



THE UNIVERSITY OF BRITISH COLUMBIA

# **UBC Vancouver**

# **ACADEMIC**

# **CALENDAR**

**2022/23**

[www.calendar.ubc.ca/vancouver](http://www.calendar.ubc.ca/vancouver)



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## Introduction

### *Faculty of Land and Food Systems*

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The Faculty of Land and Food Systems undergraduate program offerings include Applied Biology, Food, Nutrition and Health, Food and Resource Economics and Global Resource Systems. Graduate programs include Applied Animal Biology, Food Science, Human Nutrition, Integrated Studies in Land and Food Systems, Plant Science and Soil Science. The Faculty also offers four professional programs in Food and Resource Economics, Food Science, Nutrition and Dietetics, and Land and Water Systems, and a graduate Certificate in Aquaculture.

The Faculty of Land and Food Systems is a world leader in integrated research, education and service that addresses critical global issues around sustainable agriculture, food safety and quality, and food, nutrition and health. To that end, the Faculty initiatives foster and support research excellence, innovative active learning environments to educate new generations of professionals, strong community connections, and global and local collaborations.

## Admission

Application for admission to the Faculty of Land and Food Systems must be made through Enrolment Services. Procedures, policies, and admission requirements for the University of British Columbia and the Faculty of Land and Food Systems are specified in the Admissions (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,27,0,0#151>) section of the UBC Academic Calendar.

### *Admission from Secondary School*

Admissibility is determined on the basis of a number of factors including performance in specific high school courses, the overall academic rigor of the program, evidence of relevant learning and achievements both in and out of school, and other indicators of suitability for the Bachelor of Science programs offered through the Faculty of Land and Food Systems at UBC.

### *Admission as a Post-Secondary Transfer Student or With a Previous Degree*

Students applying to the Faculty of Land and Food Systems by transfer from other post-secondary institutions or with a previous degree should note that, as per the University's policy on Requirements to Receive a Degree or Diploma (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,40,0,0#191>), they will be required to complete at least 50% of their program's required course load while registered in their LFS program.



No more than 60 credits of transfer credits will be applied to a student's UBC academic record, and credit will be assigned as follows:

- For post-secondary transfer students, transfer credit from other post-secondary institutions will be assessed by the UBC Undergraduate Admissions Office at the point of admission and in accordance with articulation agreements between UBC and other post-secondary institutions.

Please note, not all transfer credit is necessarily applicable to a student's degree program. As such, when students present in excess of 60 transfer credits, the Faculty will determine which 60 credits are most applicable to the degree program. Students can learn more at Maximum Allowable Transfer Credit (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,25,74,0#141>)

Transfer applicants to the Faculty of Land and Food Systems must also present the required program-specific high school academic pre-requisites listed for their curriculum in Admissions (<http://www.calendar.ubc.ca/vancouver/proof/edit/index.cfm?tree=2,0,0,0>). In some cases, university transferable coursework may satisfy these pre-requisites. These courses are critical to degree progression within the Faculty.

Students admitted to the Faculty of Land and Food Systems by transfer from other post-secondary institutions must have met the [Communication Requirement](#) of the Faculty or be eligible to enrol in first-year English at the time of admission. Students who do not meet the Communication Requirement at the time of admission should be aware that their registration may be blocked or restricted and they will not be promoted to higher year levels until this requirement has been met. See the Faculty's promotion rules [here](#).

Students admitted by transfer will be admitted to the year level that is appropriate according to the Faculty's [Year Promotion Requirement](#). The Promotion Requirements are based on the number of credits completed, and the degree of completion of required courses of the student's program.

Students with questions about their eligibility are encouraged to contact LFS Student Services (<http://www.landfood.ubc.ca/student-services/>).

