UBC Okanagan
ACADEMIC CALENDAR
2020/21

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Faculty of Arts and Sciences

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Introduction

Also known as the Irving K. Barber School of Arts and Sciences

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Gino DiLabio, Dean pro tem
Trudy Kavanagh, Associate Dean, Undergraduate Recruitment, Services, and Success
Scott Reid, Associate Dean, Undergraduate Recruitment, Services, and Success (Science)
Bernard Momer, Associate Dean, Teaching, Learning and Curriculum
John Kironomos, Associate Dean, Research, Graduate and Post-doctoral Studies
Lael Parrott, Associate Dean, Strategic Personnel Planning and Development
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The Faculty of Arts and Sciences provides students the opportunity to obtain a well-rounded education in the foundational areas of knowledge, including the arts, the humanities, and the social, natural, and physical sciences. Although the Faculty comprises traditional academic disciplines, it is far from traditional. Students and faculty are encouraged to break down the barriers that separate disciplines and join in a mutual journey of discovery.

Program offerings in the Faculty of Arts and Sciences are organized loosely into clusters according to administrative departments that combine several programs under the leadership of a head. Most programs lead to either a Bachelor of Arts (B.A.) or a Bachelor of Science (B.Sc.) degree, with major, minor, and honours options. The B.A. is offered jointly with the Faculty of Creative and Critical Studies. Some graduate programs are also offered, with many new offerings anticipated.

Program Offerings

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<th>Credential</th>
<th>Subject Areas</th>
</tr>
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<td>Bachelor of Arts</td>
<td>B.A.</td>
<td>Anthropology, Computer Science, Economics, Gender and Women's Studies, Geography, History, Indigenous Studies, Mathematics, Philosophy, Political Science, Psychology, Sociology.</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>B.Sc.</td>
<td>Biology; Chemistry; Computer Science; Data Science; Earth and Environmental Sciences; Ecology and Evolutionary Biology; Economics; Environmental Chemistry; Freshwater Science; Mathematical Sciences; Mathematics; Microbiology; Physics; Psychology, Statistics, Zoology.</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>B.A.</td>
<td>General Studies; International Relations; Latin American Studies; Philosophy, Political Science, and Economics (PPE).</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>B.Sc.</td>
<td>General Science, Biochemistry and Molecular Biology, Data Science.</td>
</tr>
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<td>Interdisciplinary</td>
<td>B.A.</td>
<td>Interdisciplinary Studies, Psychology.</td>
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<tr>
<td>Graduate programs</td>
<td>M.A., Ph.D.</td>
<td>Interdisciplinary Studies, Psychology.</td>
</tr>
<tr>
<td>Graduate programs</td>
<td>M.Sc., M.D.S., Ph.D.</td>
<td>Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Data Science, Earth and Environmental Sciences, Interdisciplinary Studies, Mathematics, Medical Physics.</td>
</tr>
</tbody>
</table>

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Repeating Courses

Except in special cases, no student may repeat a course more than once.

Students wanting to repeat a course more than once must submit a written request to the Faculty of Arts and Sciences.

The highest grade achieved will be used in the determination of the student's graduation standing, though all grades remain on the student's academic record.

Requirements of an Annotation of a Second or Subsequent Major or Honours Designation on a Baccalaureate Degree Previously Conferred

Students who have previously been granted a UBC Okanagan campus B.A. or B.Sc. may subsequently return and complete the requirements for a first or an additional major or honours designation relevant to and within the same baccalaureate degree. The student will then be issued an updated parchment of the baccalaureate degree if the major or honours program requirements have been fully met. The updated degree parchment will include an annotation specific to the majors or honours designation. The student will be required to surrender the degree parchment previously conferred upon the issuance of the updated parchment for the baccalaureate degree. The official transcript of the student will be updated to indicate that the requirements of a subsequent major or honours have been met.

Returning students must receive the approval of the relevant department head before the student may enter either the second major or the honours program. The department head will ensure that the student’s prior work is sufficiently current to progress within the proposed program of study.

Bachelor of Arts Programs

Bachelor of Arts Programs > Program Overview

Bachelor of Arts

The Faculty of Arts and Sciences offers a four-year degree program leading to the Bachelor of Arts (B.A.). Students can complete the program with one of more than 15 majors or with a General Studies degree. Disciplines within the Bachelor of Arts program are varied and allow for a large selection of courses.

The B.A. degree program can be completed as a:

- General Bachelor of Arts;
- Bachelor of Arts with a major;
- Bachelor of Arts with a double major;
- Bachelor of Arts with a major and a minor;
- Bachelor of Arts Honours (currently offered for Computer Science, Economics, English, History, and Psychology majors).

B.A. Major Program
Majors offered at the UBC Okanagan campus include: Anthropology; Computer Science; Economics; Gender and Women’s Studies; Geography; History; Indigenous Studies; International Relations; Latin American Studies; Mathematics; Philosophy; Politics, and Economics (PPE); Political Science; Psychology; and Sociology.

See the Faculty of Creative and Critical Studies (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,283,831,0#11540) for B.A. programs in Art History and Visual Culture, Creative Writing, Cultural Studies, English, French and Spanish.

B.A. General Studies

This program is designed for students who wish to pursue a general liberal studies program with requirements drawn from the humanities, social sciences, sciences, or creative and performing arts.

Bachelor of Arts Programs > Admission Requirements

Application for admission to the Faculty of Arts and Sciences must be made through Enrolment Services. Procedures, policies, and admission requirements of the UBC Okanagan campus and the Faculty of Arts and Sciences are specified in Admissions (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=2,0,0,0).

Bachelor of Arts Programs > Academic Regulations

In addition to the general policies and regulations set out in Policies and Regulations (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,0,0,0) the following academic regulations listed apply to undergraduate students in this Faculty.

Academic Standing

Supplementary to the University's policy on Academic Standing (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,91,0), the regulations below are applicable to B.A. students in this Faculty.

On Academic Probation

On Academic Probation will be assigned to a student who, while not falling under the provisions for Failed standing, has:

- earned a term cumulative average of less than 55%; or
- enrolled in 9 or more credits in a term and passed fewer than 60% of those credits; or
- enrolled in fewer than 9 credits in a term and passed fewer than 50% of those credits.

A student placed On Academic Probation at the end of the Winter Session will normally be allowed to register in a maximum of 9 credits in the following term. This restriction may be waived at the discretion of the Faculty. The credit restriction will only be enforced if the student is notified before the subsequent term begins.

On Academic Probation is changed to In Good Standing if a student's cumulative average in the term in which he or she was on Academic Probation is 55% or higher.

Failed Standing

A student placed on Failed standing for the first time will normally be required to discontinue his or her studies for a period of one
academic year (12 months) prior to resuming his or her program of study. A student who already has a Failed standing on his or her academic record (from any UBC program) will be required to withdraw from the University and may only be readmitted under the Advancement Regulations (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,93,0). Failed standing will be assigned at the end of the Winter Session (April) based on performance in that session. The evaluation will consider all courses taken in the session. Failed standing will be assigned to a student who has:

- a sessional cumulative average less than 50%, passing fewer than 50% of the credits attempted in that session; or
- a sessional cumulative average of less than 45%.

Courses taken in the Summer Session are not taken into consideration for assigning Failed standing, although they are applicable for On Academic Probation.

Dean's List

Students in any Winter Session with a sessional average of at least 85% while taking 24 or more credits will receive the notation "Dean's List" on their official transcript of academic record.

Bachelor of Arts Programs > Degree Requirements

A minimum of 120 credits in university courses must be completed. For use as electives, at most, 12 of the 120 credits may be from non-Arts and non-Science baccalaureate courses. Note: all baccalaureate courses delivered by the Faculty of Creative and Critical Studies are deemed for this purpose to be Arts courses and need not be counted as outside electives. Students must also complete at least 48 credits at the 300/400 level, of which at least 30 credits must be completed at UBC.

A minimum graduating grade average (GGA) of 60% is required to be eligible for graduation with the B.A. degree.

First and Second Years Credit Requirements

To complete the first and second years of the B.A. program, a student must complete 60 credits in Arts or Science courses. These credits must be selected from the following:

English

Students must complete 6 credits of first-year English selected from: ENGL 112, 114, 113, 150, 151, 153, 154, 155, 156. Students who fail to meet the English requirement before completing 60 Arts-eligible credits will not be permitted to register in courses other than first-year English, until this requirement is satisfied.

Science

Students must complete at least 6 first-year Science credits in Laboratory Science, Mathematics, Computer Science, Statistics, or approved Geography courses from the following list:

- ASTR 110, 111, 120, 121;
- BIOL 116, 117, 122, 125, 131, 133;
- CHEM 111, 113, 121, 123;
- COSC 101, 111, 121, 122, 123;
- EESC 111, 121;
- GEOG 108, 109;
**Language other than English Requirement**

This requirement may be satisfied by any of the following options:

- successful completion of an approved Grade 12 course in a language other than English before studies begin at the UBC Okanagan campus **Note:** once the student has begun studies at the UBC Okanagan campus, this requirement can no longer be satisfied with senior secondary courses;

- successful completion of one of the following or its equivalent. **Note:** these courses have prerequisites;

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
</tr>
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<tbody>
<tr>
<td>French</td>
<td>FREN 104</td>
</tr>
<tr>
<td>German</td>
<td>GERM 210</td>
</tr>
<tr>
<td>Japanese</td>
<td>JPST 201</td>
</tr>
<tr>
<td>Spanish</td>
<td>SPAN 202, SPAN 204, or SPAN 252</td>
</tr>
</tbody>
</table>

- demonstrated competency through examination in any language other than English. Demonstrated competency is defined as the ability to pass a final oral and written examination typical of a fourth-term university course where the first term is beginner-level. Students must make their own arrangements for such an examination by a qualified instructor (e.g., a university professor who teaches the language at an accredited university). The suitability of such an instructor must be approved by the program advisor for Modern Languages before the examination is taken. Students are responsible for any fees incurred;

- students whose first language is not English may satisfy the requirement upon presentation of official transcripts indicating completion of secondary school in their first language;

- classical language option: students who successfully complete GREK 111 and 121, plus LATN 300, will be deemed to have satisfied the language requirement;

- American Sign Language: all four levels of the American Sign Language Basic Certificate offered through an accredited institution will be deemed to have satisfied the language requirement **Note:** these courses cannot be used as credit toward the B.A. program;

- Okanagan language option: students who successfully complete both Nsylxcm I and II (NSYL 110 and NSYL 111) (Okanagan Language), offered through the Nicola Valley Institute of Technology at the En’owkin Centre or the UBC Okanagan campus, will be deemed to have satisfied the language requirement.

**Distribution Requirements**

Students must complete at least 18 credits from List A: Social Sciences, and 18 credits from List B: Humanities. The completed courses must include at least two disciplines from each list **Note:** credits earned to satisfy the English requirement will not count toward the Distribution Requirement.
Anthropology
Economics
Gender and Women's Studies\textsuperscript{1}
Geography\textsuperscript{2}
Indigenous Studies
Political Science
Psychology
Sociology

Art History and Visual Culture
Creative and Critical Studies
Creative Writing
Cultural Studies
English\textsuperscript{3}
Film
French
Gender and Women's Studies\textsuperscript{4}
German
Greek
Hebrew
History
Indigenous Studies
Japanese
Latin
Music
Philosophy
Spanish
Theatre
Visual Arts

\textsuperscript{1} GWST 100, 110, 216, 223, 323, 333, 334.
\textsuperscript{2} Except GEOG 108, 109, 200, 205, 207, 222, 271, 301, 304, 307, 310, 314, 317, 341, 356, 367, 377, 414, 422, 436, 437, 466. GEOG 491, 498 may be eligible dependent on the topic. Confirm approval with a program advisor.
\textsuperscript{3} Except for ENGL 112, 301.
\textsuperscript{4} GWST 100, 110, 215, 223, 235, 333, 335, 336, 435.

\textbf{Progression Requirements}

\begin{tabular}{|l|l|}
\hline
First Year & 0–23 credits \\
Second Year & 24–47 credits \\
Third Year & 48–77 credits \\
Fourth Year & 78 or more credits \\
\hline
\end{tabular}
Bachelor of Arts Programs > Program Requirements

Registration

Students are responsible for meeting all program requirements. Program advisors are available to assist with the appropriate course selection to meet graduation requirements. Before completing their final 30 credits, students are encouraged to have their progress reviewed by a program advisor to ensure that they meet all graduation requirements.

Students enrolled in the following programs: double major, major/minor, double honours or honours/minor are permitted to double count a limited number of credits between the two fields of study (see Double Counting of Credits in Honours, Majors, and Minors).

Honours

The B.A. with Honours provides an intensive program of study in an established discipline or program. Students who complete this program will learn to work independently with a high standard of competency in their chosen field. Honours programs require students to acquire sophisticated analytic and communication skills. May require completion of an honours thesis. Requires a minimum grade average as specified by the program.

Major

Students can earn a major by completing a defined set of disciplinary or interdisciplinary courses, consisting of at least 48 credits with at least 30 credits at the 300/400 level. The student must also complete at least 18 credits at the 300/400 level outside of a single discipline, and must complete at least 18 of the 30 credits in their major at the 300/400 level at UBC. A student may earn a double major by completing all program requirements for each major.

Major with an Arts Minor

In conjunction with a major, a student can earn a minor, consisting of at least 30 defined credits with at least 18 credits at the 300/400 level. These 30 credits must be in a discipline or program different from the student’s major. The student must also complete all requirements for the major. Please see the specific minor requirements listed under the various disciplines.

Major with a Fine Arts Minor

B.A. students may earn a Minor in Visual Arts. Note: due to the number of credits required, adding this program to a degree of study may result in it requiring more than four years to complete.

Major with a Science Minor

B.A. students can complete minors in the following Science disciplines: Biology, Chemistry, Computer Science, Data Science, Earth and Environmental Sciences, Geospatial Information Science, Mathematics, Mathematics and Statistics, Physics, and Statistics. To complete a Science minor, students must include no fewer than 30 credits in a Science discipline. At least 12 of these credits must be numbered 300 or above.

1The requirements for the BA minor in Data Science are the same as for the BSc minor in Data Science, which may require students to complete more than the minimum 12 credits of courses numbered 300 or above.

2The requirements for the BA minor in Geospatial Information Science are the same as for the BSc minor in Geospatial Information Science, which requires students to complete more than the minimum 12 credits of courses numbered 300 or above.

Double Major in Arts
A student may earn a double major by completing all program requirements for each major. Completing a double major in the Arts will likely require more than 120 credits.

Note: the two majors must be from different disciplines. It is not possible to double major in two sub-areas of one discipline.

Double Major in Arts and Sciences

A student may earn a double major by completing all program requirements for the B.A. degree with a major, plus completing the requirements for a major offered in Sciences. Note: the two majors must be from two different disciplines. Completing a double major in Arts and Sciences will likely require more than 120 credits.

Combined Major in Arts

A student may earn a combined major by completing the requirements specified by the programs offering that combined major option. Combined major students must also complete at least 48 credits at the 300/400 level.

Double Counting of Credits in Honours, Majors, and Minors

Students enrolled in the following programs: double major, major/minor, double honours or honours/minor are permitted to double count a limited number of credits between the two fields of study. No more than 6 upper-level credits that count toward the program-specified requirements for the first major or honours may be double counted to fulfill requirements for the second honours, major, or minor. Thus, in order to graduate, double major students must have at least 54 program-specified upper-level credit requirements, and major/honours and minor students must have at least 48 upper-level credits; this number of credits cannot be arrived at by double counting. Students should be aware that by double counting they could substantially weaken the intellectual content of one of their fields of study.

Bachelor of Arts Programs > Co-operative Education Program

Co-operative Education Option

The Co-operative Education (Co-op) program provides interested and qualified students in the B.A. and B.Sc. programs with paid employment experience relevant to their future careers. The Co-operative Education program is an optional, year-round program, supplementary to academic programs in the Faculty. For general program information, see Cooperative Education (http://www.calendar.ubc.ca/okanagan/profedit/index.cfm?tree=19,352,0).

To graduate with a Co-operative Education Program designation on the transcript, a student must complete three work placement terms, including placements in Term 1 (September to December) and/or Term 2 (January to April) of a Winter Session.

Students wishing to enrol in the Co-op program typically apply in the Winter Session, Term 1 of their third year, however other entry points may be possible if requested and will be evaluated on a case-by-case basis. For admittance into the Co-operative Education program, students must have selected a major and attained third-year standing (i.e., completed at least 48 credits) prior to their first work term while maintaining an overall GPA of 70%. Academic performance and suitability for the work environment, as assessed by the Co-operative Education office during the student intake process, will also be part of the selection criteria used for program admission. Total enrolment is subject to the availability of appropriate work placements. Acceptance into the Co-op program does not guarantee a work term placement.

Students admitted into the Co-op program will be registered in the appropriate Co-operative Education course for each work term, once a suitable work placement is confirmed and upon completion of mandatory pre-employment training. Pre-employment training includes workshops, assignments and activities.

Additionally, payment of the Co-operative Education program fees is mandatory. The fees include a Co-operative Education program fee for each work term and a one-time Co-operative Education program workshop fee (see Program and Course Fees.
Each successfully completed Co-operative Education course is assigned 3 Co-op credits on a student's academic transcript. In order to graduate in a Co-operative Education program designation, a student must complete a minimum of 9 Co-op credits (three work terms), in addition to the normal academic requirements of the Faculty.

