ASCBIO – Associate of Science – Biology and Pre-Medicine

University Arts and Science

Effective Term & Year: Fall 2026
Program Outline Review Date: 2031-03-01

Program Area: Math and Sciences

Description:

The Associate of Science degree in Biology and Pre-Medicine at College of the Rockies is a two-year program designed to provide students with a solid foundation in the dynamic and rapidly growing field of life sciences. Students are introduced to key concepts, theories and diverse modes of inquiry within the arts and sciences. With a strong emphasis on hands-on, lab-focused learning, this program helps students develop the essential academic and practical skills required for success in advanced studies or professional careers. This program is tailored to meet provincial Associate Degree requirements and includes 20 fully transferable courses, ensuring maximum transferability to universities across British Columbia. Students will explore the study of life from the molecular scale to global ecosystems, equipping them for further studies and careers in fields such as medicine, health sciences, forestry, conservation, education, fisheries, agriculture, biotechnology, scientific writing as well as laboratory and field research. With a learner-centered environment and comprehensive course offerings, this program provides an excellent starting point for undergraduate education in biology.

Program Information:

BC universities guarantee 60 transfer credits to holders of an associate degree, even if all the courses taken towards the ASc degree do not transfer individually to that institution. Bachelor's degree programs generally accept students by competitive admission; the Associate of Science degree does not guarantee admission to a degree program. Students who transfer into a degree program are responsible to meet all entrance requirements and degree completion requirements, and in some cases these requirements entail additional coursework to complete the 120 credits generally required of a Bachelor of Science degree. For a list of transfer policies at each institution, please see https://www.bctransferguide.ca/transfer-options/search-programs/.
Students with a goal of medical school must complete at least one additional year (30 credits), for a total of 90 post-secondary credits, after which they become eligible to apply for admission to Medical School

in Canada.
Students should plan carefully with an education advisor to ensure that all requirements are met.

Credentials Granted:

Associate of Science Degree

Minimum Course Grade: A minimum grade of D

Program Average: A minimum program grade point average of 3.0/10 (C average)

Program Goals and Career Pathways:

The Associate of Science Degree is designed for transfer into Year 3 of a Bachelor of Science in Biology (or related field including but not limited to biochemistry, molecular biology, cell biology, microbiology, ecology, conservation biology, health science) program.

Acceptance into a Biology major program is competitive and is not guaranteed. Students may wish to apply for dual admission with COTR and University of Lethbridge to ensure acceptance into a Year 3 Biology program.

Many courses in this program can also be applied towards the Registered Professional Biologist (R.P.Bio) designation with the College of Applied Biology.

Information pertinent to Medical Programs:

Admission to the UBC medical program requires a total of 90 university transferable credits including 6 credits of English, taken at a post-secondary institute. Students are therefore required to complete one additional year of study after completing this credential. While an advanced placement course such as AP BIOL can count towards prerequisites (with a 4 or better on the AP exam), such courses do not count towards the 90-credit requirement at a post-secondary institution.

Details on the UBC MD undergraduate admissions prerequisites are available here: Admission Requirements – MD Undergrad Education, UBC Faculty of Medicine

Admission is limited to Canadian citizens and permanent residents; BC residents are given preference over residents of other provinces. UBC states that BC applicants with less than a 75% overall academic average will not receive a full file review. All courses, including failures, are counted in the UBC GPA calculation.

Admission to other medical programs may have different requirements, students should consult institutional websites for specific program information and consult with appropriate program advisors.

Delivery Methods: On-Campus (Face-to-Face), Online

Credits: 60

Admission Requirements:

- Complete all of the following
  - Earned a minimum grade of C+ (65%) in at least 1 of the following:
    - ENST 12 – English Studies 12
    - ENFP 12 – English First Peoples 12
    - ENGL090 – Provincial English: Literature-based (0)
  - Complete 1 of the following
    - Earned a minimum grade of C+ (65%) in each of the following:
      - PREC 11 – Pre-Calculus 11
      - PREC 12 – Pre-Calculus 12
    - Complete all of the following
      - Completed the following:
        - PREC 12 – Pre-Calculus 12
      - Earned a minimum grade of B (75%) in each of the following:
        - CALC 12 – Calculus 12
    - Earned a minimum grade of C+ (65%) in at least 1 of the following:
      - MATH090 – Mathematics – Provincial Level
  - Complete all of the following
    - Completed at least 1 of the following:
      - LFSC 11 – Life Sciences 11
      - ATPH 12 – Anatomy and Physiology 12
      - BIOL090 – Biology-Provincial Level (Human Biology) (3)
    - Completed at least 1 of the following:
      - CH 12 – Chemistry 12
      - CHEM090 – Chemistry – Provincial Level (3)
  - Some courses within the program have course requisites. Refer to the academic calendar and course outline when selecting courses. Students can complete any required requisites before or after admission into the Associate of Science Degree