### ***UBC Langara Aboriginal Transfer Partnership***

To be eligible to transfer to UBC into the Faculty of Land Food Systems through this partnership (<http://transfer.aboriginal.ubc.ca/admissions/>), Aboriginal students must meet the general requirements for admission as a post-secondary transfer student (<http://you.ubc.ca/applying-ubc/university-college-transfer/>) as well as the following specific requirements:

- Successful completion of at least 48 (and no more than 60) credits (within the last four years). Students who present at least 54 credits, and have completed all first-year requirements (with the exception of LFS 100), may be eligible for third-year standing;
- An academic average of at least 2.67<sup>1</sup> or greater on the most recent 30 credits of transferable courses attempted, including failed and retaken courses;
- Completion of required high school academic pre-requisites. In some cases, university transferable coursework may satisfy these pre-requisites;
- Successful completion of the Transition Plan offered by Langara in collaboration with UBC;
- Consultation with the LFS Academic Advisor, Indigenous Students (<http://www.landfood.ubc.ca/student-services/#team>) on course selection while at Langara.

Applicants who do not meet these requirements may be considered for admission as a transfer student (<http://you.ubc.ca/applying-ubc/university-college-transfer/>) and can be considered through UBC's Aboriginal Admissions Policy (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,14,0,0#14261>)



For more information about the UBC Langara Aboriginal Transfer Partnership, please visit the website (<http://transfer.aboriginal.ubc.ca/admissions/>).

<sup>1</sup>If in a particular year the competitive admission criterion is lower than 2.67, then the applicants in that year will be evaluated against the lower admission criterion.

### ***Langara Diploma in Food, Nutrition, and Health (FNH) Transfer***

Eligible graduates from the Langara Diploma in Food, Nutrition, and Health (FNH) Transfer are guaranteed admission to UBC into the non-competitive majors (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,261,0>) in the Bachelor of Science in Food, Nutrition, and Health program in the Faculty of Land Food Systems. They are also eligible to apply to the competitive majors (<http://calendar.ubc.ca/vancouver/index.cfm?tree=12,194,261,0>), including the 3rd year of the Dietetics major, the Food Science major or the Food and Nutritional Sciences Double major. Admission to these competitive majors is not guaranteed.

To be eligible for this transfer program, students must have completed the Langara Diploma within 4 years and achieved a minimum Cumulative GPA of 3.0.

### ***Students Applying to LFS from Another Program at UBC***

Students who are currently enrolled in another program at UBC and wish to transfer in to a program in the Faculty of Land and Food Systems must complete the 'Change of Degree Program/Campus' application available through their Student Service Centre (SSC). Students applying for admission from another UBC program are subject to the requirements noted above under "Admission as a Post-Secondary Transfer Student or With a Previous Degree."

Details can be found here (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,303,0,0#19133>). Applications must be received by May 15.

### ***Students Applying for Readmission***

Students who have previously attended the Faculty of Land and Food Systems, left in good academic standing, have been away from their studies for more than one academic year and wish to return to their previous program of study should consult the Readmission (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0#13984>) section of the UBC Academic Calendar for details.

Students who have previously attended the Faculty of Land and Food Systems, left in good academic standing and have been away for one academic year or less, and wish to return to their previous program of study may do so without re-application. Students should consult the Academic Leave (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,289,0,0#16993>) section of the UBC Academic Calendar.

Students who have previously attended the Faculty of Land and Food Systems, and were required to discontinue from the Faculty or withdraw from the University and wish to return to their previous program of study should consult the [Faculty's Guidelines for Readmission](#).

Students with questions about their status should consult with LFS Student Services (<http://www.landfood.ubc.ca/student-services/>) prior to submitting an application.

### ***Advising Office***



The Faculty of Land and Food Systems Academic Advising Office (Student Services) is located in Room 344, HR MacMillan Building, 2357 Main Mall. The office can be reached by telephone at 604.822.2620 or by email at [students@landfood.ubc.ca](mailto:students@landfood.ubc.ca). For office hours, please visit us online (<http://www.landfood.ubc.ca/student-services/>).

Email is the preferred means for the Faculty of Land and Food Systems administration and faculty members to communicate important messages to students. It is the responsibility of all LFS students to ensure their current email address is accurately recorded (<http://www.students.ubc.ca/enrolment/records/change-personal-information>) on the Student Service Centre (SSC) and to read emails sent to that account on a regular basis.

## Registration and Program Approval

### *First-Year Students*

Students are not required to select a program major until they register for their second year. Students planning to apply to second-year admission degree programs are still required to follow the course requirements for the program to which they were originally admitted. Students not meeting the minimum academic standing required for compulsory courses in a given program may be assigned 'Program Deficiency' and may be required to discontinue from that program.