The Co-operative Education program typically necessitates an additional four months to one year to complete a bachelor's degree. Faculty advisors or Co-operative Education coordinators visit students at their places of work and provide advice on the work term reports that are a requirement of the program. Students transferring to UBC from accredited co-op programs at other institutions may request admission to the Arts and Sciences Co-op program and may receive credit for previously completed work placement, to a maximum of 6 Co-op course credits (two work terms).

**Bachelor of Arts Programs > Anthropology**

**Major in Anthropology**

First and Second Years

B.A. requirements, including the following:

- ANTH 100 and 170;
- ANTH 103 or 111;
- INDG 100 or 102;
- 6 credits from any 200-level ANTH courses.

Third and Fourth Years

30 credits of 300- and 400-level Anthropology courses, including:

- ANTH 300 or 310;
- ANTH 400, 407;
- 21 additional credits from 300- and 400-level Anthropology courses.

**Minor in Anthropology**

To complete a Minor in Anthropology, students must accumulate no fewer than 30 credits in Anthropology out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

**Bachelor of Arts Programs > Art History and Visual Culture**

Consult the Faculty of Creative and Critical Studies for information on the **Major and Minor programs in Art History and Visual Culture**.

**Bachelor of Arts Programs > Computer Science (B.A.)**

**B.A. Major in Computer Science**
Note: The UBC Okanagan campus also offers a B.Sc. Major in Computer Science.

This program allows students to use their artistic creativity with technology for the benefit of society. It appeals to students interested both in computer science and visual arts (game or website design), psychology (cognitive science, and human and computer interaction), English (technical writing), languages (automation of text translation), philosophy (computer ethics), or law (information security, privacy, and forensics).

First and Second Years

B.A. requirements, including the following:

- one of COSC 111, COSC 123¹;
- COSC 121;
- COSC 222;
- one of MATH 100, 111, 116².

¹COSC 122 is a prerequisite for COSC 123.
²Since several upper-level Computer Science courses have Mathematics prerequisites, MATH 101, MATH 221, and COSC 221 are strongly recommended.

Third and Fourth Years

- COSC 310¹;
- COSC 341¹;
- COSC 304¹;
- COSC 499²;
- 18 credits of Computer Science courses numbered 300 or above;
- PHIL 331;
- 15 credits at the 300/400 level outside of Computer Science.

¹Students must take COSC 304, COSC 310 and COSC 341 in their 3rd year since they are a prerequisite to COSC 499.
²COSC 499 must be taken in 4th year.

B.A. Computer Science Honours Program

Through coursework and research, the Honours in Computer Science is an intensive program of study. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Computer Science program, except the student must maintain a high grade level (a minimum of 75%) and the student must complete COSC 449 Honours Thesis (6 credits).

Admission Requirements

- Fourth-year standing in the Computer Science Major;
- This program requires a research project with an undergraduate honours thesis. The thesis proposal and a research supervisor must be approved by the unit head; and
- Minimum grade average of 75% in all courses taken to date applicable to the Computer Science Major.

In exceptional cases, such as transferees from another institution, a student may be admitted to the Honours program notwithstanding the criteria listed above.
Graduation Requirements

- Completion of the course requirements for the Computer Science Major;
- Completion of COSC 449 Honours Thesis with a minimum grade of 75%. A written thesis is required, with a public presentation of the thesis in the form of a poster session and/or a seminar; and
- A minimum 75% graduating grade average (GGA).

Bachelor of Arts Programs > Creative Writing

Consult the Faculty of Creative and Critical Studies for information on the Major in Creative Writing.

Bachelor of Arts Programs > Cultural Studies

Consult the Faculty of Creative and Critical Studies for information on the Major and Minor programs in Cultural Studies.

Bachelor of Arts Programs > Economics (B.A.)

B.A. Major in Economics

Note: The UBC Okanagan campus also offers a B.A. Major in Philosophy, Politics, and Economics (PPE) and a B.Sc. Major in Economics.

Economics is a social science dealing with choice among competing alternatives. To major in Economics, students must master skills of abstraction, deductive reasoning, and critical thinking, and understand the historical, cultural, and social context of economic institutions, policies, and events. A Major in Economics provides a way of looking at the world and understanding important aspects of human behaviour, and improves reasoning, problem-solving, and decision-making abilities. It equips students with the skills needed to move on to graduate studies in Economics and related disciplines, or to enter a wide range of occupations.

To be admitted to the major program students must:

- have successfully completed both ECON 204 and ECON 205 (or equivalent); and,
- consult with the department.

First and Second Years

B.A. requirements, including the following:

- ECON 101, 102;
- ECON 204, 205;
- One of MATH 100, 116; and one of MATH 101, 142;
- STAT 230

Third and Fourth Years

- ECON 327, 328;
Bachelor of Arts Programs > English

Consult the Faculty of Creative and Critical Studies for information on the Major, Honours, and Minor programs in English.

Bachelor of Arts Programs > French

French Programs

Consult the Faculty of Creative and Critical Studies for information on French programs: the Major and Minor in French and Major in French and Spanish.

Bachelor of Arts Programs > Gender and Women’s Studies

- at least 30 additional elective credits of ECON courses, of which at least 24 must be at the 300 and 400 level, and of which at least one course must be upper-level microeconomics (ECON 308, 386, or 401), at least one course must be upper-level monetary/macroeconomics (ECON 309, 345, 356, 402, or 409), and at least one course must be economic history (ECON 122, 232, 330, 331, 332, 333, 338, or 339).
- at least 18 credits at the 300 or 400 level in one or more disciplines other than Economics.

Minor in Economics

To complete a Minor in Economics, students must accumulate no fewer than 30 credits in Economics out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

B.A. Honours in Economics

The Honours program in Economics enables high-achieving B.A. Major students in Economics to increase their concentration in Economics and to gain research experience through the completion of a directed-studies project (ECON 499 Honours Essay). Students are expected to satisfy high levels of competency in their academic program and to successfully complete a directed-studies project (ECON 499 Honours Essay) under the supervision of a faculty member. Students intending to pursue graduate studies in economics are advised to consider taking the Honours program since it better equips them to be successful; in addition, most of the high-quality programs in Economics expect potential graduate students to have completed an Honours degree.

Students who wish to enrol in the Honours program must submit a formal application to the coordinator of the Honours Program. After being admitted to the Honours Program, students must complete ECON 495 (Honours Seminar) and ECON 499 (Honours Essay) in sequence during their final year of study.

Admission Requirements:

- Fourth-year standing in the Economics Major;
- A minimum grade average of 76% in all courses taken to date that are applicable to the Economics Major;
- A minimum grade of 76% in both ECON 204 and ECON 205;
- A minimum grade average of 76% in MATH 100 or 116 and MATH 101 or 142;
- Successful Completion of ECON 327 and ECON 328.

Graduation Requirements:

- All general program requirements for the B.A. degree
Major in Gender and Women's Studies

An interdisciplinary program at the UBC Okanagan campus.

Note: The UBC Okanagan campus offers other interdisciplinary programs, including the Major in International Relations, the Major in Latin American Studies, and the Major in Philosophy, Politics, and Economics.

Lower-Level Requirements

B.A. requirements, including the following:

- GWST 100;
- GWST 110; and
- One of INDG 100 or 102.

At least six credits at the 200 level, including:

- One of GWST 216, GWST 223; and
- One of the following: ANTH 205; ENGL 270; GWST 215, 216, 223; SOCI 217.

Upper-Level Requirements

- One of GWST 323, 335;
- GWST 334; and
- 27 credits from the following list, of which at least 6 credits must be a 400-level GWST course: ANTH 313, 414; ARTH 410; CULT 325, 366; ECON 351; ENGL 370, 430; FREN 419, 439; GEOG 358; any 300 or 400-level GWST course; INDG 310, 450; JPST 365, 366; PHIL 373; POLI 372; PSYO 353, 354; SOCI 303, 305, 309, 313, 415, 485.
- Note: Relevant special topics courses and directed studies in other disciplines may apply with permission from the program advisor.

Minor in Gender and Women's Studies

Graduation Requirements

Lower-Level Requirements

B.A. requirements, including the following:

- GWST 100;
- GWST 110;
- One of GWST 216, 223; and
- One of the following: ANTH 205; ENGL 270; GWST 215, 216, 223; SOCI 217.

Upper-Level Requirements

A total of 18 credits of 300- and/or 400-level courses, including:

- One of GWST 323, 335; and
- 15 credits from the following list, of which at least 3 credits must be a 400-level GWST course: ANTH 313, 414; ARTH 410; CULT 325, 366; ECON 351; ENGL 370, 430; FREN 419, 439; GEOG 358; any 300 or 400-level GWST course; INDG 310, 450; JPST 365, 366; PHIL 373; POLI 372; PSYO 353, 354; SOCI 303, 305, 309, 313, 415, 485.
- Note: Relevant special topics courses and directed studies in other disciplines may be applied with permission from the program advisor.

Bachelor of Arts Programs > General Studies

General Studies Bachelor of Arts
The General Studies B.A. is for students who wish to pursue a general liberal studies program. Students must complete at least 48 credits at the 300/400 level, of which at least 30 credits must be completed at the UBC Okanagan campus. In addition to the general requirements for the B.A. program in Arts, students enrolled in the General Studies B.A. must fulfill requirements from the following three groupings drawn from four categories (Humanities, Social Science, Science, and Creative and Performing Arts):

**Grouping I**

- Concentration: A minimum of 30 credits, with at least 18 credits at the 300 and 400 levels from a single discipline within one of the four categories mentioned above.
- Non-concentration: A minimum of 18 credits, with at least 12 credits at the 300 and 400 levels from other disciplines within the same category as the concentration.

**Grouping II**

- A minimum of 18 credits, with at least 12 credits at the 300 and 400 levels from a category different from the category chosen for Grouping I.

**Grouping III**

- A minimum of 6 credits at the 300 and 400 levels in disciplines outside of the concentration.

Students can complete a General Studies B.A. degree with a concentration in the following disciplines: Anthropology; Art History & Visual Culture; Cultural Studies; Creative Writing; Economics (Social Sciences option); Economics (Science option); Geography; History (Humanities option); History (Social Sciences option); Languages; Literature; Mathematics; Philosophy; Political Science; Psychology (Social Sciences option); Psychology (Science option); Sociology; and Gender and Women's Studies.

**Discipline Classification Lower Levels (100- and 200-level courses)**¹

**Humanities:** Art History and Visual Culture, Creative and Critical Studies, Cultural Studies, Digital Humanities, English, Film, French, German, Greek, Hebrew, History, Indigenous Studies, Japanese Studies, Latin, Music, Philosophy, Spanish.

**Social Sciences:** Anthropology, Economics, Gender and Women's Studies, Geography, Political Science, Psychology, Sociology.

**Creative and Performing Arts:** Creative Writing, Theatre, Visual Arts.

**Science credit can be obtained in:** Biology, Chemistry, Computer Science, Data Science, Earth and Environmental Sciences, Economics, Geography², Geology, Geospatial Information Science, Mathematics, Physics, Psychology, Statistics.

**Lab Science designation can be applied to:** Astronomy, Biology, Chemistry, Earth and Environmental Sciences, Geography², Geology, Physics.

¹These classifications apply to UBC Okanagan campus students enrolled in the B.A. and B.Sc. programs.
²GEOG 108, 109, 200, 205, and 222 provide the Lab Science designation; all other GEOG courses provide the Social Sciences credit.
³GEOG 128 and 129 do not provide Science credit.

**General B.A. Degree Program List of Courses By Discipline**

**Anthropology**


**Art History and Visual Culture**

*Humanities Category:* All 300- and 400-level ARTH courses.

**Creative Writing**

*Creative and Performing Arts Category:* CRWR 381, 382, 470, 471, 472, 473, 474

**Cultural Studies**

*Humanities Category:* All 300- and 400-level CULT courses except CULT 495.

**Digital Humanities**

*Humanities Category:* DIHU 301, 302.
Economics
All ECON courses can be counted in either the Social Sciences Category or the Science Category but not both, and not some in one category and some in the other.

English
Humanities Category (language): ENGL 340, 392, 393.
Humanities Category (literature): All 300- and 400-level ENGL courses, except for ENGL 340, 392, 393.

French

Gender and Women's Studies
Social Sciences Category: GWST 323, 334.
Humanities Category: GWST 335, 336.

Geography

Geospatial Information Science
Science Category: GISC 380, 381.

German
Humanities Category (language): GERM 305.
Humanities Category (literature): GERM 302, 303, 349

Greek
Humanities Category (language): GREK 111, 121.

Hebrew
Humanities Category (language): HEBR 305.

History
Humanities Category: all courses between HIST 302 and 492 (except those listed under Social Sciences), and including PHIL 419.
Social Sciences Category: HIST 300, 301, 329, 352, 402, 412, 464, 473.

Indigenous Studies
Humanities Category: INDG 303, 401, 402, 481.

Japanese Studies
Humanities Category (language): JPST 300, 301, 365.
Humanities Category (literature): JPST 354, 364, 366

Language
Look under individual languages: English, Japanese Studies, German, Greek, Hebrew, Latin, French, and Spanish.

Literature
Look under individual disciplines: English, Japanese Studies, German, French, and Spanish.

Latin
Humanities Category (language): LATN 300.

Music
Creative and Performing Arts Category: MUSC 324.

Philosophy
Humanities Category: All PHIL course between 300 and 499.

Political Science
Social Sciences Category: All POLI courses between 300 and 499.
Psychology
Social Sciences Category: all PSYO courses between 301 and 499, except those listed under the Science Category.

Sociology

Spanish
Humanities Category (language): SPAN 301, 302, 425, 495.
Humanities Category (literature): SPAN 303, 304, 310, 311, 408, 411, 412, 495.

Theatre
Creative and Performing Arts Category: THTR 301, 401, 411, 483.

Visual Arts
Creative and Performing Arts Category: VISA 300, 301, 312, 313, 322, 323, 336, 337, 362, 363, 382, 383, 400, 482, 483.

Bachelor of Arts Programs > Geography

Major in Geography

The Geography Major draws on academic material from both the human and physical areas within the discipline. Curriculum emphasis is on the development of both theory and methodology, and on the practical application of geographical concepts to environmental, economic, social, and cultural problems at global to local scales, with emphasis on issues pertinent to southern British Columbia and Canada. The immediate focus of the Geography Major is on solving problems related to the environment, our use of resources, and development. By focusing on these, the Geography Major provides students with a specialized program that addresses issues of increasing concern and interest to Canadians. On entering the program, students should consult with the Geography program advisor to develop a curriculum plan for their last 60 credit hours of study. Before completing the last 30 credit hours of their degree, students should again have their program reviewed by the program advisor.

First and Second Years

B.A. requirements, including the following:

- GEOG 108, 109, 128, 129;
- One of GEOG 271, 272;
- 3 additional credits of second-year Geography.

Third and Fourth Years

- Physical geography requirement: at least 3 credits of GEOG 301, 304, 307, 314, 317, 341, 356, 367, 414, 422, 436, 466;
- Human geography requirement: at least 3 credits of GEOG 351, 353, 354, 358, 359, 365, 434, 451, 454, 458, 480;
- Methods requirement: at least 3 credits of GEOG 371, 377, 437, 474, GISC 380, 381, 480;
- Integrative themes requirement: at least 3 credits of GEOG 310, 316, 413, 416, 423, 431, 435;
- 18 additional credits in 300/400-level GEOG or GISC courses.

Minor in Geography

To complete a Minor in Geography, students must accumulate no fewer than 30 credits in Geography out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

Bachelor of Arts Programs > History

Major in History

To complete the BA History Major students must complete at least 3 credits of Canadian history (any level).

First and Second Years
B.A. requirements, including the following:

- 12 credits completed from 100- or 200-level History courses.

Third and Fourth Years

- 30 credits of upper-level History credits, including a minimum of 3 credits in each of the following:
  1. an area excluding the United States, Canada, or Europe;
  2. the twentieth century;
  3. pre-1800;
  4. thematic studies course.

  Note: Up to 6 credits from the following courses may be counted toward a History Major: ARTH 315, 316, 320, 321, 370, 375; ECON 330, 331, 332, 333; ENGL 340, 344; PHIL 419; POLI 433, SPAN 420.

- 6 additional credits of History electives (any level).

To build a suitable program, a student in the History Major program may obtain special permission from the department to include a course other than those listed above. Electives to complete 120 credits are required for the degree.

History Honours Program

The Honours degree program in History enables students specializing in History to increase their concentration in History and to gain research experience in the completion of an Honours thesis. Students are expected to satisfy high levels of competency in their academic achievement and to successfully complete a research project under the supervision of a faculty member. The faculty supervisor must be approved by the department head.

Admission Requirements:

- Third-year standing;
- Minimum of 12 credits of History;
- Minimum overall average of 72%;
- Minimum average of 76% in History courses; and
- Submission of an application form with supporting materials.

Graduation Requirements

- All general program requirements for the B.A. degree and History Major, including the English, Science, Language other than English, and Distribution requirements;
- Successful completion of HIST 492 (recommended in student’s third year) and HIST 499 (Undergraduate Honours Thesis);
- An overall average of at least 76% in History courses;
- An overall average of 72% in all courses;
- A minimum of 54 credits of History, including HIST 499.

Minor in History

To complete a Minor in History, students must accumulate no fewer than 30 credits in History out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

A maximum of 3 credits from the following courses may be counted toward a History Minor: ARTH 315, 316, 320, 321, 370, 375; ECON 330, 331, 332, 333; ENGL 340, 344; PHIL 419; POLI 433, SPAN 420.

