Pre-Health Sciences Pathway to Certificates and Diplomas

Section B.118
9/22/2020

Ontario College Certificate (1 Year - 2 Semesters) (3060)

705.759.6700 : 1.800.461.2260 : www.saultcollege.ca : Sault Ste. Marie, ON, Canada

PROGRAM OVERVIEW

This program is designed to prepare graduates for admission to Ontario College Certificate and Diploma programs at Ontario Colleges of Applied Arts and Technology in the health sciences or other related programs in the biological or chemical sciences.

The program provides students with the knowledge and skills in communication, mathematics, human anatomy, biology and chemistry needed to be successful in health and science-related college programs. In addition, the program provides students with the opportunity to learn about potential careers in the health sciences and to identify other college programs focusing on the biological or chemical sciences that will enable them to achieve their career objectives.

This is a two-semester certificate-level program leading to an Ontario College Certificate or Diploma.

PROGRAM OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Discuss and analyze biological concepts and systems of human biology, specifically cells, tissues and organ systems, and identify their relation to homeostasis, health, wellness and the human body.
2. Discuss the fundamental concepts of chemistry, specifically the properties of matter and organic compounds, and apply them to processes and applications related to health, wellness and the human body.
3. Apply concepts of mathematics and statistics to interpret health care data and solve typical mathematical problems in health care and related science professions.
4. Communicate clearly, concisely, and correctly in written, spoken, and visual form using language and terminology appropriate and relevant to health and other science-related fields.
5. Investigate future careers in health sciences and high affinity fields and identify appropriate postsecondary programs to prepare for chosen career.
6. Discuss strategies for ongoing personal and professional development.

Reference

Ministry of Advanced Education and Skills Development, Pre-Health Sciences Pathways to Certificates and Diplomas Program Standards (MTCU 41598), March 2017.

ADMISSIONS

MINIMUM ACADEMIC REQUIREMENTS

OSSD or equivalent or mature student status.

CAREER PATHS

Upon successful completion of the program, the student will be eligible to apply for admission to the first year of a health and/or science-related certificate or diploma program at an Ontario College of Applied Arts and Technology.

The curriculum has been designed to meet subject-specific entrance requirements.

Successful completion of the program does not guarantee entry into any specific program.

MANDATORY FEES

Domestic		International	
Tuition	Ancillary	Tuition	Ancillary
N/A	N/A	N/A	N/A

These fees are for the 2020-2021 academic year (year 1 of study) and are subject to change. Please visit your Student Portal to view your Schedule of Fees.

EDUCATIONAL PATHS

It is expected that graduates of the Pre-Health Sciences Pathway to Certificates and Diplomas program will be eligible to apply for admission to multiple health and/or science programs in Ontario Colleges of Applied Arts and Technology at the certificate or diploma level.

OTHER INFORMATION

This program will not be offered in the 2020 / 2021 Academic Calendar Year.

For more information contact Program Coordinator Leslie Dafoe at 705.759.2554, ext 2630 or email leslie.dafoe@saultcollege.ca.

PROGRAM OF STUDY

SEMESTER 1
BIO180-4 Biology I for PCD
CHM180-4 Chemistry I for PCD
CMM110-3 College Communication Skills
COM102-3 Computers in Human Services
MTH180-4 Math I for PCD

SEMESTER 2
BIO181-4 Biology II for PCD
CHM181-4 Chemistry II for PCD
MED111-3 Medical Terminology
MTH181-3 Math II for PCD
PHS130-2 Introduction to Canadian Health Care Providers

Course Descriptions

Semester 1

Biology I for PCD (BIO180) (4 credits)
This course will introduce the student to the basic concepts of biology, both general and human. The course begins with an overview of life and biological systems. This is followed by an introduction to human biology as it relates to health and wellness. Emphasis is placed on organization of the body into cells, tissues and organ systems. Topics include characteristics, classification and organization of life, cell structure and function, meiosis and mitosis, basic Mendelian genetics, homeostasis, and the anatomy and physiology of select human organ systems.