For information on specific course registration regulations, including credit load, taking courses as Credit/D/Fail, repeating courses and taking courses outside of UBC, please see the Faculty's Academic Regulations (<http://calendar.ubc.ca/vancouver/proof/edit/index.cfm?tree=12,194,795,0>).

## Academic Regulations

### Academic Regulations > Attendance and Examinations

#### *1. Attendance*

Regular attendance is expected of students in all their classes. Students who neglect their academic work and assignments may be excluded from the final examination. Students who are unavoidably absent because of illness, disability or unforeseen circumstances should report to their instructors or LFS Student Services as soon as possible. When appropriate, academic concession may be granted in accordance with the University's policy found here (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0>).

#### *2. Examinations*

Students who are absent from examinations should refer to the University's Academic Concession policy here (<http://calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0>) and connect with the LFS Student Services Office (<http://www.landfood.ubc.ca/undergraduate/student-services>) if they have any questions.

Formal written examinations are normally required at the end of all courses and are normally scheduled during the official examination periods at the end of term, as per the University's regulations governing exams (<http://calendar.ubc.ca/vancouver/index.cfm?tree=3,41,89,0>). Enrolment Services schedules these examinations and makes the information available to students through the Student Services Website (<http://students.ubc.ca/enrolment/exams/exam-schedule>) part way through the term. Students are expected to make travel plans after their last scheduled examination. In some courses passing the final examination is a requirement for passing the course but may not in itself be sufficient to pass. Students may be denied a passing grade for unsatisfactory work during the session or if their essays, reports, or examinations are notably deficient in English. Also, in any course which involves both laboratory work and written examinations, students must complete and pass both parts to



pass the course.

## Academic Regulations > Year Promotion and Academic Standing

### *Year Promotion*

Students will be promoted according to the following criteria:

- to second year: successful completion of 24 or more credits of prescribed first-year courses.
- to third year: successful completion of 54 or more credits, and all the required first-year courses. Students who do not meet this requirement will not normally be permitted to enrol in third-year or higher-level courses in the Faculty.
- to fourth year: successful completion of a total of 89 or more credits, including completion of all first- and second-year courses.

### *Program Deficiency*

Students are expected to register in the courses required of their degree program. Students who take an excess of courses outside their program of study, when evaluated at the end of the Winter Session, through the “Sessional Evaluation” process, may receive the designation of “Program Deficiency.” Students deemed to be in Program Deficiency may be required to discontinue from the Faculty regardless of their Academic Standing, as described below. Students who are assigned Program Deficiency in two consecutive years will be required to discontinue from the Faculty, regardless of their Academic Standing, as described below.

### *Academic Standing*

There are three categories of Academic Standing: Good Academic Standing, Academic Probation, and Failed Year Standing. The criteria for Academic Standing depends on the number of credits that a student is registered in during the Winter Session (September to April). Academic standing evaluations are called “Sessional Evaluations,” and are completed at the conclusion of each Winter Session (in May of each year).

#### **A. Good Academic Standing**

To achieve Good Academic Standing, students must meet one of the following:

- If registered in 15 or more credits: have a sessional average of 60% or greater, and fail no more than 6 credits.
- If registered in fewer than 15 credits: pass a minimum of 50% of credits attempted, have a sessional average of 60% or greater, and fail no more than 6 credits.

#### **B. Academic Probation**

Students will be placed on Academic Probation when one of the following conditions is met:

- If registered in 15 or more credits: pass a minimum of 60% of credits attempted and have a sessional average between 50% and 59.9% or;
- If registered in 15 or more credits: pass a minimum of 60% of credits attempted and have failed more than 6 credits or;
- If registered in fewer than 15 credits: pass a minimum of 50% of credits attempted and have a sessional average between 50% and 59.9% or;
- If registered in fewer than 15 credits: pass a minimum of 50% of credits attempted and have failed more than 6 credits.



A student who is assigned two or more years of Academic Probation (consecutive years or non-consecutive years) may be required to discontinue from the Faculty for a period of at least one academic year, after which an application for readmission (<http://calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0#13984>) will be considered. See below for “LFS Guidelines for Readmission.”

