Area of Interest: Health Sciences

Pre-Health Sciences Pathway to Advanced Diplomas and Degrees

Ontario College Certificate

Program Code: 1626X01FWO

1 Year

Ottawa 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 postsecondary 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 (Co-op and Non-Co-op Version)
- Cardiovascular Technology
- Dental Hygiene
- Massage Therapy
- Medical Radiation Technology
- Respiratory Therapy

In addition, graduates may be eligible to apply to various degree programs including:

- Bachelor of Science in Nursing (BScN) at the University of Ottawa
- Bachelor of Health Sciences (BHSc) at the University of Ottawa
- Bachelor of Human Kinetics (BHK) at the University of Ottawa
- Bachelor of Health Sciences (BHSc) at Queen's University
- Bachelor of Culinary Arts and Food Sciences at Algonquin College
- Bachelor of Food Sciences at the University of Ottawa

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 a chosen industry. It is important to note that completing this program does not guarantee entry into a health or science program.

Students interested in further academic study in a health-related one-year certificate or two-year diploma program should consider applying to the Pre-Health Sciences Pathway to Certificates and Diplomas program.

Employment

Graduates of the Pre-Health Sciences Pathway to Advanced Diplomas and Degrees program may be eligible to apply for admission to various certificate, diploma, advanced diploma or degree programs. However, final admission to any program is at the discretion of the receiving institution.

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
BIO0005	Human Biology	56.0
ENL0078	Communication Studies for the Health Sciences	42.0
MAT0024	Math for the Health Sciences	56.0
PSY0032	Psychology	42.0
SCI0004	General Chemistry	56.0
SSC0097	Exploring Careers in Health Sciences	42.0
Level: 02	**Courses**	**Hours**
BIO0007	Anatomy and Physiology	70.0
ENL0079	Communications and Research for the Health Sciences	56.0
MAT0027	Statistics for the Health Sciences	56.0
SCI0006	Organic and Biological Chemistry	56.0
Elective: choose 1	**Courses**	**Hours**
PHY0002	Physics for the Health Sciences	56.0

SOC0012	Sociology of Health	56.0

Fees for the 2025/2026 Academic Year

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

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

Fees are subject to change.

Additional program related expenses include:
Textbooks, access to online learning platforms, and supplies cost approximately $800.

Admission Requirements for the 2026/2027 Academic Year

College Eligibility

- Ontario Secondary School Diploma (OSSD) or equivalent;

- 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 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 based on their proficiency in English and mathematics.

Admission Requirements for 2025/2026 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 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.

Not sure if you meet all of the requirements? Academic Upgrading may be able to help with that: https://www.algonquincollege.com/access/ .

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.

Application Information

PRE-HEALTH SCIENCES PATHWAY TO ADVANCED DIPLOMAS AND DEGREES
Program Code 1626X01FWO

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 admission 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.

For further information on the admissions process, contact:

Registrar's Office
Algonquin College
1385 Woodroffe Ave
Ottawa, ON K2G 1V8
Contact: https://www.algonquincollege.com/ro

Additional Information

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

The Pre-Health Sciences Pathway programs are part of the College's Bring Your Own Device (BYOD) initiative. All applicants are expected to own a laptop or tablet, have access to a reliable internet connection, be computer proficient and have a working knowledge of Microsoft Office Suite. There may also be additional technology-related resources required to participate in a course that are not included in the materials fee.

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

Contact Information

Program Coordinator(s)

- Janna Redmond, mailto:redmonj@algonquincollege.com , 613-727-4723, ext. 2087

Course Descriptions

BIO0005 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. Students also gain insights into the structure and function of essential organ systems such as the digestive, cardiovascular, respiratory, and nervous system. 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

BIO0007 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): BIO0005
Corerequisite(s):none

ENL0078 Communication Studies for the Health Sciences

The ability to communicate clearly contributes to success in academics and in the workplace. Strong communicators critically assess information 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

ENL0079 Communications and Research for the Health Sciences

The ability to understand, apply and communicate scientific information is critical in healthcare 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): ENL0078
Corerequisite(s):none

MAT0024 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

MAT0027 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

PHY0002 Physics for the Health Sciences

As the fundamental science, physics underpins chemistry and biology. Through the extensive use of algebra, students apply critical thinking and problem-solving techniques to physics principles related to the health science field. Concepts studied include kinematics, forces, work, energy and power, thermodynamics, fluids and pressure, nuclear physics, electrostatics, magnetism, waves and electromagnetic radiation.

Prerequisite(s): MAT0024
Corerequisite(s):none

PSY0032 Psychology

Understanding mental processes, thoughts, feelings, and behaviours is essential in promoting healthy relationships. Through examining traditional and current psychology research, students learn how concepts are applied to many aspects of our personal lives. Learners develop skills to think critically about psychological issues and recognize the discipline as a natural science. Foundational theories in biology and behaviour, learning, motivation, cognition, memory, consciousness, sensation and perception are explored through a variety of learning activities.

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

SCI0004 General 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, 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

SCI0006 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, and proteins.

Prerequisite(s): SCI0004
Corerequisite(s):none

SOC0012 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

SSC0097 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