Bachelor of Arts Programs > Indigenous Studies

Major in Indigenous Studies

The interdisciplinary Indigenous Studies program offers courses that provide perspectives of Indigenous peoples from the Okanagan, Canada, and world communities. The involvement of the Okanagan nation and the En’owkin Centre in its development and in ongoing partnership provides a strong foundation in the Okanagan community and ensures continuing input from Indigenous perspectives.
Courses are offered at the second-year level in Okanagan and Indigenous history and cultures. In the third and fourth years, courses in Indigenous governance, the justice system, land claims, traditional ecological knowledge, the protection of heritage, Indigenous theory, and methodology are offered.

Requirements for the Indigenous Studies Major

First and Second Years

B.A. requirements, as well as the following:

- INDG 100 or 102;
- 12 credits from: INDG 201, 202, 203, 210, 295;
- 3 credits from any introductory course from Humanities, Social Sciences, Science, or Education.

Third and Fourth Years

- INDG 301, 303, 304, 401;

Minor in Indigenous Studies

The Minor in Indigenous Studies prepares students for an interdisciplinary graduate program, and/or Indigenous inter-cultural experience.

To complete a Minor in Indigenous Studies, students must accumulate no fewer than 30 credits in Indigenous Studies courses. At least 18 of these credits must be at the 300 or 400 level.

Bachelor of Arts Programs > International Relations

Major in International Relations

An interdisciplinary degree program at the UBC Okanagan campus.

Note: The UBC Okanagan campus offers other interdisciplinary programs, including the Major in Latin American Studies, the Major in Philosophy, Politics, and Economics, and the Minor in Gender and Women's Studies.

The International Relations (IR) Major is an interdisciplinary program which allows students to develop a solid background in related areas of political science, history, sociology-anthropology, economics, and modern languages. The IR program stresses critical thinking and essential communication skills. A bachelor's degree in IR provides a solid foundation for diverse career options, including those associated with law, business, politics and government, foreign service, teaching, international development, and most professional programs. Post-graduate programs in IR are available at many universities in Canada and around the world.

The UBC Okanagan campus IR program has a strong record of successful graduates. Students in the IR Major program are encouraged to study and travel in other countries as part of their B.A. Major requirements. Admission to the IR Major occurs in the Winter Session, Term 2, for the following academic year. Students must submit a formal application to the coordinator of the IR program. See Applications for Majors (http://ir.ok.ubc.ca/undergrad/major.html) for more information.

Requirements for the International Relations Degree Program

- B.A. requirements:
  - Admission to the International Relations program is conditional on maintaining an average of 70% on either: a) the last three terms as a full-time student, or b) the last 30 credits as a part-time student;
  - Second Language. Students must take 12 credits in preferably one or a maximum of two languages other than English. This is in addition to the Faculty of Arts requirement for an approved second language. The language(s) may be the same as those used to satisfy the Faculty of Arts requirement, carried to a higher level, or it may be an additional or additional languages. The 12 credits may be completed in the third or fourth year, but all students are encouraged to make completion of the language requirement a priority as early as possible in their program. In approved cases students may satisfy the second language requirement by taking a proficiency exam in lieu of language courses. However, the second language credits will need to be substituted by up to 12 credits of elective courses.
First and Second Years

- Political Science: any two of the following, although all three are strongly recommended: POLI 220, 221, 222. These courses represent core courses for the IR program;
- History: 6 credits of either a) HIST 115, 145, or b) HIST 116, 126;
- Economics: Students must complete ECON 101, 102;
- Sociology and Anthropology: Although there are no required first- or second-year courses, many of the third- and fourth-year Sociology/Anthropology courses required for the IR degree have prerequisites. For some third- and fourth-year Sociology courses, the prerequisite is SOCI 111, 121; for Anthropology it is ANTH 100. These courses are recommended for students in the IR Major and may fulfill the electives component of the B.A. requirements.

Third and Fourth Years

Students must fulfill the requirements of Categories A (15 credits) and B (18 credits). In choosing courses, students should not assume that the same courses will be offered two years in a row. When selecting courses for third year, students are advised to take as many required courses as possible especially Category A courses.

Category A

- Anthropology: one of ANTH 313, 320, 351, 375, 377, 473, 475; or Sociology: one of SOCI 301, 440, 445, 450, 463; or Indigenous Studies: one of INDG 305, 306, 307, 308, 420;
- Economics: one of ECON 331, 339, 355, 356, 357, 358;
- History¹: one of HIST 402, 412, 468 (or POLI 433), 469;
- Political Science: one of POLI 334, 368, 369, 462, 464 and one Political Science seminar course.

¹The History Department requires 12 credits of History as a prerequisite for most upper-level History courses.

Category B

In addition to Category A requirements, students are required to take 18 additional credits, with no more than 9 credits from any one discipline. These may come from Category A (that is, from the courses not used to fulfill Category A requirements), or from the list below, for a total of 33 credits.

- Anthropology: ANTH 304, 350, 355, 363, 403, 429, 455, 490; or Sociology: SOCI 303, 415, 430, 467;
- Economics: ECON 330, 332, 333, 345, 361, 371, 390;

¹The History Department requires 12 credits of History as a prerequisite for most upper-level History courses.

Note: the total number of upper-division credits required from Categories A and B is 33. This covers the upper-division credit total of the IR Major. Students must, however, have 15 additional upper-division elective credits for a grand total of 48 upper-division credits in order to meet the B.A. requirements.

Bachelor of Arts Programs > Latin American Studies

This program is currently under review. Students wishing to enrol in this program must contact the Latin American Studies undergraduate program advisor.

Major in Latin American Studies

An interdisciplinary degree program at the UBC Okanagan campus.

Note: The UBC Okanagan campus offers other interdisciplinary programs, including the Major in International Relations, the Major in Philosophy, Politics, and Economics, and the Minor in Gender and Women's Studies.

Latin American Studies is an undergraduate program designed to give students a broad general knowledge of Latin America and its diverse peoples and to allow them to construct a truly interdisciplinary approach to study the language, culture, society, geography, political systems, and history of Latin America. The program stresses language skills, historical breadth and depth, and theme-based focus within individual programs of study; its faculty members are drawn from many departments and two faculties of the University.
The Major program is intended to provide a focused approach to critical examination of Latin America in its tremendous complexity and its contemporary regional and international context. A bachelor’s degree in Latin American Studies provides a solid foundation for diverse career and academic options, such as international law, international business, politics, foreign service, teaching, international NGO work, media and communication, and most discipline-based arts and professional graduate programs. Students majoring in Latin American Studies are encouraged to study and travel in other countries as part of the B.A. program.

Students should meet with a program advisor for the Latin American Studies program during their first year to plan their Major.

**Latin American Studies Major Degree Requirements:**

- **B.A. requirements:**
  - Language: students completing a Major in Latin American Studies must complete at least 12 credits of Spanish language at UBC or at an approved institution in a Spanish-speaking country, at least 6 of which must be at the 300 or 400 level. Students with previous knowledge of Spanish or Portuguese should consult with the Spanish Program Advisor. Proficiency exams may be administered in lieu of this requirement, but do not exclude credit toward SPAN courses required to complete the Major.

**First and Second Years**

- SPAN 150;
- HIST 151;
- HIST 240 or INDG 203;
- INDG 210; and
- Any 200-level Spanish course.

**Third and Fourth Years**

Students should not assume that the same courses will be offered two years in a row. When selecting courses for third year, students are advised to take as many required courses as possible. Students are advised to make themselves aware of any prerequisites to courses as they plan their degrees.

**Part A: Requirements**

Students are required to complete the following:

- POLI 318 and 319;
- SOCI 440;
- 6 credits of HIST 351, 352, 353, 354, 444, 450, 452, 453, 454, or INDG 310;
- 6 credits of ANTH 320, 323, 363, or 411; and
- 6 additional credits of SPAN 310, 311, 408, 410, 411, 412, or 420.

**Part B: Electives**

Students are required to take 9 credits of additional 300- and 400-level courses with relevant content approved by the program advisor.

**Minor in Latin American Studies**

This is an interdisciplinary program intended to provide students with a broad exposure to the cultures, histories, and languages of Latin America. Ideally, the Minor complements a major in one of the participating disciplines that comprise Latin American Studies, but it can be combined with any major program in Arts or Sciences. The Minor in Latin American Studies requires completion of 30 credits, organized into 12 lower-level credits and 18 upper-level credits from the following list. Completion of SPAN 302 is strongly recommended for the Minor, but not required. For Science students, the Minor requires the completion of 18 lower-level credits and 12 upper-level credits drawn from the following:

**Lower-Level Courses**

SPAN 150, 280; ANTH 241; ARTH 250; HIST 145, 151, 240, 241; INDG 203, 210

**Upper-Level Courses**

ANTH 320, 323, 363, 411; HIST 325, 351, 352, 353, 354, 401, 444, 450, 452, 453, 454; INDG 310; POLI 318, 319, 371, 377; SOCI 440; SPAN 303, 304, 310, 311, 315, 380, 408, 409, 410, 411, 412, 419, 420, 425, 495
Students should meet with a program advisor for the Latin American Studies program during their first year to plan their Minor.

1Only when content is focused on Latin America.

**Bachelor of Arts Programs > Mathematics (B.A.)**

**B.A. Major in Mathematics**

**Note:** The UBC Okanagan campus also offers a [B.Sc. Major in Mathematics](#), a [B.Sc. Major in Mathematical Sciences](#), and a [B.Sc. Combined Major in Physics and Mathematics](#).

**First and Second Years**

**B.A. requirements**, including the following:

- MATH 100, 101;
- MATH 200, 221;
- MATH 225, 2201.

1*Note:* MATH 220 may be deferred until third year. COSC 111/121 and COSC 221/231 are strongly recommended.

**Third and Fourth Years**

- MATH 327;
- 21 credits in Mathematics courses numbered 300 or above;
- 6 credits in Mathematics, Statistics, or Computer Science courses numbered 300 or above.

**Bachelor of Arts Programs > Medieval and Renaissance Studies (Minor)**

Consult the Faculty of Creative and Critical Studies for information on the [Minor in Medieval and Renaissance Studies](#).

**Bachelor of Arts Programs > Philosophy**

**Major in Philosophy**

**Note:** The UBC Okanagan campus also offers a Major in [Philosophy, Politics, and Economics (PPE)](#).

**Admission Requirements**

- Successful completion of at least 9 credits of PHIL courses;
- In the Philosophy courses completed, an overall average of at least 70%.

**Graduation Requirements**

- **B.A. requirements;**
- PHIL 220, 230, 245, 345;
- One of PHIL 309, 310;
- One of PHIL 314, 315;
- One of PHIL 451, 446;
- One of PHIL 425, 460;
- Minimum of 48 credits in Philosophy, including the above courses, of which 30 credits must be 300 and 400 level.

**Minor in Philosophy**

To complete a Minor in Philosophy, students must accumulate no fewer than 30 credits in Philosophy out of the 120 credits required...
for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

Bachelor of Arts Programs > Philosophy, Politics, and Economics (PPE)

Major in Philosophy, Politics, and Economics (PPE)

An interdisciplinary degree program at the UBC Okanagan campus.

Note: The UBC Okanagan campus offers other interdisciplinary programs - including the Major in International Relations, the Major in Latin American Studies, and the Minor in Gender and Women’s Studies - as well as Major programs in Economics, Philosophy, and Political Science.

The Major in Philosophy, Politics, and Economics (PPE) is intended to provide a focused education in the economic, political, and philosophical issues facing Canadians. The program, jointly offered by Economics, Political Science, and Philosophy, is based on the PPE degree offered by Oxford University.

The PPE Major is recommended for students who wish to pursue a career in business or government, or those who intend to undertake studies in law, business, commerce, journalism, social work, education, or public administration.

To be admitted to the PPE program students must:

- have completed at least 3 credits in each of the PHIL, POLI and ECON disciplines and no fewer than 30 but not more than 90 credits toward a B.A. program with at least a 70% average in PHIL courses they have taken thus far; 70% in POLI courses; and 70% in ECON courses;
- satisfy the Faculty of Arts and Sciences English requirement; and
- receive permission from the coordinator of the PPE program.

Admission is by formal application to the coordinator of the PPE program.

Students in the PPE program are required to take a common set of first- and second-year courses. They must also choose one of four options.

First and Second Years

- ECON 101, 102;
- One of ECON 204, 205, 221, 232;
- One of PHIL 111, 121;
- One of PHIL 120, 220;
- PHIL 230;
- Three of POLI 101, 220, 223, 240;
- STAT 121.

Third and Fourth Years

At the third- and fourth-year levels, students must choose to emphasize either Economics (Option A), or Political Science (Option B), or Philosophy (Option C), or Law (Option D).

All PPE students must complete the directed studies course numbered 497 in their discipline of emphasis during their final year of study. Students must consult with the PPE Coordinator during the term prior to the term in which they plan to complete their directed studies course.

Option A: Economics Emphasis

- ECON 497;
- 18 upper-level credits in Economics (in addition to ECON 497);
- 12 upper-level credits in Political Science;
- 12 upper-level credits in Philosophy;
- 3 credits from any upper-level course.

Option B: Political Science Emphasis

- POLI 497;
• 18 upper-level credits in Political Science (in addition to POLI 497);
• 12 upper-level credits in Economics;
• 12 upper-level credits in Philosophy;
• 3 credits from any upper-level course.

Option C: Philosophy Emphasis

• PHIL 497;
• 18 upper-level credits in Philosophy (in addition to PHIL 497);
• 12 upper-level credits in Economics;
• 12 upper-level credits in Political Science;
• 3 credits from any upper-level course.

Option D: Law Emphasis

• POLI 432
• One of POLI 497, PHIL 497, ECON 497;
• 15 upper-level credits in Political Science from POLI 303, 313, 352, 354, 356, 382, 383, 402, 465;
• 12 upper-level credits in Economics from ECON 345, 351, 352, 360, 361, 370, 371, 372, 386, 390;
• 12 upper-level credits in Philosophy from PHIL 314, 315, 331, 338, 345, 373, 425, 434, 435, 436, 437;
• 3 credits from any upper-level course.

¹All 497 courses are directed studies courses.

Graduation Requirements

To graduate, a student must satisfy all B.A. requirements, including completion of 120 credits, 48 of which must be at the third- and fourth-year levels.

Bachelor of Arts Programs > Political Science

Major in Political Science

Note: The UBC Okanagan campus also offers a Major in Philosophy, Politics, and Economics (PPE).

The completion of a degree in Political Science has long been recognized as sound undergraduate preparation for careers in law, business, politics, social work, and public administration. The Major in Political Science is designed to produce a graduate with a solid understanding of the institutions of government, their relationship to politically active non-governmental organizations, the articulation and implementation of public policy, and the role of the informed citizen in a liberal democracy. Admission into the program requires an overall average of at least 70% in all courses attempted toward the B.A. degree.

First and Second Years

• B.A. requirements, including POLI 101, 240.

Third and Fourth Years

Students must select a focus from the following four areas of study:

• Political Theory: POLI 354, 356, 358, 462;
• Canadian Studies: POLI 303, 363, 371, 402, 432; HIST 300, 301, 466, 467;

Within these areas, the following requirements need to be met:

• at least 3 credits at the 300 or 400 level in each of these four areas;
• at least 9 credits at the 300 or 400 level in one of the areas;
• completion of at least two 300- or 400-level Political Science seminar courses.
Minor in Political Science

To complete a Minor in Political Science, students must accumulate no fewer than 30 credits in Political Science out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

Bachelor of Arts Programs > Psychology (B.A.)

B.A. Major in Psychology

Note: The UBC Okanagan campus also offers a B.Sc. Major in Psychology.

The Bachelor of Arts (B.A.) Major in Psychology provides a strong foundation for advanced training that can lead to a career in Psychology or other professions.

Students gain a broad perspective in Psychology with courses in such diverse areas as biopsychology, cognitive, developmental, social, and abnormal psychology. In addition, students gain an understanding and appreciation of the empirical method as it is applied across the disciplines.

Students intending to pursue graduate studies in Psychology are advised to consider taking the Honours Program since many Canadian universities expect potential graduate students to have completed an Honours degree.

Enrolling as a Psychology Major

Students are encouraged to declare their major in Psychology at the end of their first year. To be admitted to the major program, students must successfully complete both PSYO 111 and 121 (or equivalent) and a minimum of 24 credits. To continue as a Psychology Major, a student must complete both PSYO 270 and 271 (or equivalent); these courses should be completed in second year.

First and Second Years

B.A. requirements, including PSYO 111, 121.

A student must complete PSYO 270 (Introduction to Research Methods and Design) and PSYO 271 (Introduction to Data Analysis) to graduate as a Psychology Major.

Third and Fourth Years

- At least 18 credits in 300-level or higher courses outside of Psychology;
- At least 30 credits of 300-level or higher Psychology courses;
- Psychology breadth requirement of at least 3 credits from each of the following five areas. Each area is defined by the centre digit in the course number (e.g., PSYO 219 satisfies category 1; PSYO 321 satisfies category 2; etc.); students may complete this requirement with 200-level as well as upper-level courses:
  1. Cognitive/Learning/Perception;
  2. Developmental;
  3. Biopsychology;
  4. Personality/Abnormal;
  5. Social/Sex/Forensic.

Electives are available to complete the 120 credits required for the degree.

For the Major, students need a minimum of 48 credits in Psychology courses, with at least 30 credits at the 300 level or higher. It is possible to take additional upper-level Psychology credits beyond this minimum value.