### C. Failed Year

Students will be assigned Failed Year Standing when one of the following conditions is met:

- Their sessional average falls below 50% or;
- If registered in 15 or more credits: have not passed a minimum of 60% of attempted credits or;
- If registered in fewer than 15 credits: have not passed a minimum of 50% of attempted credits or;
- If a student has previously been assigned Academic Probation and meets the conditions of Academic Probation for a second time.

A student who is assigned Failed Year Standing (consecutive or non-consecutive years) may be required to discontinue from the Faculty for a period of at least one academic year, after which an application for readmission (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0#13984>) will be considered. See below for “LFS Guidelines for Readmission.”

If students present two or more years of Failed Year Standing (consecutive years or non-consecutive years), they may be required to permanently withdraw from the University.

### LFS Guidelines for Readmission

Students who have been required to discontinue from the Faculty are permitted to apply for readmission only after successfully completing a minimum of 30 transferable credits in another program offering courses transferable to UBC. This program must be applicable to the student's degree program. Students should be completing these 30 credits within one Winter Session (September to April), rather than spread across multiple sessions, to demonstrate a readiness to return.

Readmission is not guaranteed, but students are advised to achieve at least 60% ("C") on these 30 credits with no failures to be competitive for readmission. Normally, a student with Failed Year Standing will not be eligible for direct admission to another UBC program, and will be required to complete these 30 credits at another post-secondary institution.

Students should also consult the communication they receive from the Faculty of Land and Food Systems when notified of their academic standing (normally sent via email) for additional requirements, and familiarize themselves with the University's readmission (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0#13984>) guidelines.

## Academic Regulations > Credit Load, Credit/D/Fail, Repeating Courses, and Taking Courses Outside UBC

### 1. Credit Load

Students interested in taking more than the recommended credits (per term or per session) for their Major should consult with LFS Student Services; this is not normally permitted. First-year students especially should note that taking more than the recommended number of credits per term may make the transition to university studies more difficult than necessary.

Students wishing to take less than a full course load should consult the appropriate Program Advisor or LFS Student Services



before registering. Students should also be mindful that minimum course loads may be required to remain eligible for student loans, study visas, UBC housing, athletics, and certain scholarships. It is the student's responsibility to be aware of these requirements and they are encouraged to consult with LFS Student Services or other appropriate units (Enrolment Services, International Student Development, UBC Housing, etc.) before committing to registration or course load changes. Some evening and distance education classes are available.

## 2. Credit/D/Fail

UBC permits students to take a limited number of percentage-graded electives as Credit/D/Fail (<http://calendar.ubc.ca/vancouver/index.cfm?tree=3,42,910,0>). In the Faculty of Land and Food Systems, students are permitted to opt for Credit/D/Fail for only those courses designated as unrestricted electives. It is the students' responsibility to be mindful of their degree requirements and possible future implications before selecting this option for a course. Selecting Credit/D/Fail may impact students' eligibility for awards, scholarships or financial support. In addition, professional programs or graduate schools may not allow pre-requisites to be completed through Credit/D/Fail. Students wishing to complete a course through Credit/D/Fail are strongly encouraged to contact their Program Advisor or LFS Student Services prior to registration, and be mindful of deadlines provided by Enrolment Services ([students.ubc.ca/enrolment/courses/creditfail-grading](http://students.ubc.ca/enrolment/courses/creditfail-grading)).

## 3. Repeating Courses

Students who have passed a course will not be permitted to repeat that course for higher standing or credit. Courses in the Science Credit Exclusion Lists (<http://calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,414>) are considered to be the same course for the purposes of this rule.

Students may repeat a failed course only once. Should students need to attempt a required course for a third time, they are required to consult with LFS Student Services to request a Letter of Permission (LOP) to take courses outside of UBC (see below) to fulfill this requirement. Appeals for further attempts at UBC are not normally approved, but students may make a request to the Director, LFS Student Services. If the course is offered through the Faculty of Science, students must also obtain permission to attempt a course for a third time from the Faculty of Science, as per their policy on third attempts (<http://calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410>). All requests should be initiated with the Director, LFS Student Services first.

