

# PHYSIOLOGY (PHS)

The following courses are offered by the Faculty of Medicine.

## **PHS 11007 Physiology I (3 units)**

**Course Component:** Lecture

## **PHS 1107 Physiology I (3 units)**

**Course Component:** Lecture

## **PHS 1200 Physiology (6 units)**

**Course Component:** Lecture

## **PHS 2281 Physiology**

**Course Component:** Lecture

## **PHS 3300 Pathophysiology (3 units)**

Etiology of disease states, causes and mechanisms of pathology, preventive measures and corrective therapies.

**Course Component:** Lecture

Prerequisites: (ANP 1105, ANP 1106, ANP 1107) or (ANP 1111, ANP 1115). Previously PHS 4300.

## **PHS 3341 Physiology of Sensation, Regulation Mechanisms, Movement and Reproduction (3 units)**

Part 1 of a comprehensive study of human physiology with an emphasis on regulatory mechanisms. This course includes the biophysical basis of excitable tissues and the physiology of the nervous, muscular, endocrine and reproductive systems. It is assumed that students have a basic knowledge of chemistry, physics and biology.

**Course Component:** Lecture

## **PHS 3342 Physiological Regulation of Intake, Distribution, Protection and Elimination (3 units)**

Part 2 of a comprehensive study of human physiology with an emphasis on regulatory mechanisms. This course includes the physiology of the cardiovascular, immune, respiratory, renal and digestive systems. It is assumed that students have a basic knowledge of chemistry, physics and biology.

**Course Component:** Lecture

Students are strongly advised to complete PHS 3341 before taking PHS 3342.

## **PHS 3700 Pathophysiology (3 crédits)**

Étiologie des maladies, causes et mécanismes des pathologies, mesures préventives et thérapies correctives.

**Volet :** Cours magistral

Préalables : (ANP 1505, ANP 1506, ANP 1507) ou (ANP 1511, ANP 1515). Antérieurement PHS 4700.

## **PHS 3741 Physiologie des sensations, des mécanismes régulateurs, du mouvement et de la reproduction (3 crédits)**

La première partie d'une étude approfondie de la physiologie humaine qui porte plus particulièrement sur les mécanismes de régulation physiologique du corps humain. Ce cours comprend la base biophysique des tissus excitables ainsi que la physiologie des systèmes nerveux, musculaire, endocrinien et reproducteur. Une connaissance de base de la chimie, de la physique et de la biologie est essentielle.

**Volet :** Cours magistral

## **PHS 3742 Régulation physiologique de l'absorption, de la distribution, de la protection et de l'élimination. (3 crédits)**

La deuxième partie d'une étude approfondie de la physiologie humaine, en particulier des mécanismes de régulation du corps humain. Il comprend la physiologie des systèmes cardiovasculaire, immunitaire, respiratoire, urinaire et digestif. Une connaissance préalable de base de la chimie, de la physique et de la biologie est essentielle.

**Volet :** Cours magistral

Il est fortement conseillé aux étudiants de compléter PHS 3741 avant de suivre PHS 3742.

## **PHS 4100 Human Physiology and Mechanism of Disease (6 units)**

Lectures and discussions of selected topics in pathophysiology. Students will need to have acquired an understanding of normal physiology and the concepts involved therein. Attention will be paid to review of the principles involved in normal physiology. This course will then focus upon the etiology of the diseased state and underscore the causes and mechanisms of deranged physiology, preventative measures and corrective therapy. The topics covered will include the cardiovascular system, the gastro-intestinal tract, the respiratory and renal systems, neuromuscular and central nervous function, the endocrine and reproductive systems.

**Course Component:** Lecture

## **PHS 4219 Research Project (10 units)**

The student will undertake a research project under the supervision of one of the professors within the Department.

**Course Component:** Research

Permission of the Department is required.

## **PHS 42191 Research Project (Part 1 of 2)**

The student will undertake a research project under the supervision of one of the professors within the Department. (Part 1 of 2)

**Course Component:** Research

## **PHS 42192 Research Project (Part 2 of 2) (10 units)**

The student will undertake a research project under the supervision of one of the professors within the Department. (Part 2 of 2)

**Course Component:** Research

Prerequisite: PHS 42191

## **PHS 4320 Special Topics in Cardiovascular and Renal Physiology (3 units)**

Series of lectures and demonstrations covering cardiovascular physiology, with an emphasis on quantitative approaches.

**Course Component:** Lecture

## **PHS 4326 Seminars in Physiology (3 units)**

This course is primarily intended for students enrolled in the 4th year Honour's program. Students are required to give two oral seminars (20 minute talk followed by 10 minutes of questions) and one poster-type presentation. The course is intended to introduce students to the art of preparing the different types of presentations encountered at scientific conferences and to defend their findings.

**Course Component:** Lecture

## **PHS 43261 Seminars in Physiology (Part 1 of 2)**

This course is primarily intended for students enrolled in the 4th year Honour's program. Students are required to give two oral seminars (20 minute talk followed by 10 minutes of questions) and one poster-type presentation. The course is intended to introduce students to the art of preparing the different types of presentations encountered at scientific conferences and to defend their findings. (Part 1 of 2)

**Course Component:** Seminar

**PHS 43262 Seminars in Physiology (Part 2 of 2) (3 units)**

This course is primarily intended for students enrolled in the 4th year Honour's program. Students are required to give two oral seminars (20 minute talk followed by 10 minutes of questions) and one poster-type presentation. The course is intended to introduce students to the art of preparing the different types of presentations encountered at scientific conferences and to defend their findings. (Part 2 of 2)

**Course Component:** Seminar

Prerequisite: PHS 43261

**PHS 4335 Special Topics in Endocrine Physiology (3 units)**

Selected topics in endocrinology and the control of metabolic homeostasis in the whole animal including elements of the biological application of systems analysis.

**Course Component:** Lecture

**PHS 4336 Reproductive Physiology (3 units)**

Lecture and seminar course with emphasis on human reproduction. The course will cover various aspects of reproduction including gonadal development, ovulation, fertilization, implantation, pregnancy and parturition. The physiological basis of reproductive disorders and reproductive technology will also be covered.

**Course Component:** Lecture

Recommended prerequisites: ANP1107, ANP1507 or PHS3341.

**PHS 4340 Electrophysiology of Excitable Tissues (3 units)**

A lecture and demonstration course. Origin and methods of measuring bioelectric potentials will be considered, including voltage clamp methods for measuring current-voltage relationships across cell membranes, an introduction to cable theory, Hodgkin-Huxley equations and the action potential as a travelling wave. Control of ionic channels through biological membranes and the role of active transport across membranes as regulators of the intracellular environment will be considered.

**Course Component:** Lecture

**PHS 4345 Gastrointestinal Physiology (3 units)**

**Course Component:** Lecture

**PHS 4355 Renal Physiology (3 units)**

**Course Component:** Lecture