In addition, and with reference to non-Psychology course electives, students must complete at least 18 credits at the 300 level or higher outside of Psychology. Therefore, at least 48 credits (including the minimum 30 credits in Psychology and 18 credits in non-Psychology) toward the degree requirement of 120 credits must be from courses numbered 300 and above. As a
consequence, it is possible to take a limited number of lower-division courses (including Psychology) during third and fourth years.

**Note:** not all Psychology courses are offered each year. A number of courses are offered in alternate years, and some may not be offered for several years. Students are advised to check the current schedule of course offerings.

**B.A. Psychology Honours Program**

The Honours degree program in Psychology enables high-achieving students in the Psychology Major to increase their concentration in Psychology and to gain research experience in the completion of an Honours thesis. Students are expected to satisfy high levels of competency in their academic achievement and to successfully complete a research project under the supervision of a faculty member.

Students intending to pursue graduate studies in Psychology are advised to consider taking the Honours Program since many Canadian universities expect potential graduate students to have completed an Honours degree.

**Admission Requirements**

- Fourth-year standing;
- Minimum weighted average of 76% from all courses in Psychology;
- Minimum weighted average of 76% over the last 60 credits;
- Preliminary thesis topic approved by a thesis supervisor (**note:** the department head must approve the thesis supervisor);
- Completion of PSYO 372.

**Graduation Requirements**

- All general program requirements for the B.A. degree, including the general, English, Science, Language other than English, and Distribution requirements;
- All requirements for the Psychology Major, including the breadth requirement;
- Completion of PSYO 372 (Research Methods and Statistics), PSYO 373 (Advanced Research Methods and Statistics), and 6 credits of PSYO 490 (Undergraduate Honours Thesis) with a minimum of 76% in each of these courses;
- Minimum weighted average of 76% from all courses in Psychology;
- Minimum weighted average of 76% over the last 60 credits;
- Public presentation of the thesis; and
- A minimum of 54 credits of Psychology, of which 42 must be upper-level courses.

**Minor in Psychology**

To complete a Minor in Psychology, students must accumulate no fewer than 30 credits in Psychology out of the 120 credits required for the B.A. degree. At least 18 of these credits must be numbered 300 or above.

**Bachelor of Arts Programs > Sociology**

**Major in Sociology**

**First and Second Years**

**B.A. requirements**, including the following:

- SOCI 111, 121;
- One of SOCI 271, STAT 121;
- SOCI 209; and
- at least 6 credits chosen from any second-year Sociology courses.

Students must apply to the department for admission to the Sociology Major program. Admission to the Sociology Major program requires a minimum 68% average.

**Third and Fourth Years**

- At least 48 credits in 300- or 400-level courses;
- At least 30 credits of Sociology, including SOCI 376 and SOCI 377, and one of SOCI 390, 395;
At least 18 credits at the 300 or 400 level must be outside of Sociology.

Minor in Sociology

First and Second Years

- SOCI 111, 121;
- At least 6 credits of 200-level Sociology.

Third and Fourth Years

- 18 credits of 300- or 400-level Sociology;
- Students must accumulate no fewer than 30 credits in Sociology out of the 120 credits required for the B.A. degree.

Bachelor of Arts Programs > Spanish

Spanish Programs

Consult the Faculty of Creative and Critical Studies for information on Spanish programs: the Major and Minor in Spanish and Major in French and Spanish.

Bachelor of Arts Programs > Theatre (Minor)

Consult the Faculty of Creative and Critical Studies for information on the Minor in Theatre.

Bachelor of Nsyilxcn Language Fluency

Bachelor of Nsyilxcn Language Fluency > Program Overview

This program is pending final approval by the Board of Governors and Ministry of Advanced Education.

The Bachelor of Nsyilxcn Language Fluency (B.N.L.F) degree is a language-specific program emphasizing immersion-based language learning and community engaged partnerships for Indigenous language revitalization. The BNLF is a block-transfer program; the Department of Community, Culture and Global Studies provides the third- and fourth- year of the four-year degree program. Admission is based on previous completion of a two-year Diploma of Nsyilxcn Language Fluency at the Nicola Valley Institute of Technology.

Students take intensive immersion language courses, language courses focused on domain specific language acquisition, language informed culture courses, and language revitalization courses. The curricula are highly structured, and language specific.

Bachelor of Nsyilxcn Language Fluency > Admission Requirements

This program is pending final approval by the Board of Governors and Ministry of Advanced Education.

Application for admission to the Bachelor of Nsyilxcn Language Fluency program must be made through Enrolment Services. Procedures, policies, and admission requirements of the UBC Okanagan campus are specified in Admissions.

Block Transfer Admission from Diploma of Nsyilxcn Language Fluency Program (NVIT)

Students who successfully complete the 63 credit Nsyilxcn Language Diploma at NVIT will be eligible to have those 63 credits recognized as a block of transfer credits toward admission into the B.N.L.F. at UBC Okanagan. Students entering UBC Okanagan under this agreement must meet the University’s admissions requirements for students admitted on the basis of post-secondary transfer, with the exception of the English Language Admission Standard, which may be waived.

Upon admission, students admitted into the B.N.L.F. on the basis of this block transfer agreement will first undertake a transition course (offered in an intensive format during the summer prior to the beginning of full-time degree study in September of the same given year - i.e. term 1 of the Degree). Successful completion of this course will be required before students are able to proceed into the full-time degree program.
Bachelor of Nsyilxcn Language Fluency > Academic Regulations

This program is pending final approval by the Board of Governors and Ministry of Advanced Education.

In addition to the general policies and regulations set out in Policies and Regulations the following academic regulations apply to undergraduate students in this Faculty.

Academic Standing

Supplementary to the University's policy on Academic Standing, the regulations below are applicable to B.N.L.F. students in this Faculty.

On Academic Probation

On Academic Probation will be assigned to a student who, while not falling under the provisions for Failed standing, has:

- earned a sessional cumulative average of less than 55%; or
- enrolled in 18 or more credits in a session and passed fewer than 60% of those credits; or
- enrolled in fewer than 18 credits in a session and passed fewer than 50% of those credits.

A student placed On Academic Probation at the end of the Winter Session will normally be allowed to register in a maximum of 9 credits in the following term. This restriction may be waived at the discretion of the Faculty. The credit restriction will only be enforced if the student is notified before the subsequent term begins.

On Academic Probation is changed to In Good Standing if a student's cumulative average in the term in which he or she was on Academic Probation is 55% or higher.

Failed Standing

A student placed on Failed standing for the first time will normally be required to discontinue his or her studies for a period of one academic year (12 months) prior to resuming his or her program of study. A student who already has a Failed standing on his or her academic record (from any UBC program) will be required to withdraw from the University and may only be readmitted under the Advancement Regulations. Failed standing will be assigned at the end of the Winter Session (April) based on performance in that session. The evaluation will consider all courses taken in the session. Failed standing will be assigned to a student who has:

- a sessional cumulative average less than 50%, passing fewer than 50% of the credits attempted in that session; or
- a sessional cumulative average of less than 45%.

Courses taken in the Summer Session are not taken into consideration for assigning Failed standing, although they are applicable for On Academic Probation.

Dean's List

Students in any Winter Session with a sessional average of at least 85% while taking 24 or more credits will receive the notation "Dean's List" on their official transcript of academic record.

Bachelor of Nsyilxcn Language Fluency > Degree Requirements

This program is pending final approval by the Board of Governors and Ministry of Advanced Education.

In addition to the previous completion of the Nsyilxcn Language Certificate Diploma, students must complete 63 credits as follows:

- 3 credits from EDUC 104
- 3 credits from ENGL 112 or ENGL 114;
- 6 credits from INLG 281 and 282
- 12 credits from INDG 202, INDG 301, INDG 307, and INDG 401;
- 6 credits chosen from language revitalization courses: INLG 380, INLG 382, INDG 405, INLG 480 or ANTH 473, and INLG
Bachelor of Science Programs

Bachelor of Science Programs > Program Overview

The Faculty of Arts and Sciences offers the Bachelor of Science (B.Sc.) degree in several Major programs and the General Science program. Although some students take longer, the B.Sc. degree can be earned in four years (eight four-month academic terms) of full-time study. To earn a B.Sc. degree, students must complete one of the following two programs listed below.

B.Sc. Major Program

The Faculty of Arts and Sciences currently offers Major programs in Biochemistry; Biology; Chemistry; Computer Science; Earth and Environmental Sciences; Ecology and Evolutionary Biology; Economics; Environmental Chemistry; Freshwater Science; Mathematical Sciences; Mathematics; Microbiology; Physics and Astronomy; Psychology; and, Zoology. Completion of a Major program prepares students for career-entry positions, graduate study, or admission to post-baccalaureate professional programs. Students entering a Major program should note the courses listed in years one, two, three, and four as indicated under each discipline.

1 Computer Science is also offered as a B.A. program.
2 Economics is also offered as a B.A. program.
3 Mathematics is also offered as a B.A. program.
4 Psychology is also offered as a B.A. program.

B.Sc. General Science Program

This program provides a comprehensive education in science with the opportunity for some specialization in two or three of the following eight areas: Biochemistry, Biology, Chemistry, Earth and Environmental Sciences (including certain courses in Geography), Economics/Mathematical Sciences (including courses in Computer Science, Mathematics, Statistics, and Data Science), Physics (including courses in Astronomy) and Psychology.

Bachelor of Science Programs > Admission Requirements

Application for admission to the Faculty of Arts and Sciences must be made through Enrolment Services. Procedures, policies, and admission requirements to the University of British Columbia and the Faculty of Arts and Sciences are specified in Admissions.

International Baccalaureate and Advanced Placement

See Applicants with International Baccalaureate and Advanced Placement Courses for detailed information.

Students Entering the Bachelor of Science Program with Credit for Secondary School Calculus

The UBC Okanagan campus offers a three-hour calculus examination to all B.Sc. students who have completed or are currently registered in a calculus course in secondary school. Students who pass the examination can obtain credit for MATH 100. Bachelor of Science students claiming credit at the UBC Okanagan campus will have their examination score shown on their transcript as their grade in MATH 100. Only one attempt is permitted. Students who have already started college or university may not participate. Students already eligible for transfer credit because of high AP or IB scores retain their eligibility regardless of their examination score.

Applications to write the MATH 100 examination must be made to the Head of the Department of Computer Science, Math, Physics and Statistics by March 15 for the April examination date, and by November 15 for the December examination date. A non-refundable fee, equal to the cost of a 1-credit-hour course, must be included with the application.
The examination is scheduled to be taken concurrently with students registered in MATH 100 at the UBC Okanagan campus. Further inquiries about writing the MATH 100 examination should be directed to the academic department head.

Bachelor of Science Programs > Academic Regulations

In addition to the general policies and regulations set out in Policies and Regulations (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3.0.0.0, the following academic regulations listed apply to undergraduate students in this Faculty.

Academic Standing

Supplementary to the University's policy on Academic Standing (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3.41.91), the regulations below are applicable to B.Sc. students in this Faculty.

On Academic Probation

On Academic Probation will be assigned to a student who, while not falling under the provisions for Failed standing, has:

- earned a term cumulative average of less than 55%; or
- enrolled in 9 or more credits in a term and passed fewer than 60% of those credits; or
- enrolled in fewer than 9 credits in a term and passed fewer than 50% of those credits.

A student placed On Academic Probation at the end of the Winter Session will normally be allowed to register in a maximum of 9 credits in the following term. This restriction may be waived at the discretion of the Faculty. The credit restriction will only be enforced if the student is notified before the subsequent term begins.

On Academic Probation is changed to In Good Standing if a student's cumulative average in the term in which he or she was on Academic Probation is 55% or higher.

Failed Standing

A student placed on Failed standing for the first time will normally be required to discontinue his or her studies for a period of one academic year (12 months) prior to resuming his or her program of study. A student who already has a Failed standing on his or her academic record (from any UBC program) will be required to withdraw from the University and may only be readmitted under the Advancement Regulations (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3.41.93). Failed standing will be assigned at the end of the Winter Session (April) based on performance in that session. The evaluation will consider all courses taken in the session. Failed standing will be assigned to a student who has:

- a sessional cumulative average less than 50%, passing fewer than 50% of the credits attempted in that session; or
- a sessional cumulative average of less than 45%.

Courses taken in the Summer Session are not taken into consideration for assigning Failed standing, although they are applicable for On Academic Probation.

Dean's List

Students in any Winter Session with a sessional average of at least 85% while taking 24 or more credits will receive the notation "Dean's List" on their official transcript of academic record.

Bachelor of Science Programs > Degree Requirements for students who entered the program prior to 2020/2021

These are the degree requirements for students who entered the program prior to 2020/2021.

To receive a B.Sc. degree, a student must earn at least 120 baccalaureate program course credits subject to the following:

- at least 78 of the 120 credits must be Science course credits;
- at least 18 of the 120 credits must be Arts course credits, including 6 credits of first-year English and at least 12 other credits in Arts courses that are recognized for credit toward the B.A. degree;
- at least 42 of the 120 credits must be upper-level courses (numbered 300 or higher), of which at least 36 credits must be in
Science;

• at most, 12 of the 120 credits may be from courses that carry credit toward a baccalaureate degree in faculties other than Arts or Science (except those Science courses which are specifically exempted from credit toward the B.Sc. degree);
• at least 36 of the 120 credits must be Science credits from upper-level courses (numbered 300 or higher) and at least an additional 6 upper-level course credits which may be from Arts or Science; and
• at least 30 of the 42 upper-level credits must be completed at UBC.

A minimum graduating grade average (GGA) of 60% is required to be eligible for graduation with the B.Sc. degree.

Designation of Science Courses

Courses with the prefixes ASTR, BIOC, BIOL, CHEM, COSC, DATA, EESC, GISC, MATH, PHYS, and STAT are considered Science courses, unless otherwise noted in the course description. In addition, for students registered in the B.Sc. program in Economics or Psychology, courses taken to complete the requirements for the major are considered Science courses. Otherwise, courses in Economics (ECON) and Psychology (PSYO) count as Arts credit only. The following Geography courses are also designated as Science courses: GEOG 108, 109, 200, 205, 207, 213, 222, 271, 272, 301, 304, 307, 310, 314, 317, 341, 356, 367, 377, 380, 381, 413, 414, 416, 422, 436, 437 and 466. GEOG 491 and 498 may be taken as Science courses depending on the designated topic.

First and Second Years Credit Requirements

To complete years one and two of the B.Sc. program, a student must complete 60 credits in Arts or Science courses. These credits must be selected from the following:

English

Students must complete two first-year English courses (6 credits) selected from: ENGL 112 or 114, 113, 150, 151, 153. Students who have not earned the 6 credits of first-year English referred to above by the time they have completed 60 credits of coursework toward a B.Sc. degree will not be permitted to enrol in any courses other than first-year English until the English requirement is met.

Science

Students must complete 18 first-year Science credits, including:

• 6 credits of MATH 100, 101;
• 6 credits of either CHEM 121/123 or CHEM 111/113;
• 3 credits of either PHYS 102, 121 or 122;
• 3 credits of either PHYS 111 or 112.

Students must also complete 18-24 second-year Science credits. These credits must be chosen to meet the specific Year Two course requirements of the chosen B.Sc. major. See the requirements of the relevant major program.

Electives in Arts or Science

Students must complete 12-24 credits of Arts or Science electives. See major degree details or General Science degree program requirements.

6 elective Science credits must be selected from the list below:

• ASTR 110, 120;
• ASTR 111, 121;
• BIOL 116, 125;
• COSC 111, 121;
• COSC 122, 123;
• EESC 111, 121;
• GEOG 108, 109.

Progression Requirements

First Year 0–23 credits
Bachelor of Science Programs > Degree Requirements for students entering the program in 2020/2021 or later

These are the degree requirements for students entering the program in 2020/2021 or later.

Degree Requirements

To receive a B.Sc. degree, a student must earn at least 120 baccalaureate program course credits subject to the following:

- at least 78 of the 120 credits must be Science course credits;
- at least 42 of the 120 credits must be upper-level courses (numbered 300 or higher), of which at least 36 credits must be in Science; and,
- at least 30 of the 42 upper-level credits must be completed at UBC.

A minimum graduating grade average (GGA) of 60% is required to be eligible for graduation with the B.Sc. degree.

Designation of Science Courses

Courses with the prefixes ASTR, BIOC, BIOL, CHEM, COSC, DATA, EESC, GISC, MATH, PHYS, and STAT are considered Science courses, unless otherwise noted in the course description. In addition, for students registered in the B.Sc. program in Economics or Psychology, courses taken to complete the requirements for the major are considered Science courses. Otherwise, courses in Economics (ECON) and Psychology (PSYO) count as non-science electives. The following Geography courses are also designated as Science courses:


GEOG 491 and 498 may be taken as Science courses depending on the designated topic.

Credit Requirements

English

Six credits of English or Communications courses must be completed before promotion to fourth-year standing. Students who have not earned the 6 credits of required English or Communications coursework by the time they enter fourth year will not be permitted to enrol in any courses other than courses that satisfy the English or Communications requirement.

Science

Students must complete 9 first-year Science credits, including:

- MATH 100
- 3 credits of program-approved COSC, DATA, STAT, or additional MATH courses; and,
- At least 3 credits of experimental science in any BIOL, CHEM, EESC, or PHYS courses with labs.

Electives

Students must complete:

- At least 12 credits of non-science designated courses.

See individual major program details or General Science degree program requirements.
Students are strongly encouraged to take 3 credits of an Indigenous content course to partially fulfill this requirement. Students entering the B.Sc. in 2022 and later will have to successfully complete an Indigenous content course.