## 4. Taking Courses Outside of UBC

Once admitted to UBC, students are expected to complete their degree requirements while registered in their designated program. As per the campus-wide policy found here (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,47,0,0#254>), students are not normally permitted to take courses for academic credit at other post-secondary institutions concurrently with their program in the Faculty. The exception to this is when students have attempted a course at UBC twice, and are required to take a course at another post-secondary institution to complete the credit. In all cases, prior consent from the Director, LFS Student Services is required and a Letter of Permission (LOP) needs to be issued before a student registers at another institution. The Faculty is not obligated to grant transfer credit for students who do not receive permission in advance of attempting courses elsewhere.

# Academic Regulations > Withdrawals, Academic Leave, and Letter of Permission

## 1. Withdrawal

A student who decides to withdraw from a course should refer to Change of Registration (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,45,98,0#24>).

A student who decides to withdraw from the University should refer to Withdrawal (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,46,102,0#251>).



## 2. Academic Leave

Students in good academic standing after a Winter Session (September - April) are normally eligible to register in the following Summer and Winter Sessions but may choose instead to take an Academic Leave (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,289,0,0#169>) of up to one academic year. In this case, students will retain eligibility to register in the next Winter Session. If away for more than one academic year, however, students must apply for readmission through Enrolment Services. Published deadlines (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,295,0,0#189>) will apply. Academic Leave is not an opportunity to take courses toward the students' UBC degree at another institution.

Students with student loans or scholarships are advised to consult with an Enrolment Services Advisor (<http://www.students.ubc.ca/about-student-services/enrolment-services-advisors>) before taking a leave, as there may be financial implications.

Students studying on a student/study visa should consult with International Student Advising (<http://students.ubc.ca/about-student-services/international-student-advising>) to ensure they understand the implications interrupting their studies may have on their immigration status or eligibility for a Post-Graduate Work Permit.

## 3. Letter of Permission

A student who wishes to study at another institution must consult with LFS Student Services in advance to determine whether or not they are eligible for a Letter of Permission (Calendar page <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,47,0,0#254>).

## Academic Regulations > Requirements to Graduate

### *Requirements to Graduate from the Faculty of Land and Food Systems*

In addition to the Campus-Wide Policies and Regulations for Requirements to Receive a Degree or Diploma (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,40,0,0#19>) from UBC, LFS students must present a minimum of 45 upper-level (300- and/or 400-level) credits to meet graduation requirements. Most students will fulfill this requirement through the completion of their prescribed degree requirements, but it is the students' responsibility to ensure this minimum upper-level credit requirement is met.

Students are expected to apply for graduation once their program requirements have been met, and may only attempt a maximum of 180 credits, including transfer credits, towards the completion of their degree.

Students who are unable to meet their degree requirements within 180 attempted credits will be required to withdraw from the Faculty.

## Academic Regulations > Communication Requirement

Graduates from the Faculty of Land and Food Systems are expected to collaborate and communicate effectively and professionally as members of diverse stakeholder teams. To develop this competency, students in the Faculty must complete LFS 150. ENGL 112, SCIE 113, WRDS 150, ENGL 100, APSC 176, FRST 150, Science One, Arts One or Coordinated Arts can also be used to satisfy this requirement. These credits may not be earned through Credit/D/Fail standing. All students admitted to the Faculty of Land and Food Systems must take immediate steps to satisfy the Communication Requirement.



Students admitted to the Faculty of Land and Food Systems on transfer from another post-secondary institution and receiving 3 or 6 credits of first-year English at UBC, may be permitted to meet the Communication Requirement if a minimum grade of 70% is achieved. Students who complete the International Baccalaureate program or Advanced Placement courses and are awarded 6 credits of first-year English by UBC Undergraduate Admissions have met the Communication Requirement. Students with questions about the completion of this requirement are encouraged to contact LFS Student Services.

Students who have not completed the Communication Requirement by the time they have completed 54 credits will normally have access to registration for the following academic session blocked, and may be prevented from taking additional courses in their program until the Communication Requirement has been met.

Opportunities to engage in, and improve reading, writing and oral communication exist in all courses.

Student performance on written work in all courses within the Faculty of Land and Food Systems may be evaluated in part on grammar and syntax.