Chemistry I for PCD (CHM180) (4 credits)

In Chemistry for Health Sciences, 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 studied will include the study of matter and chemical bonding, quantities in chemical reactions, solutions and solubility, acids and bases. In this course, students will examine the fundamental concepts, procedures, and calculations of chemistry. Course work will include examples and problems that relate to health and the human body. Topics in this course include physical and chemical properties of matter, chemical bonding, nomenclature, chemical quantities, chemical reactions, and stoichiometry.

Laboratory investigations in this course will focus on safety, measurement, and common practices and procedures. The purpose of the lab work is to develop practical skills while gaining a better understanding of the theoretical concepts and calculations.

College Communication Skills (CMM110) (3 credits)

This course is designed to help students develop the skills necessary to communicate effectively in their programs and at the college level. Students will think critically to capture the meaning of messages and respond appropriately; produce coherent, clear paragraphs and essays; and purposively research and responsibly integrate credible sources into their own writing. Emphasis is placed on the writing process, from planning to revising, while providing opportunities to explore various modes of communication.

Computers in Human Services (COM102) (3 credits)
This course is designed to provide students with the level of computer literacy needed to function in today`s workplace. Utilizing a hands-on approach, general computer concepts, and the concepts of microcomputer operating systems, Internet, and word processing applications will be introduced. A personal E-mail account will be introduced and used throughout the course to facilitate good communications between students and faculty and simulate the modern work environment.

Math I for PCD (MTH180) (4 credits)
By the end of this course, students will have demonstrated the ability to evaluate a variety of arithmetic and algebraic expressions and apply these principles to typical problems that arise in the health care fields. Concepts studied include numeracy fundamentals; systems of measurement and dimensional analysis; and algebra, with an emphasis on analytical techniques. Students will develop essential critical thinking and problem-solving skills through exposure to application problems, including dosage calculations, solution dilutions, and concentrations.

Semester 2

Biology II for PCD (BIO181) (4 credits)
This course will continue to introduce the student to the basic concepts of biology, both general and human. The course follows topics introduced in Bio180, with a review of the organization of the body into cells, tissues and organ systems. Topics include the anatomy and physiology of following human organ

systems: cardiovascular, respiratory, digestive, urinary, integumentary, and lymphatic & immune. In addition, there will be an introduction to infectious organisms. By the end of the course, students will have an appreciation for the complexity of the human body and its functions.

Chemistry II for PCD (CHM181) (4 credits)
In this course, students will continue to examine the fundamental concepts, processes, and calculations of chemistry. This course approaches chemistry from a health and human body perspective and includes topics in the gas laws, solutions and solubility, acids and bases, biochemical reactions, nomenclature and properties 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. Lab work in this course will focus on applying the scientific method to investigations in chemistry, the human body, and health. The purpose of the lab work is to develop investigative and research skills while gaining a better understanding of the theoretical concepts.

Medical Terminology (MED111) (3 credits)

This basic course will focus on the anatomical structure and function of the human body and related terminology used to describe body parts, structure and function. Related terminology will also include general or symptomatic terms, diagnostic terms, surgical procedures and abbreviations.

Math II for PCD (MTH181) (3 credits)

By the end of this course, students will have demonstrated the ability to graph, describe, and evaluate linear, quadratic, exponential, and logarithmic functions. Critical thinking and problem-solving skills will continue to develop through exposure to application problems including exponential growth, radioactive decay, and pH. Students will use numerical methods along with graphs, charts, and tables to effectively describe data, calculate the empirical and theoretical probability of simple events using key rules of probability, and apply descriptive and inferential statistics to applications from the health care fields.

Students will develop essential critical thinking and problem-solving skills through exposure to application problems, including dosage calculations, solution dilutions, and concentrations.

Introduction to Canadian Health Care Providers (PHS130) (2 credits)

This course introduces students to Canadian health care providers involved in the circle of care. It promotes an understanding of the diversity of roles and inter-professional relationships of various health professionals. Students explore the roles of professional associations and the regulatory bodies. Models of health care delivery and key elements of inter-professional health care teams are discussed.