Progression Requirements

<table>
<thead>
<tr>
<th>Year</th>
<th>Credits Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>0–23 credits</td>
</tr>
<tr>
<td>Second Year</td>
<td>24–47 credits</td>
</tr>
<tr>
<td>Third Year</td>
<td>48–77 credits</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>78 or more credits</td>
</tr>
</tbody>
</table>

Bachelor of Science Programs > Program Requirements

Registration

Students are responsible for meeting all program requirements. Program advisors are available to assist with the appropriate course selection to meet graduation requirements. Before completing their final 30 credits, students are encouraged to have their progress reviewed by a program advisor to ensure that they meet all graduation requirements.

Students enrolled in the following programs: double major, major/minor, double honours or honours/minor are permitted to double count a limited number of credits between the two fields of study (see Double Counting of Credits in Honours, Majors, and Minors).

Honours

The B.Sc. with Honours provides an intensive program of study in an established discipline or program. Students who complete this program will learn to work independently with a high standard of competency in their chosen field. Honours programs require students to acquire sophisticated analytic and communication skills. May require completion of an honours thesis. Requires a minimum grade average as specified by the program.

Major

Please refer to the individual major program description for course and credit requirements.

Major with a Science Minor

In addition to a major, a student may receive a minor in either another Science discipline or in an interdisciplinary Science area (such as the Data Science Minor or the GIS Minor) by earning at least 30 credits, of which at least 18 must be at the 300 or 400 level. These 30 credits must be in a discipline different from the student's major. Please refer to the individual major program description for the requirements for a minor. The student must also complete all requirements for the major.

See Minor in Data Science for B.Sc. majors (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,1348) for program details.

See Minor in Geospatial Information Science for B.Sc. majors for program details.

Major with an Arts Minor

B.Sc. students may earn a minor in the following Arts disciplines: Anthropology, Art History and Visual Culture, Creative Writing, Cultural Studies, Economics, English, French, Gender and Women's Studies, Geography, History, Indigenous Studies, Latin American Studies, Philosophy, Political Science, Psychology, Spanish, Sociology, and Theatre. To complete an Arts minor, students must complete at least 30 credits in an Arts discipline. At least 12 of these 30 credits must be in courses numbered 300 or above.

Major with a Fine Arts Minor

B.Sc. students may earn a Minor in Visual Arts. Note: due to the number of credits required, adding this program to a degree of study may result in it requiring more than four years to complete.
Double Major in Sciences

A student may earn a double major by completing all program requirements for each major. Completing a double major in the Sciences will likely require more than 120 credits. Note: the two majors must be from different disciplines. It is not possible to double major in two sub-areas of one discipline.

Double Major in Arts and Sciences

A student may earn a double major by completing all program requirements for the B.Sc. degree with a major plus completing the requirements for a major offered in Arts. Note: the two majors must be from two different disciplines. Completing a double major in Arts and Sciences will likely require more than 120 credits.

Double Counting of Credits in Honours, Majors, and Minors

Students enrolled in the following programs: double major, major/minor, double honours or honours/minor are permitted to double count a limited number of credits between the two fields of study. No more than 6 upper-level credits that count toward the program-specified requirements for the first major or honours may be double counted to fulfill requirements for the second honours, major, or minor. Thus, in order to graduate, double major students must have at least 54 program-specified upper-level credit requirements, and major/honours and minor students must have at least 48 upper-level credits; this number of credits cannot be arrived at by double counting. Students should be aware that by double counting they could substantially weaken the intellectual content of one of their fields of study.

General Science Program

See General Science B.Sc. (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,997#12348) for program details.

Bachelor of Science Programs > Co-operative Education Program

Co-operative Education Option

The Co-operative Education (Co-op) program provides interested and qualified students in the B.A. and B.Sc. programs with paid employment experience relevant to their future careers. The Co-operative Education program is an optional, year-round program, supplementary to academic programs in the Faculty. For general program information, see Cooperative Education (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=19,352,0,0).

To graduate with a Co-operative Education Program designation on the transcript, a student must complete three work placement terms, including placements in Term 1 (September to December) and/or Term 2 (January to April) of a Winter Session.

Students wishing to enrol in the Co-op program typically apply in the Winter Session, Term 1 of their third year, however other entry points may be possible if requested and will be evaluated on a case-by-case basis. For admittance into the Co-operative Education program, students must have selected a major and attained third-year standing (i.e., completed at least 48 credits) prior to their first work term while maintaining an overall GPA of 70%. Academic performance and suitability for the work environment, as assessed by the Co-operative Education office during the student intake process, will also be part of the selection criteria used for program admission. Total enrolment is subject to the availability of appropriate work placements. Acceptance into the Co-op program does not guarantee a work term placement.

Students admitted into the Co-op program will be registered in the appropriate Co-operative Education course for each work term, once a suitable work placement is confirmed and upon completion of mandatory pre-employment training. Pre-employment training includes workshops, assignments and activities.

Additionally, payment of the Co-operative Education program fees is mandatory. The fees include a Co-operative Education program fee for each work term and a one-time Co-operative Education program workshop fee (see Program and Course Fees (Calendar page: http://appleton.ad.students.ubc.ca/okanagan/index.cfm?tree=14,341,0,0#15360)).

Each successfully completed Co-operative Education course is assigned 3 Co-op credits on a student's academic transcript. In order to graduate in a Co-operative Education program designation, a student must complete a minimum of 9 Co-op credits (three work terms), in addition to the normal academic requirements of the Faculty.

The Co-operative Education program typically necessitates an additional four months to one year to complete a bachelor's degree. Faculty advisors and Co-operative Education coordinators visit students at their places of work and provide advice on the work term reports that are a requirement of the program. Students transferring to UBC from accredited co-op programs at other institutions may request admission to the Arts and Sciences Co-op program and may receive credit for previously completed work placement.
Bachelor of Science Programs > Biochemistry and Molecular Biology

Major in Biochemistry and Molecular Biology

The Major in Biochemistry and Molecular Biology will provide students with a strong background in biochemistry, biology, and chemistry so that they will be well-placed to develop their interests and move on to graduate school, or work in allied fields such as microbiology, environmental sciences, plant science, food science, pharmacology, pharmaceutical sciences, industrial applications of molecular techniques, and biotechnology. This program is also suitable for students who would like a career in health or medical sciences, molecular diagnostics, and government agencies dealing with medicinal biochemistry. The program is composed of two options leading to a Major in Biochemistry and Molecular Biology. There is a strong lab component to the program, which is essential for students working in this area. The program also allows for the students to do a directed studies research project with various professors in both Chemistry and Biology.

There are two options in the Biochemistry Major and Molecular Biology:

1. **Biochemistry option**: encompasses a broad selection of courses from all areas of chemistry as well as biology. The program is especially suited for professional careers in medicine, biochemistry, and biophysics and is well suited to research careers in basic and translational medicine, as well as university and marketplace laboratories. Students earning a biochemistry degree may pursue graduate studies in a variety of fields;

2. **Medical and Molecular Biology option**: takes students into the medical aspects of biochemistry and molecular biology, including pharmacology, medical microbiology and virology, and the biochemical basis of disease. This concentration will be of interest to students who would like to do medical research in the future, or those who would like to work in medical or allied health sciences.

The Major is structured to meet the requirements of a major in Science and will normally take four years.

<table>
<thead>
<tr>
<th>First and Second Years</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 116, 125</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
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<tr>
<td>MATH 100, 101</td>
<td>6</td>
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<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 200</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 228</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 265</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 203, 204</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 201</td>
<td>3</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
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<tr>
<td><strong>Biochemistry Option</strong></td>
<td></td>
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<tr>
<td>MATH 200</td>
<td>3</td>
</tr>
<tr>
<td>One of CHEM 211, BIOL 202, STAT 230</td>
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<tr>
<td><strong>Medical and Molecular Biology Option</strong></td>
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<tr>
<td>One of BIOL 201, 204, 205, 209, 210</td>
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<td>One of BIOL 202, STAT 230</td>
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<td><strong>Total Credits</strong></td>
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<th>Third and Fourth Years</th>
<th>Credits</th>
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<tr>
<td>BIOC 304, 305</td>
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<tr>
<td>BIOL 366</td>
<td>3</td>
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<tr>
<td>BIOC 393</td>
<td>3</td>
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</tbody>
</table>
Arts electives 6

**Biochemistry Option**
Three of BIOC 402, 403, 405, 410, 420, 425 9
CHEM 305 3
Two of CHEM 304, 330, 333, 335, BIOC 494, BIOC 495\(^1\) 6
Upper-level science elective 6
Upper-level arts or science electives 6
Electives 12

**Medical and Molecular Biology Option**
BIOC 308, 309 6
Two of BIOC 402, 403, 405, 410 6
BIOC 407 3
One of BIOC 494, BIOC 495\(^1\) 3
BIOL 318 3
Two of BIOL 312, 314, 341, 363 6
Upper-level elective 3
Electives 12
Total Credits 60

Minimum credits for degree 120

\(^1\) BIOC 494 and/or 495 (Biotechnology Laboratory I and II) can be replaced by BIOC 448 or BIOC 449, a 6-credit lab-based directed studies or honours course, though students may take both. Note: credit will be granted for only one of BIOC 393 or BIOL 393. Credit will be granted for only one of BIOC 493 and BIOC 494 or BIOC 493 and BIOC 495.

**Biochemistry and Molecular Biology Honours Program**

The Honours in Biochemistry and Molecular Biology provides an intensive program of study through coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency.

The course requirements are the same as in the Major in Biochemistry and Molecular Biology program, except that 6 credits must be in BIOC 449.

**Admission Requirements**

- Fourth-year standing (minimum of 78 credits in the Biochemistry and Molecular Biology Major).
- Minimum grade average of 76% in all courses taken applicable to the Biochemistry and Molecular Biology Major.
- Enrolment in BIOC 449 with a research project and a research supervisor approved by either the Chemistry or Biology Department Head.

**Graduation Requirements**

- Completion of the course requirements for the Major in Biochemistry and Molecular Biology.
- A minimum 76% graduating grade average (GGA).
- BIOC 449, with a minimum grade of 76%. A written thesis, with a public presentation of the thesis in the form of a poster or a seminar.

**Bachelor of Science Programs > Biology**

**Major in Biology**

**Note:** The UBC Okanagan campus also offers Majors in Ecology and Evolutionary Biology, Microbiology, and Zoology.

The Biology Major is designed to provide students with an excellent grounding in all fields of biology and the basic practical skills of the working biologist. This program prepares students for graduate school and professional programs. Students graduating from the
UBC Okanagan campus with a B.Sc. in Biology will have a wide variety of practical experience and skills in laboratory and fieldwork, and communications (both oral and written).

Electives to satisfy B.Sc. Degree Requirements should include a minimum of 12 credits of Arts electives (in addition to 6 credits in English) and 12 credits of other courses (chosen, if needed, to ensure prerequisites are met for third- and fourth-year elective courses).

A minimum of 42 upper-level credits are required, which include at least 36 credits of Science courses (including at least 30 credits of Biology courses).

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 116, 125(^1)</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112(^2) or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101(^1)</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Total credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200, 201</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 202, 265</td>
<td>6</td>
</tr>
<tr>
<td>Two of BIOL 204, 205, 209, 210, 228</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 203, 204; or CHEM 213, 214(^2)</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third and Fourth Years</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 311</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 354</td>
<td>3</td>
</tr>
<tr>
<td>Biology electives numbered 300 or higher</td>
<td>24</td>
</tr>
<tr>
<td>Science electives numbered 300 or higher</td>
<td>6</td>
</tr>
<tr>
<td>Other electives numbered 300 or higher</td>
<td>6</td>
</tr>
<tr>
<td>Electives to satisfy B.Sc. credit requirements</td>
<td>18</td>
</tr>
<tr>
<td>Total Credits</td>
<td>60</td>
</tr>
<tr>
<td>Minimum credits for degree</td>
<td>120</td>
</tr>
</tbody>
</table>

\(^1\) BIOL 116, 125; CHEM 111, 113 or 121, 123; and MATH 100, 101 should be taken in the first year to ensure students have the prerequisites for second year.

\(^2\) Strongly recommended.

**Biology Honours Program**

The Honours in Biology is an intensive program of study based on coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Biology program, except students must complete 6 credits of BIOL 440.

**Admission Requirements**

- Fourth-year standing.
- A minimum overall grade average of 75% over all courses completed.
- Enrolment in BIOL 440 with a research project and research supervisor approved by the department head.

**Graduation Requirements**

- Completion of the course requirements for the Major in Biology.
- A 75% overall grade average.
- BIOL 440, with a minimum grade of 75%. A written thesis is required, with a public presentation of the thesis in the form of a
Minor in Biology

A student must successfully complete 18 credits of third- or fourth-year Biology courses.

# Bachelor of Science Programs > Chemistry

## Major in Chemistry

**Note:** The UBC Okanagan campus also offers a [Major in Environmental Chemistry](#).

Students entering the Major in Chemistry program must complete Chemistry 11 (or equivalent) and Principles of Mathematics 12 or Pre-Calculus 12. Students are strongly advised to complete Chemistry 12.

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 201, 220</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 203, 204</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 211</td>
<td>3</td>
</tr>
<tr>
<td>MATH 200</td>
<td>3</td>
</tr>
<tr>
<td>Science electives</td>
<td>6</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

### Third and Fourth Years

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical: CHEM 311</td>
<td>3</td>
</tr>
<tr>
<td>Biochemistry: BIOC 304</td>
<td>3</td>
</tr>
<tr>
<td>Inorganic: two of CHEM 335, 336, 337, 338</td>
<td>6</td>
</tr>
<tr>
<td>Organic: two of CHEM 317, 330, 333, 403</td>
<td>6</td>
</tr>
<tr>
<td>Physical: CHEM 304, 312&lt;sup&gt;1&lt;/sup&gt;</td>
<td>6</td>
</tr>
<tr>
<td>Two of CHEM 461, 462, 463, 464, 465</td>
<td>6</td>
</tr>
<tr>
<td>Upper-level Chemistry electives</td>
<td>6</td>
</tr>
<tr>
<td>Upper-level electives</td>
<td>6</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives&lt;sup&gt;2&lt;/sup&gt;</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
</tr>
<tr>
<td>Minimum credits for degree</td>
<td>120</td>
</tr>
</tbody>
</table>

<sup>1</sup> MATH 200 is a strongly recommended corequisite for CHEM 312 and should be taken in second year if CHEM 312 is to be taken in third year.

<sup>2</sup> Of the electives, 6 credits must be taken from the following: ASTR 110, 120; ASTR 111, 121; BIOL 116, 125; COSC 111, 121; COSC 122, 123; EESC 111, 121; GEOG 108, 109.
Chemistry Honours Program

The Honours in Chemistry program is designed to provide an intensive program of study through coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Chemistry program, except 6 credits of the elective component of the program must be in CHEM 449.

Admission Requirements

- Fourth-year standing (minimum of 78 credits in the Chemistry Major).
- Minimum grade average of 76% in all courses taken applicable to the Chemistry Major.
- Enrolment in CHEM 449 with a research project and a research supervisor approved by the Chemistry Curriculum Committee.

Graduation Requirements

- Completion of the course requirements for the Major in Chemistry.
- A minimum 76% graduating grade average (GGA).

Minor in Chemistry

A student must successfully complete the core second-year Chemistry courses: CHEM 201 or 210 and all of CHEM 203, 204, 211, 220. The student must also complete at least 18 credits in 300- or 400-level Chemistry courses.

Bachelor of Science Programs > Computer Science (B.Sc.)

B.Sc. Major in Computer Science

Note: The UBC Okanagan campus also offers a B.A. Major in Computer Science.

This program provides students with a comprehensive overview of computer science including data structures, databases, mobile and web development, software engineering, numerical methods, and security. Computer Science graduates have an impact on society by developing systems used by millions of users and are in very high demand. Students must take COSC 304, 310 and COSC 341 in their 3rd year since they are a prerequisite to COSC 499. COSC 499 must be taken in 4th year.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 111 or 123</td>
<td>3</td>
</tr>
<tr>
<td>COSC 121</td>
<td>3</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Electives (COSC 101 recommended)</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 211, 221, 222</td>
<td>9</td>
</tr>
<tr>
<td>MATH 200, 221</td>
<td>6</td>
</tr>
<tr>
<td>STAT 230</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>
Third and Fourth Years

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 320</td>
<td>3</td>
</tr>
<tr>
<td>COSC 304, 310, 341&lt;sup&gt;1&lt;/sup&gt;</td>
<td>9</td>
</tr>
<tr>
<td>COSC 499&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6</td>
</tr>
<tr>
<td>PHIL 331</td>
<td>3</td>
</tr>
<tr>
<td>Upper-level Computer Science electives</td>
<td>15</td>
</tr>
<tr>
<td>Upper-level electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives&lt;sup&gt;3&lt;/sup&gt;</td>
<td>18</td>
</tr>
<tr>
<td>Total Credits</td>
<td>60</td>
</tr>
</tbody>
</table>

Minimum credits for degree 120

1 COSC 304, 310 and COSC 341 are a pre-requisite to COSC 499 so they must be taken in 3rd year.
2 COSC 499 pre-requisites are COSC 304, 310 and 341 so COSC 499 must be taken in 4th year.
3 At least 18 credits (including PHIL 331 and 6 credits in first-year English) must be Arts courses.

B.Sc. Computer Science Honours Program

Through coursework and research, the Honours in Computer Science is an intensive program of study. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Computer Science program, except the student must maintain a high grade level (a minimum of 75%) and the student must complete COSC 449 Honours Thesis (6 credits).