## Academic Regulations > Dean's Honour List

Students with a standing of 80% or better in the previous Winter Session will receive the notation "Dean's Honour List" on their records. A program of at least 24 approved percentage-graded credits must have been completed during the session to receive this designation. Courses taken during the Summer Session are not included in this assessment.

## Academic Regulations > Honours Standing

Upon graduation, Honours Standing will be granted to those students who have an average of 80% or higher in the best 45 credits of percentage-graded upper-level (300-/400-level) courses required of their program (degree requirements and restricted electives only).

## B.Sc. in Applied Biology (APBI)

### B.Sc. in Applied Biology (APBI) > Introduction

Students in the Applied Biology<sup>1</sup> program explore the real-world application of the life sciences to the management of soil, plants, animals and food production. The program emphasizes critical thinking, practical involvement, and a systems approach that integrates technical knowledge with sustainability and ethics. The program equips graduates with the skills and knowledge to become leaders in animal biology and welfare, sustainable food production, and the responsible use of natural resources.

<sup>1</sup>The *Bachelor of Science in Applied Biology* (offered by the Faculty of Land and Food Systems) is distinct from both the *Bachelor of Applied Science* and the *Bachelor of Science* degrees.

### B.Sc. in Applied Biology (APBI) > Advising Office

See the [Academic Advising Office](#).

### B.Sc. in Applied Biology (APBI) > Admission



Students may gain admission directly from secondary school or transfer from a recognized university or college with a minimum of 24 credits, or as mature students. For admission to the Bachelor of Science in Applied Biology, students should consult the Faculty's Admission section (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,793,0>).

## B.Sc. in Applied Biology (APBI) > Academic Regulations

See Academic Regulations (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,0>).

## B.Sc. in Applied Biology (APBI) > Applied Animal Biology Major

### Applied Animal Biology Major

Applied Animal Biology is intended for students who want to study and/or work with animals. It provides students with fundamentals of animal behaviour, animal physiology and related fields as applied to farm, companion and other animals. It also exposes students to the role of animals in human society and the ethical, environmental and other issues that arise. It offers training in research skills needed for graduate work, and (with appropriate selection of courses) prepares students for admission to veterinary and human medicine. Students have various options to gain practical experience on farms and in laboratories, animal shelters and wildlife rehabilitation centres.

### Degree Requirements

First Year	
LFS 100	1
LFS 150 or ENGL 112 or WRDS 150 <sup>1</sup>	3
BIOL 112 & 121	6
BIOL 140	2
CHEM 121 (or 111) <sup>2</sup>	4
CHEM 123 (or 113)	4
MATH 102 or equivalent <sup>3</sup>	3
PHYS 101, 107, or 117 <sup>4</sup>	3
Restricted electives <sup>5</sup>	
Unrestricted electives <sup>6</sup>	

<sup>1</sup> Total Credits 32 Second Year LFS 250 6 LFS 252 (or FRST 21 or BIOL 300) 3 BIOL 200 & 201 6 CHEM 233 & 235 4 MICB 201 3 Restricted electives\* 9 Total Credits 31 Third Year Restricted electives\* 24 Unrestricted electives\* 6 Total Credits 30 Fourth Year Restricted electives\* 15 Unrestricted electives\* 15 Total Credits 30 Overall four-year total\* 123 <sup>1</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,793,0>). <sup>2</sup> CHEM 111 is not for students with Chemistry 12. <sup>3</sup> Students who have not completed Calculus 12 must take MATH 180 or 184 to fulfill their first year Math requirement. <sup>4</sup> Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses. <sup>5</sup> To be selected in consultation with a program advisor. Typically includes courses in APBI, BIOL, and FNH. For suggested courses see Restricted Electives List (<http://www.landfood.ubc.ca/undergraduate/restricted-electives/>). <sup>6</sup> Third and fourth year unrestricted electives should be selected from either 300- or 400-level courses. <sup>7</sup> A minimum of 45 credits of the 123 credits required for the Major must be from courses numbered 300 or higher. Applied Animal Biology Honours Program The Applied Animal Biology Honours program is intended for exceptional students with an interest in research. Students interested in careers in research-intensive areas including veterinary medicine, biomedical science, animal welfare, animal nutrition, and wildlife conservation may especially benefit from this opportunity. Who Should Apply? This program will only accept students with both a strong academic record and an interest in research. Admission Successful applicants will have a cumulative average greater than 75%. Application Students apply near the end of their second year of study by contacting the Student Services Office (<http://www.landfood.ubc.ca/student-services/>) at the Faculty of Land and Food Systems. The applicant must write a letter explaining why they wish to enrol, their career goals, and any past or current research experience they may have. Successful Applicants Successful applicants admitted into the Honours Program must complete a minimum of 132 credits rather than the 123 credits required to graduate with an Applied Animal Biology degree. Of these 132 credits, 48 must be chosen from the Applied Animal Biology Restricted Electives list. Students must complete their degree within a maximum of 5 calendar years. During the third and fourth years, Honours students must not fail any attempted courses, must complete a minimum of 30 credits per calendar year, and maintain a minimum of 70% in every 300- and 400-level course completed. Students who do not meet these requirements will move to the Applied Animal Biology Major and will no longer be eligible to stay in the Honours program. Required Courses  

