Area of Interest: Health Sciences

Pre-Health Sciences Pathway to Advanced Diplomas and Degrees

Ontario College Certificate Program Code: 1626X01FPM

1 Year

Pembroke Campus

Our Program

Develop knowledge and skills to continue your studies in health sciences.

The one-year Pre-Health Sciences Pathway to Advanced Diplomas and Degrees is an Ontario College Certificate program that prepares you for more advanced health science programs. You develop strong study skills and earn post-secondary credits that may transfer to other postsecondary programs.

As a student, you explore your interests in the health science field while meeting the eligibility requirements for a number of Algonquin College advanced diploma programs. These include:

- Biotechnology - Advanced
- Cardiovascular Technology
- Dental Hygiene
- Massage Therapy
- Medical Radiation Technology
- Respiratory Therapy
- Paramedic

The curriculum provides you with the opportunity to learn more about potential careers in the health sciences as you improve your skills in communications, mathematics, biology, chemistry and physics.

The intention of this program is to prepare you for further study in either advanced diploma or degree programs, rather than moving directly into the chosen industry. It is important to note that completing this program doesn`t guarantee entry into a health or science program.

SUCCESS FACTORS

This program is well suited to individuals who:

- Are interested in health sciences.
- Have good study habits and time management skills.
- Enjoy working with others and as a member of a team.
- Are attentive to detail.
- Have an interest in enhancing their aptitude in math and science.
- Have proficient computer skills.

Employment

Graduates of the Pre-Health Sciences Pathway to Advanced Diplomas and Degrees program may be eligible to apply for admission to advanced diploma college programs as well as university degree programs within two broad fields: applied health sciences or general sciences.

In particular, graduates will be eligible to apply to Algonquin College`s Medical Radiation Technology, Respiratory Therapy, Cardiovascular Technology, Biotechnology-Advanced, Dental Hygiene, and Massage Therapy programs. Furthermore, graduates will also be eligible to apply to the Bachelor of Health Sciences at Queen`s University and the Bachelor of Science in Nursing, Bachelor of Health Sciences, and the Bachelor of Human Kinetics (emphasis on Social Sciences) at the University of Ottawa as well as various advanced diploma programs.

Successful completion of the program does not guarantee entry into any health or science program.

Learning Outcomes

The graduate has reliably demonstrated the ability to:

- Examine biological concepts, processes and systems of the human body, including genetics and epigenetics, as well as the structure, function and properties of the molecules of life, cells, tissues and organ systems in relation to homeostasis, physical development and health.

- Examine concepts, processes and systems of chemistry, including atomic and molecular structure; quantities in chemical reactions; solutions and solubility; acids and bases; as well as organic chemistry and biochemistry in relation to health and the human body.

- Solve numeric problems and interpret data related to health sciences and other science-related fields using mathematical concepts, including algebra and probability, along with descriptive and inferential statistics.

- Use health sciences and other science-related language and terminology appropriately to communicate clearly, concisely and correctly in written, spoken and visual forms.

- Prepare a personal strategy and plan for academic, career and professional development in the health sciences or other science-related fields.

- Investigate health sciences and science-related questions, problems and evidence using the scientific method.

- Examine fundamental physics laws and concepts and their application to health sciences and other science-related fields.

- Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship.

Program of Study

Level: 01	Courses	Hours
BIO7005	Human Biology	56.0
ENL7078	Communication Studies for the Health Sciences	42.0
MAT7024	Math for the Health Sciences	56.0
PSY7032	Psychology	56.0
SCI7004	Introductory Chemistry	56.0
SSC7097	Exploring Careers in Health Sciences	42.0
Level: 02	**Courses**	**Hours**
BIO7007	Anatomy and Physiology	70.0

ENL7079	Communication and Research for the Health Sciences	56.0
MAT7027	Statistics for the Health Sciences	56.0
SCI7006	General, Organic and Biological Chemistry	56.0
Elective: choose 1	**Courses**	**Hours**
PHY7002	Physics for the Health Sciences	56.0
SOC7012	Sociology of Health	56.0

Fees for the 2023/2024 Academic Year

Tuition and related ancillary fees for this program can be viewed by using the Tuition and Fees Estimator tool at https://www.algonquincollege.com/fee-estimator .