Admission Requirements

- Fourth-year standing in the Computer Science Major;
- This program requires a research project with an undergraduate honours thesis. The thesis proposal and a research supervisor must be approved by the department head; and
- Minimum grade average of 75% in all courses taken to date applicable to the Computer Science Major.

In exceptional cases, such as transferees from another institution, a student may be admitted to the Honours program notwithstanding the criteria listed above.

Graduation Requirements

- Completion of the course requirements for the Computer Science Major;
- Completion of COSC 449 Honours Thesis with a minimum grade of 75%. A written thesis is required, with a public presentation of the thesis in the form of a poster session and/or a seminar; and
- A minimum 75% graduating grade average (GGA).

B.Sc. Minor in Computer Science

A Minor in Computer Science allows a student to combine extensive knowledge of one field (the major) with the necessary supporting computer science knowledge. A Minor in Computer Science taken with a Science major requires 18 credits of upper-level Computer Science courses (along with their prerequisites). A Minor in Computer Science taken with an Arts major requires 12 credits of upper-level Computer Science courses (along with their prerequisites).

Bachelor of Science Programs > Data Science

Major in Data Science

Note: The UBC Okanagan campus also offers a B.Sc. Minor in Data Science.

This program provides students with a thorough training in Data Science, which focuses on taking decisions supported by data. It is grounded in Statistics (to formulate relevant questions and determine the answer based on data) and Computer Science (to manipulate and visualize data efficiently).
Data Science graduates have an impact on society by supporting evidence-based decisions grounded in our ever-growing collection of data. They are in very high demand and are called Statisticians, Quantitative Analysts, Decision Support Engineering Analysts, or Data Scientists.

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or 121; and CHEM 113 or 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>COSC 111, 121</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 200, 221¹</td>
<td>6</td>
</tr>
<tr>
<td>STAT 230</td>
<td>3</td>
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<tr>
<td>COSC 221, 222</td>
<td>6</td>
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<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>30</strong></td>
</tr>
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### Third and Fourth Years

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSC 304, 322, 360, 407</td>
<td>12</td>
</tr>
<tr>
<td>DATA 301, 311, 410</td>
<td>9</td>
</tr>
<tr>
<td>PHIL 331</td>
<td>3</td>
</tr>
<tr>
<td>STAT 303</td>
<td>3</td>
</tr>
<tr>
<td>Three of COSC 303, DATA 405, MATH 307, STAT 401, 403</td>
<td>9</td>
</tr>
<tr>
<td>One of DATA 421, 407, PHYS 420</td>
<td>3</td>
</tr>
<tr>
<td>Two of BIOL 308, 414, 444, 460, 468, ECON 327, 328, 427, EESC 342, 413, GISC 380, 381, PHYS 331, 441, PSYO 372, 443</td>
<td>6</td>
</tr>
<tr>
<td>Science electives</td>
<td>9</td>
</tr>
<tr>
<td>Arts electives</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**Minimum credits for degree**  
120  

¹ Math 221 may be taken in the second term of the first year.

### Data Science Honours Program

Through coursework and research, the Honours in Data Science is an intensive program of study. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Data Science program, except the student must maintain a high grade level (a minimum of 75%) and the student must complete DATA 449 Honours Thesis (6 credits).

### Admission Requirements

- Fourth-year standing in the Data Science Major;  
- This program requires a research project with an undergraduate honours thesis. The thesis proposal and a research supervisor must be approved by the department head; and  
- Minimum grade average of 75% in all courses taken to date applicable to the Data Science Major.

In exceptional cases, such as transferees from another institution, a student may be admitted to the Honours program notwithstanding the criteria listed above.
Graduation Requirements

- Completion of the course requirements for the Data Science Major;
- Completion of DATA 449 Honours Thesis with a minimum grade of 75%. A written thesis is required, with a public presentation of the thesis in the form of a poster session or a seminar; and
- A minimum 75% graduating grade average (GGA).

Any query related to the data science Major/Honours should be addressed to the data science Major/Honours program advisor at datasciencemajor.coordinator@ubc.ca

Minor in Data Science

The Minor in Data Science provides advanced numeracy skills to majors in disciplines where new discoveries rely increasingly on the creation, management, and understanding of large data sets such as biology, chemistry, economics, and psychology. The minor is open to all majors in the B.Sc. program.

Students may earn a minor in data science by completing 30 credits as follows:

- Up to 12 credits from APSC 177, 254; BIOL 201, 202; COSC 111, 121, 123, 221, 222; ECON 101, 102, 204, 205; EESC 205, 212, 222; GEOG 108, 109, 271; MATH 100, 101, 200, 220, 221, 225; PHYS 111, 112, 231; PSY0 271; STAT 230.
- 3 credits of DATA 301
- 15 credits of elective courses, which must not include more than 9 credits from a single discipline and must be in the following two lists of courses:
  - At least 9 credits from COSC 303, 304, 320, 322, 360, 407, 419\(^1\); DATA 311, 405, 407, 410, 419, 421; STAT 303, 401, 403.
  - Up to 6 credits from BIOL 308, 414, 444, 460, 468; ECON 321, 327, 328, 427; EESC 342, 413; GEOG 371, 377; GISC 380, 381; MATH 302, 303, 307, 319, 327, 340, 430, 441, 461; MGMT 350, 423, 460; PHYS 331, 441, 420; PSY0 372, 443.

\(^1\)only when COSC 419 is a special topic related to data science as approved by the data science minor program coordinator

Double Counting of Credits restrictions apply, see Program Requirements (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,1062)

Any query related to the data science minor should be addressed to the data science minor program coordinator at datascienceminor.coordinator@ubc.ca

Bachelor of Science Programs > Earth and Environmental Sciences

Major in Earth and Environmental Sciences

The Earth and Environmental Sciences B.Sc. program provides an education reflecting the multi-disciplinary nature of the field. Students will acquire a fundamental understanding of past and present relationships among air, water, rocks and minerals, and biota. Flexible program requirements allow students to acquire a degree that meets their personal objectives. Students can highlight the environment or the solid earth and enhance their program with related elective courses from Biochemistry, Biology, Chemistry, Geography, Mathematics, and Statistics. Programs can also be designed to meet curriculum guidelines required by professional organizations. For example, students are referred to Canadian Council of Professional Geoscientists (CCPG) and Engineers and Geoscientists British Columbia websites for syllabus requirements for registration as a Professional Geoscientist. Registration with other national and provincial bodies may be possible with careful course selection.

\(^1\)Professional registration in geoscience and other related fields is managed by organizations external to UBC. Efforts are made to ensure that the relevant UBC courses meet provincial and national registration requirements, but students are reminded that the final decision on course acceptance and registration rests with these external organizations.

<table>
<thead>
<tr>
<th>First and Second Years(^1)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two of EESC 101, 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>Two of BIOL 116, 125, COSC 101, 111, 114, 121</td>
<td>6</td>
</tr>
<tr>
<td>Course Requirement</td>
<td>Credits</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>STAT 230 or equivalent course (e.g. BIOL 202; GEOG 271; PSYO 271; SOCI 271)</td>
<td>3</td>
</tr>
<tr>
<td>At least three 200-level EESC courses</td>
<td>9</td>
</tr>
<tr>
<td>Science Electives (200-level)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>60</td>
</tr>
</tbody>
</table>

**Third and Fourth Years**<sup>1</sup><br><br>**Credits**<br><br>Any six EESC 300- and 400-level courses<sup>3</sup> | 18      |
Two EESC or GISC 300 or 400-level courses                                       | 6       |
Upper-level Science electives<sup>4</sup>                                        | 12      |
Arts electives<sup>5,6</sup>                                                   | 12      |
Electives<sup>6</sup>                                                          | 12      |
Minimum total credits for degree                                                | 120     |

<sup>1</sup> Students are advised to consult a departmental program advisor or the program website for guidance on which courses to take in first and second year. The choice of courses, and the order to take them in, may vary depending on student interests. Careful selection of courses at all levels may be required to meet the requirements of registration in some professional organizations. Consultation with a departmental program advisor is recommended at the end of 1st-year or in the first weeks of 2nd year if a student is aiming to meet requirements of professional registration.<br><br>2 Students may choose 200-level courses from Earth and Environmental Sciences courses, Geography courses accepted as science courses, or from across the sciences. Students should consult with a program advisor to select courses to match their intended program of study and professional registration intentions.<br><br>3 A few upper-level Earth and Environmental Sciences courses are offered in alternate years. Planning with a department advisor is recommended.<br><br>4 Students may choose from Earth and Environmental Sciences courses, Geospatial Information Science courses, Geography courses accepted as science courses, or from across the sciences.<br><br>5 Those Geography courses regarded as Science courses cannot be used for Arts credit. See the Bachelor of Science Degree Requirements [http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18.282.858.1065](http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18.282.858.1065) for a list.<br><br>6 At least 6 credits of these electives must be at upper-level.

**Minor in Earth and Environmental Sciences for Science Majors**<br><br>A student must successfully complete 30 credits in Earth and Environmental Sciences with at least 18 of these credits at the 300 and 400 level. All 300 or 400-level Earth and Environmental Sciences courses are acceptable, with the exception of EESC 449. Up to 6 credits of GISC courses may be substituted.<br><br>**Minor in Earth and Environmental Sciences for Arts Majors**<br><br>To complete a Science minor, a Bachelor of Arts student must successfully complete 30 credits of Earth and Environmental Sciences courses with at least 12 of these credits at the 300 or 400 level.<br><br>Students with a strong interest in Geospatial Information Science may wish to speak to an Earth, Environmental and Geographic Sciences department advisor about the Minor in Geospatial Information Science.<br><br>**Earth and Environmental Sciences Honours Program**<br><br>The Earth and Environmental Sciences Honours program is designed for dedicated students in Earth and Environmental Sciences desiring a recognized research component in their B.Sc. degree. Students must maintain a high academic standing, and demonstrate their ability to undertake independent research through completion of an individual research project.
Admission Requirements

- Fourth-year standing;
- A minimum grade average of 76% in 200- and 300-level courses; and
- Enrolment in EESC 449 with a research project and supervisor approved by the department head.
- An individual research project as agreed upon by the student and the supervising faculty member.
- Permission of the Department Head.

Graduation Requirements

- Completion of the course requirements for the Major in Earth and Environmental Sciences with EESC 449 Honours Thesis representing 6 of the 120 credits;
- A 76% overall grade average;
- A minimum average of 70% in all upper-level Earth and Environmental Sciences courses; and
- A minimum grade of 76% in EESC 449. A written thesis is required and the research must be publicly presented either as a seminar or poster.

Bachelor of Science Programs > Ecology and Evolutionary Biology

Major in Ecology and Evolutionary Biology

Note: The UBC Okanagan campus also offers Majors in Biology, Microbiology, and Zoology.

Graduates will obtain a grounding in theory, practical experience, and skills in laboratory and field work, and communications (both verbal and written). This program prepares students for graduate school and professional programs.

Electives to satisfy B.Sc. Degree Requirements should include a minimum of 12 credits of Arts electives (in addition to 6 credits in English) and 12 credits of other courses (chosen, if needed, to ensure prerequisites are met for third- and fourth-year elective courses).

A minimum of 42 upper-level credits are required, which include at least 36 credits of Science courses (including at least 30 credits of Biology courses).

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 116, 125</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
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<tr>
<td>Total credits</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>BIOL 200, 201</td>
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</tr>
<tr>
<td>BIOL 202, 265</td>
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</tr>
<tr>
<td>Two of BIOL 204, 205, 209, 210., 228</td>
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</tr>
<tr>
<td>CHEM 203, 204; or CHEM 213, 214</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total credits</td>
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</table>

<table>
<thead>
<tr>
<th>Third and Fourth Years</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 308</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 311</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 354</td>
<td>3</td>
</tr>
</tbody>
</table>
Science electives numbered 300 or higher  
Other electives numbered 300 or higher  
Electives to satisfy B.Sc. credit requirements  
Total credits  
Minimum credits for degree

1 BIOL 116, 125; CHEM 111, 113 or 121, 123; and MATH 100, 101 should be taken in first year to ensure students have the prerequisites for second year.
2 Strongly recommended.
3 If approved by the program advisor as appropriate to Ecology and Evolutionary Biology.

Ecology and Evolutionary Biology Honours Program

The Honours in Ecology and Evolutionary Biology is an intensive program of study based on coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency.

The course requirements are the same as in the Major in Ecology and Evolutionary Biology, except that students must complete 6 credits of BIOL 440.

Admission Requirements

- Fourth-year standing;
- A minimum grade average of 75% over all courses completed; and
- Enrolment in BIOL 440 with a research project and research supervisor approved by the department head as appropriate to Ecology and Evolutionary Biology.

Graduation Requirements

- Completion of the course requirements for the Major in Ecology and Evolutionary Biology;
- A 75% overall grade average; and
- BIOL 440 (6 credits), with a minimum grade of 75%. A written thesis is required, with a public presentation in the form of a poster session or a seminar.

Bachelor of Science Programs > Economics (B.Sc.)

B.Sc. Major in Economics

Note: UBC Okanagan also offers a B.A. Major in Economics and a B.A. Major in Philosophy, Politics, and Economics (PPE).

The B.Sc. Major in Economics emphasizes the mathematical and quantitative nature of modern economic inquiry that is increasingly required for progress on to graduate studies in economics or to careers in quantitative economic and financial analysis in the public and private sectors. The Major combines courses in Economics, Mathematics, and Statistics along with other Arts and Sciences requirements and electives. For students registered in the B.Sc. program in Economics, courses in Economics (ECON) taken to complete the requirements for the major are considered Science courses. Otherwise, Economics courses count as Arts credit.

Students are recommended to enter the B.Sc. Economics Major in their second year in order to ensure proper program advising and course selection.

To be admitted to the major program students must:

- have successfully completed both ECON 204 and ECON 205 (or equivalent); and,
- consult with the department.

<table>
<thead>
<tr>
<th>First and Second Years</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 101, 102</td>
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</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
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</tbody>
</table>
CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123  
PHYS 111 or 112  
PHYS 102, 121 or 122  
Two of ENGL 112 or 114, 113, 150, 151, 153  
Two of ASTR 110, 120, 111, 121; BIOL 116, 125; COSC 111, 121, 122, 123; EESC 111, 121; GEOG 108, 109  
ECON 204, 205  
MATH 200, 221  
One of MATH 220, 225  
STAT 230  
Electives  
Total Credits  

Third and Fourth Years  
ECON 327, 328  
Four of ECON 320, 427; MATH 303, 307, 317, 319, 327, 339, 340, 409, 441; STAT 303, 401; DATA 301, 311, 410  
ECON courses numbered 300 or higher  
ECON courses at any level  
Electives  
Total Credits  
Minimum credits for degree  

1 In order to meet the degree requirements for the B.Sc., at least 42 of the 120 credits must be upper-level courses (numbered 300 or higher) and at least 18 of the 120 credits must be Arts course credits (including the 6 required credits of first-year English and at least 12 other credits in Arts courses).
2 At least one course must be upper-level microeconomics (ECON 308, 386, or 401) and at least one course must be in upper-level monetary/macroeconomics (ECON 309, 345, 356, 402, or 409).

B.Sc. Honours in Economics

The Honours program in Economics enables high-achieving B.Sc. Major students in Economics to increase their concentration in economics and to gain research experience through the completion of a directed-studies project (ECON 499 Honours Essay). Students are expected to satisfy high levels of competency in their academic program and to successfully complete a directed-studies project (ECON 499 Honours Essay) under the supervision of a faculty member. Students intending to pursue graduate studies in economics are advised to consider taking the Honours program since it better equips them to be successful; in addition, most of the high-quality programs in Economics expect potential graduate students to have completed an Honours degree.

Students who wish to enroll in the Honours program must submit a formal application to the coordinator of the Honours Program. After being admitted to the Honours Program, students must complete ECON 495 (Honours Seminar) and ECON 499 (Honours Essay) in sequence during their final year of study.

Admission Requirements:

- Fourth-year standing in the Economics major;
- A minimum grade average of 76% in all courses taken to date that are applicable to the Economics Major;
- A minimum grade of 76% in both ECON 204 and ECON 205;
- A minimum grade average of 76% in MATH 100 and MATH 101;
- Successful Completion of ECON 327 and ECON 328.

Graduation Requirements:

- All general program requirements for the B.Sc. degree ;
- All requirements for the B.Sc. Economics Major;
- Successful completion of ECON 401, 402, 427, 495 and 499;
- A minimum overall grade average of 76% in all Economics (ECON) courses;
- A minimum overall grade average of 76% in all courses; and
- A minimum of 51 credits of Economics with at least 36 credits at the upper level.
Bachelor of Science Programs > Environmental Chemistry

Major in Environmental Chemistry

Note: The UBC Okanagan campus also offers a Major in Chemistry.

This program provides students with a core education in the four important areas of chemistry: analytical, inorganic, organic, and physical chemistry, with specialization in environmental chemistry. Employment opportunities include positions with environmental consulting firms, environmental departments in industrial operations, analytical laboratories, and environmental regulatory agencies.