- APBI 398 (3 credits) - Research Methods in Applied Biology
- APBI 499 (6 credits) - Thesis

APBI 499 Thesis Course By the end of their third year of study, students are expected to contact a prospective supervisor for the APBI 499 thesis course to discuss possible thesis topics. A thesis application/proposal form is expected to be filled out by the student and approved by the prospective supervisor prior to the term in which the thesis will begin/Benefits of a Thesis The APBI 499 thesis gives students an opportunity to work closely with a supervisor and work with material at an advanced level. This experience will give students an idea of what it is like to work at the graduate level, working on a single topic over many months. The thesis will also provide experience in academic writing and communications. Benefits of the Honours Program Graduates of the program will have:

- demonstrated their ability to succeed in a challenging program of study
- gained exposure to a wide variety of topics in applied animal biology
- in-depth experience in one or more areas of research
- worked closely with faculty members and other researchers
- gained skills in independent research and oral and written communication useful for a wide range of professional careers in knowledge-intensive industries

### B.Sc. in Applied Biology (APBI) > Applied Plant and Soil Science Major

The Applied Plant and Soil Sciences Major is no longer accepting new students. Students who started the major prior to 2018 Winter session may complete their degree using the requirements listed below. Students who would like to switch to the Sustainable Agriculture and Environment major requirements should consult their program advisor. Applied Plant and Soil Sciences integrates diverse topics in soil-water-plant-atmosphere systems with a focus on the science underpinning ecosystem management and crop production. Students have the flexibility to emphasize a major area of interest such as climate change, pollution, food security, crop protection or land reclamation. Students develop basic scientific knowledge plus skills in critical thinking and effective communication. Degree Requirements

First Year	
LFS 100	1
LFS 150 or ENGL 112	3
BIOL 112 & 121	6
BIOL 140	2
CHEM 121 (or 111) <sup>1</sup>	4



CHEM 123 (or 113)	4
MATH 102 or equivalent <sup>2</sup>	3
Restricted electives <sup>3</sup>	6
Unrestricted elective	3
<b>Total Credits</b>	<b>32</b>

**Second Year**

ECON 101 or 102	3
LFS 250	6
LFS 252 (or FRST 231 or BIOL 300)	3
APBI 200	3
BIOL 210 or APBI 210	4
Restricted electives <sup>3</sup>	9
Unrestricted elective	3
<b>Total Credits</b>	<b>31</b>

**Third Year**

LFS 350	3
Restricted electives <sup>3</sup>	21
Unrestricted electives	6
<b>Total Credits</b>	<b>30</b>

**Fourth Year**

LFS 450	3
Restricted electives <sup>3</sup>	21
Unrestricted electives	6
<b>Total Credits</b>	<b>30</b>

**Overall four-year total<sup>4</sup>**

<sup>1</sup> CHEM 111 is not for students with Chemistry 12.  
<sup>2</sup> Students who have not completed Calculus 12 must take MATH 180 or 184 to fulfill their first year MATH requirement.  
<sup>3</sup> To be selected in consultation with a program advisor. Typically includes courses in APBI, BIOL and FNH. Must include at least 9 credits of 400 level courses prior to graduation. For suggested courses see the list (<http://www.landfood.ubc.ca/academics/undergraduate/restricted-electives/>) posted on the Faculty website. Students interested in studying soils should take PHYS 101, 107 or 117. Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses.  
<sup>4</sup> A minimum of 45 credits of the 123 credits required for the Major must be from courses numbered 300 or higher.