Further information on fees can be found by visiting the Registrar`s Office website at https://www.algonquincollege.com/ro .

Fees are subject to change.

Additional program related expenses include:

- Books and supplies cost approximately $800 for the program duration and can be purchased in the campus bookstore.

Admission Requirements for the 2024/2025 Academic Year

College Eligibility

- Ontario Secondary School Diploma (OSSD) or equivalent. Applicants with an OSSD showing senior English and/or Mathematics courses at the Basic Level, or with Workplace or Open courses, will be tested to determine their eligibility for admission; OR

- Academic and Career Entrance (ACE) certificate; OR

- General Educational Development (GED) certificate; OR

- Mature Student status (19 years of age or older and without a high school diploma at the start of the program). Eligibility may be determined by academic achievement testing for which a fee of $50 (subject to change) will be charged.

Program Eligibility

- English, Grade 12 (ENG4C or equivalent) with a grade of 65% or higher.

- Mathematics, Grade 11 (MBF3C or equivalent) with a grade of 65% or higher.

- Applicants with international transcripts must provide proof of the subject-specific requirements noted above and may be required to provide proof of language proficiency. Domestic applicants with international transcripts must be evaluated through the International Credential Assessment Service of Canada (ICAS) or World Education Services (WES).

- IELTS-International English Language Testing Service (Academic) Overall band of 6.5 with a minimum of 6.0 in each band; OR TOEFL-Internet-based (iBT)-overall 88, with a minimum of 22 in each component: Reading 22; Listening 22; Speaking 22; Writing 22; OR Duolingo English Test (DET) Overall 120, minimum of 120 in Literacy and no score below 105.

Should the number of qualified applicants exceed the number of available places applicants will be selected on the basis of their proficiency in English and mathematics.

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Application Information

PRE-HEALTH SCIENCES PATHWAY TO ADVANCED DIPLOMAS AND DEGREES
Program Code 1626X01FPM

Applications to full-time day programs must be submitted with official transcripts showing completion of the academic admission requirements through:

ontariocolleges.ca
60 Corporate Court
Guelph, Ontario N1G 5J3
1-888-892-2228

Students currently enrolled in an Ontario secondary school should notify their Guidance Office prior to their online application at http://www.ontariocolleges.ca/ .

Applications for Fall Term and Winter Term received by February 1 will be given equal consideration. Applications received after February 1 will be processed on a first-come, first-served basis as long as places are available.

International applicants please visit this link for application process information:
https://algonquincollege.force.com/myACint/ .

For further information on the admissions process, contact:

Registrar`s Office
Algonquin College in the Ottawa Valley
1 College Way
Pembroke, ON K8A 0C8
Local: 613-735-4700
Toll-free 1-800-565-4723
TTY: 1-866-620-3845
Fax: 613-735-4739
https://algonquincollege.com/pembroke

Additional Information

This is a full-time program, running in two consecutive 14-week semesters. Classes may be scheduled anytime Monday - Friday between the hours of 8:00 am - 10:00 pm.

The Pre-Health Sciences Pathways program is part of the college`s Bring Your Own Device (BYOD) initiative. All applicants are expected to own a laptop or tablet, be computer proficient and have a working knowledge of Microsoft Office Suite.

This full-time program is also offered at the Woodroffe Campus. While the learning outcomes at the Pembroke and Woodroffe Campuses are the same, the curriculum order and subject delivery are reflective of local circumstances that impact program delivery.

Please note: Students must receive a minimum grade of C in MAT7024 in order to be eligible to register in the PHY7002 elective.

Contact Information

Program Coordinator(s)

- Bo Stelmach, mailto:stelmab@algonquincollege.com , 613-735-4700, ext. 2629

Course Descriptions

BIO7005 Human Biology

An understanding of human biology forms the basis of further study in health science. Students learn about the cell as the basic unit of structure and function in the human body. In addition, students relate the organization of cells to tissues, organs and systems to the maintenance of homeostasis. Through interactive group work and laboratory exercises, human biology and genetics are explored on both microscopic and macroscopic levels.

