

# BIOCHEM. AND MEDICAL GENETICS (BGEN)

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**BGEN 2000 Medical Cell Biology 3 cr**

This course will outline the molecular mechanisms underpinning human cellular biological processes, their role in specialized human cells, normal development and homeostasis, and how changes in cellular function can lead to the pathobiology of human diseases.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: HEAL 1502 (C+), or BIOL 1030 (C+) or BIOL 1031 (C+).

**BGEN 2010 Applied Nutrition for Pharmacy Practice 2 cr**

This course will provide an evidence-based guide for pharmacists on how nutrition and supplements can be applied in the management of disease or enhancement of health in pharmacy practice. Topics will focus on the underlying biochemical basis for nutrition management of selected chronic metabolic and genetic diseases. Chronic disorders for which pharmacists are most frequently consulted will be selected for discussion. Other topics could include frequently encountered diets or supplements.

**BGEN 3010 Genetics in Biomedicine 3 cr**

This course provides students with an overview of the field of human genetics from the research laboratory to the clinic. This course will cover the topics of epigenetics, patterns of inheritance, population genetics, complex traits, prenatal diagnosis and ethics. May not be held with BGEN 3022 or BGEN 3024 or the former BGEN 3020.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: BGEN 2000 (C+) or BIOL 2520 (C+) or BIOL 2521 (C+).

**Mutually Exclusive:** BGEN 3020, BGEN 3022, BGEN 3024

**BGEN 3022 Introduction to Human Genetics A 3 cr**

Introduction to basic principles of human genetics with emphasis on pedigrees analysis, population genetics and cytogenetics. May not be held with BGEN 3010 or the former BGEN 3020.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: BIOL 2500 or BIOL 2501 or BGEN 2000 or instructor permission.

**Mutually Exclusive:** BGEN 3010, BGEN 3020

**BGEN 3024 Introduction to Human Genetics B 3 cr**

Principles of human genetics with emphasis on clinical applications, including human development, disease treatments, prenatal diagnosis and ethics. May not be held with BGEN 3010 or the former BGEN 3020.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: BGEN 3022.

**Mutually Exclusive:** BGEN 3010, BGEN 3020

**BGEN 4010 Project Course in Human Genetics 6 cr**

A research project chosen in consultation with and supervised by a faculty member. A written report is required. The course is available primarily to final year Honours students in the Honours Genetics program. Selection of project and supervision to be arranged prior to September 30 and submitted in writing to department head. Deadline for submission of first draft to supervisor by March 1. Deadline for submission of final draft to supervisor and course coordinator is March 31.

**Mutually Exclusive:** CHEM 4710, CHEM 4711, MBIO 4530, MBIO 4531