

Pre- Health Sciences (Pathways to Certificates and Diplomas)

Course Descriptions

PH 145 – Introduction to Health Care in Canada

This course is intended to provide a broad overview of Canadian health care policy and delivery and will provide students with an opportunity to identify current issues and trends affecting health care in Ontario, and more specifically Northwestern Ontario. Students will examine the changing role of the health care professional, as well as the ever-expanding contribution of allied and alternative health care professionals in the delivery of continuous care in a timely fashion. Health care professions are researched through interviews with and/or presentations made by program coordinators and practicing professionals, thus providing the opportunity for students to develop personal and academic goals.

PH 147 – Biology I

This introductory biology course focuses on cellular processes involved in biological systems. Students will complete a thorough examination of the characteristics of life, cell structure and function, cellular respiration, energy systems, DNA structure and gene function. Through these investigations, students are introduced to the basic processes of cellular biology, including membrane transport, aerobic and anaerobic physiology, enzyme-catalyzed reactions and protein synthesis. The goal of this course is for students to develop an understanding and appreciation of the four key theories that unite biology as a science: cell theory, gene theory, the theory of heredity and the theory of evolution. Students acquire basic laboratory skills through the investigation of factors that influence cellular activity.

PH 148 – Chemistry I

In this course, students will learn the fundamentals of chemistry with real life examples and apply them in processes and applications that relate to health care fields. The concepts studies will include the study of matter and chemical bonding, quantities in chemical reactions and solutions and solubility. These topics will have a strong health science emphasis and will provide students with a chemistry perspective of health and the human body. The chemistry concepts will continually highlight the connections of chemistry with health, medicine and research areas.

MA 021 – Pre-Health Math I

This course, combined with MA 216, Pre-Health Math II College, is designed to assist students to understand mathematics and use it effectively. MA 021 focuses on the math skills required in many college-based health care studies. Students will construct their own mathematical ideas and make connections to previously learned material. Students will also explore mathematical ideas through application to the real world, with emphasis on the health sciences. Concepts studied include numeracy fundamentals, systems of measurement and dimensional analysis. Students will develop essential critical thinking and problem-solving skills through exposure to application problems, including dosage calculations, solution, dilutions, concentrations, and pH.

GE 113 – Building for Success

This transformative course will provide you with the practical skills, knowledge and attitudes you need for success in college, your career and your life. In order to maximize your post-secondary experience, you will learn about your personal learning style, how to study effectively, how to take notes, how to manage your time, the importance of effective communication and much more. You will also discover specific abilities and characteristics that will provide you with the opportunity for personal growth and increased well-being. Learn how to maximize your potential with this course.

MA 216 – Pre-Health Math II

Pre-Health Math II, combined with MA 021, is designed to acquaint students with a basic understanding of mathematics and how to use it effectively. MA 216 focuses on the math skills required in many college-based health care studies. Students will construct their own mathematical ideas and make connections to previously learned material. Students will also explore mathematical ideas through application to the real world, with emphasis on the health sciences. In Pre-Health Math II, students will study introductory algebra, graphing and solving equations, as well probability and introductory statistical methods.

PH 246 – Introduction to Biology II

In Biology II, students will study how cells reproduce, including the cell cycle and cell division mechanisms. Topics covered include the mechanisms involved in the formation of gametes, patterns in inherited traits, Mendel's Laws of Inheritance, non-Mendelian inheritance, DNA structure and replication, gene expression, mutation and repair, and genetic technologies and applications. Evolutionary theory, particularly its role in explaining the unity and diversity of life on Earth, is covered in the second half of the course. Like all biological systems, both disease-causing organisms and their hosts evolve. From this perspective, understanding the life cycles of human pathogens and how they evolved plays an important role in research and treatment of disease. Topics include the principles of taxonomy and phylogeny, the beneficial and harmful effects of microorganisms in the environment, particularly bacteria, viruses, and fungi as human pathogens. The importance of biodiversity in maintaining viable ecosystems is an underlying theme throughout the course.

PH 248 – Chemistry II

In this course, students will learn the fundamentals of chemistry with real life samples and apply them in processes and applications that relate to health care fields. The concepts studied will include the study of acids and bases, gases, and organic chemistry. Students will develop an understanding of organic compounds, their nomenclature, structure, properties based on intermolecular forces and reactions. These topics will have a strong health science emphasis and will provide students with a chemistry perspective of health and the human body. The chemistry concepts will continually highlight the connections of chemistry with health, medicine and research areas.

PH 249 – Human Biology

Through the study of anatomy and physiology students will understand the human body. The course is intended to introduce the student to common terms and principles used in the study of the human body. It is designed to better prepare students who intend to further their studies in health sciences field. Major topic areas of the course include: general plan of the human body; human body chemistry; structure and function of cells, tissues, and organ systems. The major organ systems are studied from an anatomical and physiological perspective.