Prerequisite(s): none
Corerequisite(s):none

BIO7007 Anatomy and Physiology

The structure and function of the body is fundamental to health science. Students further their knowledge of the structure of the human body through case studies, online activities and the examination of anatomical models and wet specimens in a laboratory environment. The impact of microbes on human health and the interrelationships of body systems are investigated.

Prerequisite(s): BIO7005
Corerequisite(s):none

ENL7078 Communication Studies for the Health Sciences

The ability to communicat clearly contributes to success in academics and in the workplace. Strong communicators critically assess informaton and ideas and can explain them accurately and concisely, in the language, style, and format appropriate to the audience and purpose. Students develop their skills through reflection analysis, and reporting in individual and team-based assignments.

Prerequisite(s): none
Corerequisite(s):none

ENL7079 Communication and Research for the Health Sciences

The ability to understand, apply and communicate scientific information is critical in healthcase education and practice. Students use research tools to conduct preliminary research and learn to write with a scientific focus. Skills are developed through workshops, collaborative projects, literature reviews, and presentations.

Prerequisite(s): ENL7078
Corerequisite(s):none

MAT7024 Math for the Health Sciences

Through the study of mathematics, students learn how to reason logically, think critically and solve problems - key skills for success in the health sciences. Students review key numeracy concepts, systems of measurement and dimensional analysis and use analytical techniques to solve problems arising from real-world applications involving algebraic, linear, exponential and logarithmic functions and equations.

Prerequisite(s): none
Corerequisite(s):none

MAT7027 Statistics for the Health Sciences

Statistics and probability theory are utilized in many ways in the health sciences and in everyday life. Students further develop mathematical problem-solving skills working individually and in groups by applying statistical concepts and methods to collect, organize, analyze and interpret data. In addition to examining and applying descriptive and inferential statistics, students solve health science-related problems involving empirical and theoretical probability and carry out a culminating investigation that integrates statistical concepts and skills.

Prerequisite(s): none
Corerequisite(s):none

PHY7002 Physics for the Health Sciences

As the fundamental science, physics underpins chemistry and biology. Through extensive use of algebra, students apply critical thinking and problem-solving techniques to physics principles related to the health science field. Concepts studies include kinematics, forces, work, energy and power, thermodynamics, fluids and pressure, nuclear physics, electrostatics, magnetism, waves and electromagnetic radiation. A minimum C grade in MAT7024 is required for registration in this elective course.

Prerequisite(s): MAT7024
Corerequisite(s):none

PSY7032 Psychology

Understanding self and others is essential in promoting healthy interactions and success in personal and professional relationships. Students examine human behaviour and thought processes from both historical and current psychological perspectives.

Prerequisite(s): none
Corerequisite(s):none

SCI7004 Introductory Chemistry

All biological processes are rooted in chemistry. Through collaboration and a focus on health related examples, students learn about matter, the periodic table, compounds, gas laws, nuclear chemistry, quantities in chemical reactions and solutions and solubility. Laboratory experiments and demonstrations enhance comprehension of concepts and help students develop safe laboratory practices.

Prerequisite(s): none
Corerequisite(s):none

SCI7006 General, Organic and Biological Chemistry

Understanding the human body, its diseases and the medicines used to treat disease requires knowledge of general, organic and biological chemistry. Through lectures and laboratory exercises, students study energy changes in chemical systems, acids, bases and buffers, equilibria, electrochemistry, organic compounds and the biochemistry of the human body. Focus is on the different classes of organic compounds and their relationship to carbohydrates, lipids, proteins and nucleic acids.

Prerequisite(s): SCI7004
Corerequisite(s):none

SOC7012 Sociology of Health

Understanding current trends and issues in the interaction between society and health is essential for professionals working in the industry. Using the sociological perspective, students examine the social factors shaping health, illness, and the changing nature of health care work.

Prerequisite(s): none
Corerequisite(s):none

SSC7097 Exploring Careers in Health Sciences

Investigating a variety of health science opportunities is an integral step in successful career planning. Through discussions, independent research, and self-reflection, students explore areas of health specialization and prepare a plan for academic and career development in the health sciences.

Prerequisite(s): none
Corerequisite(s):none