Students entering the Major in Environmental Chemistry program must complete Chemistry 11 (or equivalent) and Principles of Mathematics 12 or Pre-Calculus 12. Students are strongly advised to complete Chemistry 12.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 116, 125; or two of EESC 101, 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One of CHEM 201, 210</td>
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<tr>
<td>CHEM 203, 204</td>
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</tr>
<tr>
<td>CHEM 211</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 220</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 116, 125; or two of EESC 101, 111, 121</td>
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<tr>
<td>Arts elective</td>
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<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Third and Fourth Years</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CHEM 301, 302</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 311</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 317</td>
<td>3</td>
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<tr>
<td>One of CHEM 330, 333, 403</td>
<td>3</td>
</tr>
<tr>
<td>Two of CHEM 335, 336, 337, 338</td>
<td>6</td>
</tr>
<tr>
<td>One of CHEM 412, 434</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 461</td>
<td>3</td>
</tr>
<tr>
<td>EESC 309</td>
<td>3</td>
</tr>
<tr>
<td>EESC 323</td>
<td>3</td>
</tr>
<tr>
<td>EESC 423</td>
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<tr>
<td>Two approved environmental electives</td>
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<tr>
<td>Arts electives</td>
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<td>Electives</td>
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<tr>
<td>Total Credits</td>
<td>60</td>
</tr>
<tr>
<td>Minimum credits for degree</td>
<td>120</td>
</tr>
</tbody>
</table>

1 Students must complete BIOL 116, 125, and two of EESC 101, 111, 121. The order in which these pairs of courses are completed in first and second year is optional.

2 At least 18 total credits (including 6 credits in first-year English) must be in Arts courses. At least 6 elective credits must be 300 level or higher.
3 Students should be aware that these courses are generally offered only in alternate years, and plan their course selections accordingly.

4 The environmental electives must be chosen from outside Chemistry, in consultation with a program advisor.

Students are encouraged to take courses offered in other disciplines that are relevant to the B.Sc. in Environmental Chemistry. Such courses often have prerequisites, so students should start planning their electives early in their degree program.

Environmental Chemistry Honours Program

The Honours in Environmental Chemistry program is designed to provide an intensive program of study through coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency. The course requirements are the same as in the Major in Environmental Chemistry program, except 6 credits of the elective component of the program must be in CHEM 449.

Admission Requirements

- Fourth-year standing (minimum of 78 credits in the Environmental Chemistry Major).
- Minimum grade average of 76% in all courses taken applicable to the Environmental Chemistry Major.
- Enrolment in CHEM 449 with a research project and a research supervisor approved by the Chemistry Curriculum Committee.

Graduation Requirements

- Completion of the course requirements for the Major in Environmental Chemistry.
- A minimum 76% graduating grade average (GGA).

Bachelor of Science Programs > Freshwater Science

Major in Freshwater Science

The Freshwater Science program integrates and synthesizes aquatic aspects of biology, chemistry, geography, and earth and environmental sciences. Students will study water quality and quantity, aquatic organisms, and the health of aquatic ecosystems.

This program prepares students for careers related to inland aquatic ecosystems. Graduates of this program will acquire the skills and knowledge necessary to deal with future national and international freshwater environmental problems - both in water quality and quantity. In addition to employment in freshwater and environmental sectors, graduates will be prepared for graduate study and research in freshwater science.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 116, 125</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>EESC 101, 111</td>
<td>6</td>
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<tr>
<td>MATH 100, 101</td>
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<tr>
<td>PHYS 111 or 112</td>
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<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 202, STAT 230, or equivalent course (e.g.: GEOG 271; PSYO 271; SOCI 271)</td>
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</tr>
<tr>
<td>CHEM 201 or 210</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 211</td>
<td>3</td>
</tr>
<tr>
<td>EESC 205, 222</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
</tbody>
</table>
Arts electives 1
Total Credits

Third and Fourth Years

BIOL 308, 375 2
CHEM 301
EESC 212
EESC 301
EESC 402
One of EESC 305, 342, 413, 435
Two of CHEM 321, EESC 309, EESC 323, EESC 423
One of EESC 313, EESC 314, EESC 315, GEOG 310, GEOG 314
Arts electives 1
Electives (Arts or Science) 1
Upper-level Science electives
Upper-level electives (Arts or Science)
Total Credits
Minimum Credits for Degree

1 At least 18 credits (including the 6 credits in first-year English) must be in Arts courses.
2 In lieu of BIOL 375, two of BIOL 204, 205, 209, 210 will be accepted.

Freshwater Science Honours Program

The Freshwater Science Honours program is designed for dedicated students in Freshwater Science desiring a recognized research component in their B.Sc. degree. Students must maintain a high academic standing, and demonstrate their ability to undertake independent research through completion of an individual research project.

Admission Requirements

- Fourth-year standing;
- A minimum overall grade average of 76%; and
- Enrolment in EESC 449 with a research project and supervisor approved by the department head.
- An individual research project as agreed upon by the student and the supervising faculty member; and
- Permission of the Department Head.

Graduation Requirements

- Completion of the course requirements for the Major in Freshwater Science with EESC 449 Honours Thesis representing 6 of the 120 credits;
- A 76% overall grade average;
- A minimum average of 70% in all upper-level Earth and Environmental Sciences courses; and
- A minimum grade of 76% in EESC 449. A written thesis is required and the research must be publicly presented as a seminar or poster.

Bachelor of Science Programs > General Science B.Sc.

General Science Degree

This program provides a comprehensive undergraduate science education with the opportunity for concentration in two or three of the following eight subject areas: Biochemistry, Biology, Chemistry, Earth and Environmental Sciences (including certain courses in Geography), Economics, Mathematical Sciences (including courses in Computer Science, Mathematics, Statistics, and Data Science), Physics and Psychology.

The General Science B.Sc. degree is appropriate for students planning to continue study in professional areas such as post-secondary education, business administration, dentistry, law, medicine, or veterinary medicine. In particular, this program
provides excellent preparation for prospective secondary school teachers. It is not generally intended for students planning to continue to graduate studies in science; however, with careful planning and high academic achievement, it is possible to enter a science graduate program, although additional qualifying studies may be required at some universities. To qualify for the General Science B.Sc. degree, students must meet all of the graduation requirements and the requirements for first and second year. To satisfy the requirement of at least 36 credits from Science courses numbered 300 and above, students must select one of the following two options within the General Science degree program:

**Option A (Two Areas of Concentration)**
Students are required to complete at least 18 credits of Science courses numbered 300 or higher in each of any two of the subject areas listed above.

**Option B (Three Areas of Concentration)**
Students are required to complete at least 36 credits from Science courses numbered 300 or higher. Included in this minimum of 36 credits, at least 18 credits must be in one subject listed above, at least 6 credits must be in a second area, and at least 6 credits must be in a third area.

Courses selected for either option must be acceptable for a B.Sc. major program in the specific subject areas. Students who successfully complete the B.Sc. General Science program will have the subject areas recorded on their transcript.

1 For students completing the B.Sc. Major in Economics program or the B.Sc. General Science program with one of their concentrations in Economics, courses in Economics (ECON) are considered Science courses for Science credit. For all other B.Sc. students, Economics courses count as Arts credit.

2 Only Psychology courses counting as Science credit can be used for the purpose of the General Degree.

**Bachelor of Science Programs > Geospatial Information Science (Minor)**

**Minor in Geospatial Information Science**

The Minor in Geospatial Information Science provides a formal introduction to foundational concepts, principles, and tools for gathering, storing, processing, analyzing, viewing, and portraying geospatial data. Practical applications and problem solving are stressed.

The minor is open to all majors in a Bachelor of Arts or Bachelor of Science program. The choice of electives enables students to specialize in an area of academic interest that complements their disciplinary major.

Students may earn a Minor in Geospatial Information Science by completing 30 credits, with at least 18 at the 300 or 400 level, as follows:

- 9 credits of core courses: GISC 380, GISC 381, and GISC 480;
- 21 credits of elective courses, with no more than 6 credits at the 100-level\(^1\) and with no more than 12 elective credits from a single discipline, that is the same as the major, from the following list:
  - APSC 169\(^3\);
  - COSC 101, 111, 121, 222, 304, 341, 360, 404, 435, 448\(^4\);
  - DATA 301;
  - EESC 111, 413, 437, 444, 448\(^4\);
  - ENGR 332\(^3\);
  - GEOG 109, 129\(^3\), 271\(^5\), 272, 427\(^3\), 437, 498\(^4\)

\(^1\)First-year electives can only be counted toward the GIS Minor by students not majoring in the discipline of the subject code (e.g., an EESC major may not count EESC 111 for the GIS Minor, but a COSC or ENGR major may do so).

\(^2\)For the purposes of the GIS Minor, a discipline is identified by the subject code (e.g., GEOG, EESC) with COSC and DATA combined as one discipline and ASPC and ENGR combined as another discipline.

\(^3\)For the purposes of the GIS Minor only, these courses will be counted as science credits.

\(^4\)Directed studies courses (3 credits only) can be counted toward the GIS Minor only if pre-approved by the program coordinator based on sufficient GIS content and learning potential.

\(^5\)Any equivalent course dealing with introductory statistical methods can be substituted (e.g. APSC 254, BIOL 202, PSYO 270, SOCI 271, STAT 230).

Double Counting of Credits restrictions apply. See Program Requirements [http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,1062].
Queries related to the GIS Minor should be addressed to the program coordinator.

Bachelor of Science Programs > Mathematical Sciences

Major in Mathematical Sciences

Note: The UBC Okanagan campus also offers a B.A. Major in Computer Science, a B.Sc. Major in Computer Science, a B.Sc. Major in Data Science, a B.A. Major in Mathematics, a B.Sc. Major in Mathematics, and a B.Sc. Combined Major in Physics and Mathematics.

This program provides students with a solid grounding in the mathematical sciences including mathematics, statistics, and computer science. While maintaining a strong core in mathematics, the program allows students to emphasize mathematics, statistics, computer science, or any combination of the three. Computer science and statistics are extensively integrated throughout the program.

A graduate of this program is prepared for further study in the mathematical sciences, or to enter into a career in business, education, government, industry, and financial institutions. Each student must consult with the department head in his or her first or second year for advice in planning his or her third- and fourth-year courses. Students planning to enter this program must include the course sequence COSC 111/121 in their 30 credits of required first-year courses.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>COSC 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
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<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
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<tr>
<td><strong>Total Credits</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COSC 221, 222</td>
<td>6</td>
</tr>
<tr>
<td>DATA 311</td>
<td>3</td>
</tr>
<tr>
<td>MATH 200, 220, 221, 225</td>
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<tr>
<td>STAT 230</td>
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<tr>
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<tr>
<td><strong>Total Credits</strong></td>
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<table>
<thead>
<tr>
<th>Third and Fourth Years</th>
<th>Credits</th>
</tr>
</thead>
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<td>COSC 310, 320</td>
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<tr>
<td>MATH 307</td>
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</tr>
<tr>
<td>One of MATH 311, 327</td>
<td>3</td>
</tr>
<tr>
<td>One of MATH 319, 340</td>
<td>3</td>
</tr>
<tr>
<td>STAT 303</td>
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</tr>
<tr>
<td>One of STAT 401, 410</td>
<td>3</td>
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<tr>
<td>Arts electives¹</td>
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<tr>
<td>Upper-level Computer Science elective</td>
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<td>Upper-level Mathematics elective</td>
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<tr>
<td>Upper-level Science elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-level Statistics elective</td>
<td>3</td>
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<tr>
<td>Upper-level electives selected from Mathematics, Statistics, Data Science, or Computer Science</td>
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</tr>
<tr>
<td>Upper-level electives</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
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</table>

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This document was generated on 28 Feb 2020 at 12:16 PM.
Bachelor of Science Programs > Mathematics (B.Sc.)

B.Sc. Major in Mathematics

Note: The UBC Okanagan campus also offers a B.A. Major in Mathematics, a B.Sc. Major in Mathematical Sciences, and a B.Sc. Combined Major in Physics and Mathematics.

Graduates of this program are prepared for direct entry into careers in actuarial science, government, or finance. Many graduates go on to graduate studies, professional secondary teaching programs, or other professional programs.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>COSC 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
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Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 200, 220, 221, 225</td>
<td>12</td>
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<tr>
<td>STAT 230</td>
<td>3</td>
</tr>
<tr>
<td>COSC 221</td>
<td>3</td>
</tr>
<tr>
<td>Electives²</td>
<td>6</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

Third and Fourth Years

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 307, 311, 319, 327</td>
<td>12</td>
</tr>
<tr>
<td>STAT 303</td>
<td>3</td>
</tr>
<tr>
<td>Upper-level Science electives</td>
<td>6</td>
</tr>
<tr>
<td>Upper-level electives</td>
<td>9</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td>Total Credits</td>
<td>60</td>
</tr>
<tr>
<td>Minimum credits for degree</td>
<td>120</td>
</tr>
</tbody>
</table>

¹ MATH 221 may be taken in the second term of the first year.

² Special Topics courses may be used for credit with the approval of the unit.
Mathematics Honours Program

Graduation Requirements

- Completion of the course requirements for the B.Sc. Major in Mathematics (this may include any of the three concentrations);
- A minimum 75% grade average in all courses in the program;
- A minimum 85% grade average in all upper-level Mathematics and Statistics courses; and
- Completion of 6 credits of MATH 448 (Directed Studies in Mathematics) and/or STAT 448 (Directed Studies in Statistics).

Minor in Mathematics

A student must successfully complete MATH 220 and 18 credits of MATH courses numbered 300 or above (excluding MATH 448).

Minor in Mathematics and Statistics

A student must successfully complete MATH 220 and 18 credits of MATH and STAT courses numbered 300 or above (excluding MATH 448 and STAT 448) of which at least 6 credits must be MATH courses and at least 6 credits must be STAT courses.

Bachelor of Science Programs > Microbiology

Major in Microbiology

Note: The UBC Okanagan campus also offers Majors in Biology, Ecology and Evolutionary Biology, and Zoology.

Designed to provide graduates with a breadth of knowledge in microbiology as it applies to the environment, health, and industry. Students graduating from the UBC Okanagan campus with a B.Sc. in Microbiology will have developed a wide range of lab, communication, and critical thinking skills. Prepares students for careers in microbiology (e.g., food and beverage industries, health sciences, and environmental sciences), graduate school, and professional programs.

Electives to satisfy B.Sc. Degree Requirements should include a minimum of 12 credits of Arts electives (in addition to 6 credits in English) and 12 credits of other courses (chosen, if needed, to ensure prerequisites are met for third- and fourth-year elective courses).

A minimum of 42 upper-level credits are required, which include at least 36 credits of Science courses (including at least 30 credits of Biology courses).

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 116, 125</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Total credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200, 201</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 202, 265</td>
<td>6</td>
</tr>
<tr>
<td>One of BIOL 204, 205, 209, 210</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 228</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 203, 204; or CHEM 213, 214</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>
Third and Fourth Years

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 311</td>
<td>3</td>
</tr>
<tr>
<td>One of BIOL 354, BIOL 382</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 393</td>
<td>3</td>
</tr>
<tr>
<td>Microbiology electives from the following: a) strongly recommended electives: BIOL 318, 319, 354 or 382, 366, or BIOC 494 or 495; b) other electives: BIOL 312, 314, 380, 381, 410, 420, 452, 480</td>
<td>21</td>
</tr>
<tr>
<td>Science electives numbered 300 or higher</td>
<td>6</td>
</tr>
<tr>
<td>Other electives numbered 300 or higher</td>
<td>6</td>
</tr>
<tr>
<td>Electives to satisfy B.Sc. credit requirements</td>
<td>18</td>
</tr>
<tr>
<td>Total credits</td>
<td>60</td>
</tr>
</tbody>
</table>

Minimum credits for degree: 120

1 BIOL 116, 125; CHEM 111, 113 or 121, 123; and MATH 100, 101 should be taken in the first year to ensure students have the prerequisites for second year.

2 Strongly recommended.

3 If approved by the program advisor as appropriate to Microbiology.

4 BIOC 494 and BIOC 495 may both be used toward the requirement to take 30 credits of upper level BIOL courses in the Major in Microbiology.

Note: credit will be granted for only one of BIOC 393 or BIOL 393, and one of BIOC 493 and either BIOC 494 or BIOC 495.

Microbiology Honours Program

The Honours in Microbiology is an intensive program of study based on coursework and research experience. Students who complete this program will have the ability to work independently with a high level of competency.

The course requirements are the same as in the Major in Microbiology, except that students must complete 6 credits of BIOL 440.

Admission Requirements

- Fourth-year standing;
- A minimum grade average of 75% from all courses completed; and
- Enrolment in BIOL 440 with a research project and research supervisor approved by the department head as appropriate to Microbiology.

Graduation Requirements

- Completion of the course requirements for the Major in Microbiology;
- A 75% overall grade average; and
- BIOL 440 (6 credits), with a minimum grade of 75%. A written thesis is required, with a public presentation in the form of a poster session or a seminar.