Recommended Admission Requirements:

It is highly recommended that students have completed the following courses:

PHYS 12 (Physics 12) or PHYS 090

Program Completion Requirements:

- Complete all of the following
  Associate of Science Degree
  6 credits in first year- English
  - Complete all of the following
    - Completed the following:
      - ENGL100 – English Composition (3)
    - Completed at least 1 of the following:
      - ENGL101 – Intro to Literature: Poetry and Drama (3)
      - ENGL102 – Introduction to Prose Fiction (3)

  6 credits in Mathematics which shall include at least 3 credits in Calculus
  - Complete all of the following
    - Completed the following:
      - MATH103 – Differential Calculus (3)
    - Completed at least 1 of the following:
      - MATH104 – Integral Calculus (3)
      - MATH101 – Finite Mathematics 1 (3)
      - STAT106 – Statistics (3)

  36 credits in Science, which shall include at least 3 credits in a laboratory science
  - Complete all of the following
    - Complete all of the following
      - Earned at least 18 credits from the following:
        - BIOL101 – Introduction to Biology 1 (3)
        - BIOL102 – Introduction to Biology 2 (3)
        - BIOL181 – Introductory Human Anatomy and Physiology 1 (3)
        - BIOL182 – Introductory Human Anatomy and Physiology 2 (3)
        - CHEM101 – Fundamentals of Chemistry 1 (3)
        - CHEM102 – Fundamentals of Chemistry 2 (3)
        - PHYS103 – Introduction to Physics 1 (3)
        - PHYS104 – Introduction to Physics 2 (3)
        - STAT106 – Statistics (3)
      - PHYS 104 required for UVic and TRU Biology major

      At least 18 credits in second-year Science in two or more subject areas
    - Complete all of the following
      - Earned at least 18 credits from the following:
        - BIOL200 – Introduction to Microbiology (3)
        - BIOL201 – Cell Biology (3)
        - BIOL202 – Introduction to Biochemistry (3)

        - BIOL203 – Genetics (3)
        - BIOL204 – Introduction to Ecology (3)
        - BIOL208 – Vertebrate Evolution and Comparative Anatomy (3)
        - BIOL251 – Introduction to Biostatistics (3)
        - CHEM201 – Organic Chemistry 1 (3)
        - CHEM202 – Organic Chemistry 2 (3)
        - GEOG251 – Quantitative Geography (3)
        - STAT206 – Calculus Based Statistics (3)
    - BIOL 208 UBC Requirement
      BIOL 204 UNBC and UVic Requirement

  6 credits in Arts other than English (excluding Mathematics and Laboratory-based Science courses)
- Complete all of the following
  - Completed at least 2 of the following:
    - FNST101 – First Nations Studies (3)
    - INDG101 – Introduction to Indigenous Studies (3)
    - INDG105 – Introduction to Health and Wellness in Indigenous Communities (3)
    - PSYC101 – Introduction to Psychology 1 (3)
    - PSYC102 – Introduction to Psychology 2 (3)
    - SOCI101 – Introduction to Sociology: The Individual and Society (3)
    - SOCI102 – Introduction to Sociology 2: Social Institutions (3)
  - Or two other University transfer electives

  6 credits in Arts, Science, or other areas
- Earned at least 6 credits from the following courses in these areas of study:
  - Humanities
  - Social Science
  - Lab Sciences
  - Sciences

Grand Total Credits: 60

Program Completion Requirements Notes:

A grade of "D" grants credit but may not be sufficient as a prerequisite for sequential courses.

Program Learning Outcomes:

Upon successful completion of the Associate Degree, students will be able to:

- apply core concepts from biology, chemistry, physics, and mathematics—including

subfields such as microbiology, genetics, ecology, cell biology, biochemistry, organic chemistry, and zoology—to explain scientific phenomena and solve discipline-specific problems;
- perform both foundational and advanced laboratory techniques in biology, chemistry, physics, and math, that apply the scientific method, support analysis of experimental data using appropriate tables/graphs, and enable communication of findings in formal lab reports; and
- connect knowledge across core science disciplines to select, critically evaluate, and synthesize information, such as relevant research articles, in ways that effectively communicate scientific ideas in both written and oral formats.

Prior Learning and Recognition: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, work-based assessment or a combination of assessments that is appropriate to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit http://www.cotr.bc.ca/transfer.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works

- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Program Changes:

Information contained in this program outline is correct at the time of publication. Courses and course content may be revised from time to time based on changing educational, employment and marketing needs. The timetable may also be revised.

Course Descriptions: Refer to Course Outlines – https://outlines.cotr.bc.ca/course/