a stable internal environment, appreciation of how the human body normally functions in healthy individuals is essential for understanding how alterations of homeostasis can lead to disease states. This course promotes an understanding of the basic principles of human physiology as it relates to disease by using a mechanism-based approach to teaching human disorders. It relies on the comprehension and application of concepts (not simply memorization), which allows for the development of critical thinking skills.

*GL/NATS 3200 6.0 (EN) HISTORICAL TRENDS IN HUMAN-ENVIRONMENTAL INTERRELATIONSHIPS

This course examines the profound impact of ancient environments upon living organisms, with reference to specific biological problems such as extinction. Early Paleolithic humans interacted with various natural ecosystems, which became modified as a result. The subsequent historical impact of human activities on the environment resulted in a trend of increasing pressures upon animal populations, world vegetation and soils. Case studies will range from prehistoric human-caused changes on Easter Island to modern day examples such as the Chernobyl nuclear accident. The course will explore diverse topics related to conservation biology, ecology, pandemics, water-related issues, etc.
Prerequisite: GL/NATS 1540 6.00 or GL/NATS 2300 3.00 or permission of the department.
Instructor: Professor Radu Guiasu

*GL/NATS 3206 3.0 (EN) HUMAN PARASITOLOGY (SUMMER 2016)

This course examines the basic principles of parasitology, parasite life cycles, host-parasite interactions, parasite control measures, and epidemiology of important human parasites. In addition, the ecological, medical and socio-economic impact of parasites on global health is examined.

*GL/NATS 3230 6.0 (FR) GÉNÉTIQUE ET SANTÉ HUMAINE

Le cours présente les bases cellulaires et moléculaires de la génétique. Il adopte une approche historique de la génétique moderne mendélienne et classique et vise à initialiser les étudiants à l’analyse génétique moderne du génotype et du phénotype des maladies humaines. Du diagnostic génétique à la thérapie génique, il aborde les problèmes actuels de la bioéthique, où l’être humain passe de l’objet à améliorer et à transformer.
Condition(s) préalables : cours de biologie niveau secondaire/CEGEP ou GL/NATS 1540 6.00.

*GL/NATS 4100 3.0 OR 6.0 (EN) INDIVIDUALIZED STUDIES / (FR) TRAVAIL INDIVIDUAL

Students complete independent reading and/or research under the guidance of one or several members of the faculty. Permission of the Chair of the department is needed.

GL/NATS 4205 3.0 (EN) HUMAN-INSECT INTERACTIONS

This course offers an overview of the multifaceted relationships between the human species and insects. It will include an introduction to entomology. The following aspects will be discussed: economic, health, and environmental impact of insects, insects in arts, culture, mythology, phobia, etc.
Instructor: Professor Jocelyn Martel

*GL/NATS 4210 3.0 (EN) ENVIRONMENTAL PHYSIOLOGY

This course examines important concepts and principles of environmental physiology, a branch of biology that focuses on how physiological systems in animals, including humans, integrate with one another in response to a change in environment.
Prerequisites: GL/NATS 1540 6.00 and/or GL/NATS 3215 6.00.
*GL/NATS 4215 3.0 (EN) COMMUNICATION AND SENSORY ECOLOGY
This course explores the various categories of signals used by animals in a variety of contexts, and the sensory channels which allow these signals to be sent and received. Other topics include: honest and deceitful communication, Game Theory and Information Theory applications, bird song, echolocation, bioluminescence, and the evolution of communication.
Prerequisite: GL/NATS 1540 6.00 or GL/NATS 2300 3.00 or permission of the department.
Course credit exclusion: GL/NATS 3215 3.00.
Instructor: Professor Radu Guiasu

GL/PSYC/NATS 3670 3.0 (EN) PSYCHOBIOLOGY
This course reviews the physiological basis of behaviour including elements of neuroanatomy, psycho-physiology, neuropsychology and psycho-pharmacology.
Prerequisite: GL/PSYC 2510 6.00 or equivalent.
Course credit exclusion: HH/PSYC 2240 3.00.

GL/PSYC/NATS 3675 3.0 (EN) HUMANS AS PRIMATES: COMPARATIVE EVOLUTION
This course discusses non-human primate research from comparative, developmental and evolutionary perspectives, focusing on its implications for human psychology. Topics may include primate evolution (brain/behaviour) and ecology, parenting, mating, social dominance/affiliation, language, deception, self-awareness, cognition and imitation.
Prerequisite: GL/PSYC 2510 6.00.

GL/PSYC/NATS 3680 3.0 (EN) EVOLUTION OF BEHAVIOR IN ANIMALS
Research and theory with animals are considered. Perspectives in evolution, ethology, sociobiology and psychology are dealt with. Topics covered include facial, vocal and spatial communications; perception, learning and reproduction.

Please note that we are in the process of adding new Biology courses and converting some NATS courses to BIOL courses.