Bachelor of Science Programs > Physics and Astronomy

Major in Physics

This program aims to provide a comprehensive physics education with considerable emphasis on both theoretical foundations and laboratory practice. The theoretical and mathematical components develop the intellectual skills and versatility needed either to pursue physics professionally at the post-graduate level, or to cross over into other professions such as medicine, actuarial science, meteorology, and secondary education, in which a physics background is strongly preferred. The senior laboratory components consist of long-range projects rather than prescribed exercises, to encourage initiative on the part of the student and to prepare him or her for the inventive atmosphere of modern high-tech industry. Graduates of this program have attained success in high-tech industry, computer software development, secondary education, and post-graduate studies.
CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123 6
Two of ENGL 112 or 114, 113, 150, 151, 153 6
MATH 100, 101 6
PHYS 111 or 112 3
PHYS 102, 121 or 122 3
Electives 6
Total Credits 30

Second Year

ASTR 210, or one of PHYS 225, 305, 320 3
MATH 200, 221, 225, 317 12
PHYS 200, 215, 216, 231, 232 15
Total Credits 30

Third and Fourth Years

MATH 319 3
PHYS 301, 304, 331, 328, 403, 441 18
9 credits chosen from: PHYS 314, 324, 400, 401, 402, 407, 408, 413, 418, 420, 431, 432, 474 9
6 credits chosen from: PHYS 305, 310, 314, 320, 321, 324, 360, 400, 401, 402, 407, 408, 413, 418, 420, 425, 431, 432, 446, 474 6
Electives 2, 7, 8 24
Total Credits 60

Minimum credits for degree 120

1 Minimum grade of 68% is required in each of PHYS 112 and PHYS 122.
2 COSC 111 and 121 are strongly recommended. Students considering a career in geosciences should take EESC 111, 121, and 350. Students considering a career in astronomy should take ASTR 111 and 121. At least 18 credits (including the 6 credits in first-year English) must be Arts courses.
3 MATH 221 may be taken in the second term of the first year.
4 MATH 317 may be taken in the third year.
5 Students in the Physics Honours Program (PHYS 449) must use PHYS 401 and PHYS 402 to fulfill the Major requirements. Further information can be obtained from the Physics and Astronomy program advisor.
6 Capable students are advised to consider selecting the directed studies course PHYS 448, which grants either 2, 3, 4, or 6 upper-level credits in Physics.
7 PHYS 448 may not be applied toward the Major requirements for Honours students, except as elective credit.
8 At least 36 of 120 credits must be Science course credits from courses numbered 300 or higher (upper-level courses), and at least an additional 6 upper-level courses which may be from Arts or Sciences.

Combined Major in Physics and Mathematics

Provides students with a rich background in both theoretical physics and mathematics. The program consists of core training in both disciplines and electives that highlight common ground between the two fields. Graduates of the program will be well prepared for post-graduate studies in theoretical physics or applied mathematics. The combined major will also prepare students for further training and careers in education, finance, computer software development, or industrial research.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>COSC 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
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</tbody>
</table>
Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 200, 215, 216, 231, 232</td>
<td>15</td>
</tr>
<tr>
<td>MATH 200, 220, 221, 225, 317²</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

Third and Fourth Years

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 307, 311, 319, 327; STAT 303</td>
<td>15</td>
</tr>
<tr>
<td>PHYS 301, 304, 328</td>
<td>9</td>
</tr>
<tr>
<td>One of PHYS 401³, 402³, 418³</td>
<td>3</td>
</tr>
<tr>
<td>6 credits chosen from: MATH 350, 408, 459, 461</td>
<td>6</td>
</tr>
<tr>
<td>9 credits chosen from: PHYS 314, 331, 401³, 402, 403, 407, 408, 418³, 420, 431, 432, 441, 474</td>
<td>9</td>
</tr>
<tr>
<td>Electives⁴</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
</tr>
<tr>
<td>Minimum credits for degree</td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

¹ Minimum grade of 68% is required in each of PHYS 112 and PHYS 122.
² MATH 317 may be taken in the third year but is a requirement for PHYS 301.
³ Each of PHYS 401, 402, 418 may only fulfill one requirement.
⁴ At least 12 credits of electives must be from Arts.

Minor in Physics

A student must successfully complete 18 credits in Physics courses selected from PHYS 301, 304, 305, 310, 314, 320, 321, 324, 328, 331, 360, 400, 401, 402, 403, 407, 408, 418, 420, 425, 431, 432, 441, 474.

Physics Honours Program

This program enables high-achieving Physics Major students to gain research experience through the completion of an Honours Thesis. It is particularly recommended to those students intending to pursue post-graduate studies.

Admission Requirements

- Fourth-year standing in the Physics Major program;
- Students with a minimum grade average of 76% for all second-, third- and fourth-year science courses taken to date that are applicable to the Physics Major may apply to be considered for the Honours program. Admission is at the discretion of the Department Head, and may be subject to a ranking of those students applying.
- Enrolment in PHYS 449¹ (Honours Thesis). The thesis proposal and research supervisor must be approved by the Academic Department.

In exceptional cases, such as transfers from another institution, a student may be admitted by permission of the Academic Department notwithstanding the above criteria.

Graduation Requirements

- Completion of the course requirements for the Physics major¹, including PHYS 401² and 402²;
- Minimum grade average of 76% for all second-, third-, and fourth-year science courses taken to fulfill the requirements of the Physics Major; and
- Completion of PHYS 449 with a minimum grade of 76%. A written thesis is required, with a public seminar presentation of the thesis research.

¹PHYS 448 and 449 may not be applied toward the Major requirements for Honours students, except as elective credit.
²Students in the Physics Honours Program (PHYS 449) must use PHYS 401 and PHYS 402 to fulfill the Major requirements.

Bachelor of Science Programs > Psychology (B.Sc.)
Note: The UBC Okanagan campus also offers a **B.A. Major in Psychology**.

The Bachelor of Science Major in Psychology provides a strong foundation in psychology.

Students gain a broad perspective in psychology with courses in such diverse areas as biopsychology, cognitive, developmental, social, and abnormal psychology. In addition, students gain an understanding and appreciation of the empirical method as it is applied across the disciplines. Students may complete a B.Sc. Major in Psychology with a minor in any other Arts or Science area.

Students intending to pursue graduate studies in Psychology are advised to consider taking the Honours degree since many Canadian universities expect potential graduate students to have completed an Honours degree.

**Enrolling as a Psychology Major**

Students are encouraged to declare their Major in Psychology at the end of their first year. To be admitted to the Major program, students must successfully complete both PSYO 111 and 121 (or equivalent) and a minimum of 24 credits. To continue as a Psychology Major, a student must complete both PSYO 270 and 271 (or equivalent); these courses should be completed in second year.

**First and Second Years**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English or Communication courses[^1]</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100</td>
<td>3</td>
</tr>
<tr>
<td>One of COSC, DATA, STAT, or additional MATH courses</td>
<td>3</td>
</tr>
<tr>
<td>At least 3 credits of experimental science in any BIOL, CHEM, EESC, or PHYS courses with labs</td>
<td>3</td>
</tr>
<tr>
<td>Science electives[^3]</td>
<td>9</td>
</tr>
<tr>
<td>PSYO 111, 121</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 12 credits of non-science designated courses[^4,^5]</td>
<td>12</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

[^1] Students who have not earned the 6 credits of required English or Communications coursework by the time they enter fourth year will not be permitted to enrol in any courses other than those that satisfy the English or Communications requirement.

[^2] A student must complete PSYO 270 (Introduction to Research Methods and Design) and PSYO 271 (Introduction to Data Analysis) to graduate as a Psychology Major.

[^3] The first-year courses are often prerequisite for second-year courses and second-year courses are often prerequisites for upper-level (third- and fourth-year) courses in the discipline. Students are strongly advised to consider what upper-level courses are of interest to ensure that they have the proper prerequisites.

[^4] PSYO courses are NOT Arts courses for B.Sc. Psychology students.

[^5] Students are strongly encouraged to take 3 credits of an Indigenous content course to partially fulfill this requirement. Students entering the B.Sc. in 2022 and later will have to successfully complete an Indigenous content course.

**Third and Fourth Years**

- At least 30 credits of 300-level or higher Psychology courses;
- Psychology breadth requirement of at least 3 credits from each of the following five areas:
  1. Cognitive/Learning/Perception;
  2. Developmental;
  3. Biopsychology;
  4. Personality/Abnormal;
  5. Social/Sex/Forensic.
Note: each area is defined by the middle number in the course number (e.g., PSYO 219 satisfies area 1; PSYO 321 satisfies area 2, etc.); students may complete this requirement with second-year as well as upper-level courses.

Also:

- In total, a minimum of 48 credits in Psychology courses (at least 30 credits at the 300 level or higher). Students may earn the additional 6 credits in Psychology beyond the required 12 lower-level [PSYO 111, 121, 270 & 270] and the 30 upper-level [i.e., 300 or higher] credits with second- and/or upper-level credits;
- At least 12 credits in 300-level or higher non-Psychology courses (upper division). At least 6 must be designated as Science which will give a total of 78 Science credits [this includes all Psychology credits];
- At least 12 credits of non-science designated courses;
- At least 120 credits are required for the degree;
- The credits not specifically defined are electives. At most, 12 of the elective credits may be from courses that carry credit toward a baccalaureate degree in faculties other than Arts or Science (except those Science courses that are specifically exempted from credit towards the B.Sc. degree). Given the requirements of a minimum 42 upper-division credits, it is possible to take a limited number of lower-division courses (including Psychology) during third and fourth year.

Note: not all of the identified courses are offered each year. A number of courses are offered in alternate years, and some may not be offered for several years. Students are advised to check the current schedule of course offerings. Moreover, timetabling conflicts may mean that courses have to be taken in a different order.

B.Sc. Psychology Honours Program

The Honours degree program in Psychology enables high-achieving Psychology Major students to increase their concentration in Psychology and gain research experience by the completion of an Honours thesis. Students are expected to satisfy high levels of competency in their academic achievement and to successfully complete a research project under the supervision of a faculty member. Students admitted to B.Sc. Psychology Major program, or in any of the concentration areas, may apply to the Honours program provided all admission requirements outlined below are satisfied.

Admission Requirements

- Fourth-year standing;
- Minimum weighted average of 76% from all courses taken in Psychology;
- Minimum weighted average of 76% over the last 60 credits;
- Preliminary thesis topic approved by a thesis supervisor. Note: the department head must approve the thesis supervisor; and
- Completion of PSYO 372.

Graduation Requirements

- All general program requirements for the Bachelor of Science;
- All requirements for the Psychology Major, including the breadth requirement;
- Completion of PSYO 372 (Research Methods and Statistics), PSYO 373 (Advanced Research Methods and Statistics), and 6 credits of PSYO 490 (Undergraduate Honours Thesis), with a minimum of 76% in each of these courses;
- A minimum of 54 credits of Psychology, of which 42 must be upper-level Psychology;
- Minimum weighted average of 76% from all courses in Psychology;
- Minimum weighted average of 76% over the last 60 credits; and
- Public presentation of the thesis.

Residency Requirements

Same as for B.Sc. Major in Psychology.

Bachelor of Science Programs > Statistics

Major in Statistics

This program provides students with a solid grounding in the theoretical, computational, and applied aspects of statistical science. Students also specialize in an area of application through upper-level electives and fulfilling stream requirements in another discipline. A graduate of this program is prepared for further study in statistical science, or to enter into a career in Statistics Canada, health sciences, business, government, industry, or an actuarial/financial institution. Each student must consult with the
program advisor in his or her first or second year for advice in planning third- and fourth-year courses.

### First and Second Years

<table>
<thead>
<tr>
<th>Course/Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112; and PHYS 102, 121, or 122</td>
<td>6</td>
</tr>
<tr>
<td>COSC 111</td>
<td>3</td>
</tr>
<tr>
<td>DATA 101</td>
<td>3</td>
</tr>
<tr>
<td>MATH 200, 221</td>
<td>6</td>
</tr>
<tr>
<td>STAT 230</td>
<td>3</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>2nd-Year Science Electives</td>
<td>6</td>
</tr>
<tr>
<td>Stream requirements</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

### Third and Fourth Years

<table>
<thead>
<tr>
<th>Course/Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 303, 400, 401, 403</td>
<td>12</td>
</tr>
<tr>
<td>DATA 311, 405, 407, 410</td>
<td>12</td>
</tr>
<tr>
<td>Two of MATH 303, 307, COSC 303, 304, DATA 301, PHYS 420</td>
<td>6</td>
</tr>
<tr>
<td>Arts electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives, of which at least 3 credits must be upper-level</td>
<td>15</td>
</tr>
<tr>
<td>Stream requirements</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**Minimum credits for degree** 120

1 Math 221 may be taken in the second term of the first year.

2 Stream requirements: Students must complete one of the following options. The program advisor maintains a list of suggested courses for which within-stream students will gain the pre-requisites for upper-level requirements.

**Biology Stream:**
- All of: BIOL 116, 125, 201
- All of: 9 credits upper-level BIOL

**Biochemistry Stream:**
- All of: BIOL 116, 125, 200 :
- All of: 9 credits upper-level BIOL or BIOC

**Physical Geography Stream:**
- One of: GEOG 108, 109
- Two of: GEOG 108, 109, 200, 207, 213, 222, 272
- All of: 9 credits upper-level Science GEOG courses*

**Earth and Environmental Sciences Stream:**
- All of: EESC 111 and 6 credits 2nd-year EESC
- All of: 9 credits upper-level EESC

*See BSc requirement page ([http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,1065](http://www.calendar.ubc.ca/okanagan/index.cfm?tree=18,282,858,1065)) and program advisor.

### Statistics Honours Program

The course requirements are the same as in the Major in Statistics program, except that 6 credits must be in STAT 448.

### Admission Requirements

- Fourth-year standing (minimum of 78 credits in the Major in Statistics).
- Minimum grade average of 76% in all courses taken to date applicable to the Major in Statistics.
- Enrolment in STAT 448 with a project and a supervisor.
Graduation Requirements

- Completion of the course requirements for the Major in Statistics.
- A minimum 76% graduating grade average (GGA).
- Minimum grade average of 85% in all upper-level STAT courses.
- Completion of 6 credits of STAT 448. A written project is required with a public presentation of the project in the form of a seminar.

Minor in Statistics

A student must successfully complete MATH 100, 101, 200, 221, STAT 230 and DATA 101, and 18 credits in courses selected from STAT 303, 400, 401, 403, 406, 448, 449, DATA 311, 405, 407, 410.

Bachelor of Science Programs > Zoology

Major in Zoology

Note: The UBC Okanagan campus also offers Majors in Biology, Ecology and Evolutionary Biology, and Microbiology.

Graduates will obtain a solid grounding in a broad range of topics dealing with animal biology (physiology, ecology, developmental biology). This program emphasizes a comparative approach and provides students with a variety of practical experience and skills in laboratory and field work, and communication. This program prepares students for graduate school and professional programs.

Electives to satisfy B.Sc. Degree Requirements should include a minimum of 12 credits of Arts electives (in addition to 6 credits in English) and 12 credits of other courses (chosen, if needed, to ensure prerequisites are met for third- and fourth-year elective courses).

A minimum of 42 upper-level credits are required, which include at least 36 credits of Science courses (including at least 30 credits of Biology courses).

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 116, 125</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 111 or CHEM 121; and CHEM 113 or CHEM 123</td>
<td>6</td>
</tr>
<tr>
<td>Two of ENGL 112 or 114, 113, 150, 151, 153</td>
<td>6</td>
</tr>
<tr>
<td>MATH 100, 101</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102, 121 or 122</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200, 201</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 202, 265</td>
<td>6</td>
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<tr>
<td>BIOL 204, 205</td>
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<tr>
<td>CHEM 203, 204; or CHEM 213, 214</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Total credits</td>
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<table>
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<tr>
<th>Third and Fourth Years</th>
<th>Credits</th>
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<tr>
<td>BIOL 311</td>
<td>3</td>
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<td>BIOL 354</td>
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<tr>
<td>BIOL 363</td>
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<td>Zoology electives from the following courses: BIOL 306, 308, 341, 356, 357, 364, 370, 372, 417, 420, 422, 452, 459, 460, 461, 467</td>
<td>21</td>
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<tr>
<td>Science electives numbered 300 or higher</td>
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Other electives numbered 300 or higher  6
Electives to satisfy B.Sc. requirements  18
Total credits  60
Minimum credits for degree  120

1 BIOL 116, 125; CHEM 111, 113 or 121, 123; and MATH 100, 101 should be taken in first year to ensure students have the prerequisites for second year.
2 Strongly recommended.
3 If approved by the program advisor as appropriate to Zoology.

Zoology Honours Program

The Honours in Zoology is an intensive program of study based on coursework and research experience. Students who complete this program will have the ability to work independently and with a high level of competency.

The course requirements are the same as in the Major in Zoology, except that students must complete 6 credits of BIOL 440.

Admission Requirements

- Fourth-year standing;
- A minimum grade average of 75% over all courses completed; and
- Enrolment in BIOL 440 with a research project and research supervisor approved by the department head as appropriate to Zoology.

Graduation Requirements

- Completion of the course requirements for the Major in Zoology;
- A 75% overall grade average; and
- BIOL 440 (6 credits) with a minimum grade of 75%. A written thesis is required with a public presentation in the form of a poster session or a seminar.

Academic Staff

Academic Staff > Anthropology

Professor
M. Evans, B.A. (Vic.(BC)), M.A., Ph.D. (McM.)
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D. Woodcock

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R. Young, B.Sc., M.Sc. (Alta.), Ph.D. (Calg.), joint appointed Earth and Environmental Sciences

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Associate Professor Emeritus
S. Basdeo

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X. Wang, B.Sc., M.Sc., Ph.D. (S.Fraser)

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E. G. Butz, B.Sc., M.A., Ph.D. (Chic.)
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W. Hare, B.Sc., M.Sc. (Alta.), Ph.D. (S.Fraser)
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R. Tyson, B.Sc., M.S., Ph.D. (Wash.)
Professor Emeritus
Q. Yang, B.Sc., M.Sc., Ph.D. (Calg.)

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Y. Zhao, Ph.D. (Sask.)

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D. Ryder, B.Sc., B.A., M.A., Ph.D. (N. Carolina)
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T. Teke, B.Sc. (Queb.), M.Sc. (Queb.), Ph.D. (Br.Col.)
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M. Gro
L. Hatt

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M. Davison, M. Davison, Ph.D. (W.Ont)