**B.Sc. in Applied Biology (APBI) > Food and Environment Major**

The Food and Environment Major has been renamed the Sustainable Agriculture and Environment Major and will no longer be accepting new students under this name. Students who started the major prior to 2018 Winter Session may complete their degree using the requirements listed below. Students who would like to switch to the new major requirements should consult their program advisor. Food and Environment focuses on the application of agroecological concepts and principles to the design and management of food production systems. It brings together agricultural sciences, ecology, and environmental thought to provide the background to issues surrounding the management of land and water to produce food, other agricultural products, and ecological services. Students can tailor their learning experiences to specific interests including resource economics, conservation, integrated agro-ecosystem management, water pollution and self-directed areas of study. Students can gain hands-on experience at the Centre for Sustainable Food Systems at UBC Farm. Degree Requirements

**First Year**

LFS 100	1
LFS 150 or ENGL 112	3
BIOL 112 & 121	6
BIOL 140	2
MATH 102 or equivalent <sup>1</sup>	3
Restricted electives <sup>2,3</sup>	14
Unrestricted electives	3
<b>Total Credits</b>	<b>32</b>

**Second Year**

ECON 101 or 102	3
LFS 250	6
LFS 252 (or FRST 231 or BIOL 300)	3
APBI 200	3
APBI 260	6
Restricted electives <sup>3</sup>	6
Unrestricted electives	3
<b>Total Credits</b>	<b>30</b>

**Third Year**

LFS 350	3
APBI 360 & 361	6
Restricted electives <sup>3</sup>	18
Unrestricted electives	3
<b>Total Credits</b>	<b>30</b>

**Fourth Year**

LFS 450	3
APBI 460	3
Restricted electives <sup>3</sup>	21
Unrestricted electives	3
<b>Total Credits</b>	<b>30</b>

**Overall four-year total<sup>4</sup>**

<sup>1</sup> Students who have not completed Calculus 12 must take MATH 180 or 184 to fulfill their first year MATH requirement.  
<sup>2</sup> Some students may be advised to take first year Chemistry and/or Physics courses depending on their academic plans and interests. They should consult with an FENV advisor.  
<sup>3</sup> To be selected in consultation with a program advisor. Typically includes courses in APBI, BIOL and FNH. For suggested courses see the Faculty (<http://www.landfood.ubc.ca/undergraduate/restricted-elective/>)  
<sup>4</sup> A minimum of 45 credits of the 123 credits required for the Major must be from courses numbered 300 or higher.



B.Sc. in Applied Biology (APBI) > Sustainable Agriculture and Environment Major

The Sustainable Agriculture and Environment major focuses on the application of soil, plant and agro-ecological sciences to enhance the sustainable production of food, and other agricultural products, while simultaneously conserving land and enhancing ecological services. Students can tailor their learning experiences to specific interests in agricultural production, integrated agro-ecosystem management, plant science, or soil science. A core resource of the program is the Centre for Sustainable Food Systems at the UBC Farm where students gain hands-on experience within a diverse managed landscape.

Table with 3 columns: Course Name, Credits, and Total Credits. Rows are categorized by First Year, Second Year, Third Year, and Fourth Year. Includes courses like LFS 100, BIOL 112 & 121, APBI 200, etc.

1 Or equivalent course to fulfill Communication Requirement (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875).

2 Note CHEM 111 is not for students with Chemistry 12.

3 Students who have not completed Calculus 12 must take MATH 180 or 184 to fulfill their first year Math requirement.

4 Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses.

5 To be selected from Restricted Electives list in consultation with a program advisor.

6 Credit will be given for only one of ECON 310, LFS 101, or ECON 101.

7 A minimum of 45 credits of the 123 or 124 credits required for the Major must be for courses numbered 300 or higher.

8 Students may present more than the required total credits depending on electives selected.

Sustainable Agriculture and Environment Honours Option The Sustainable Agriculture and Environment Honours option is intended for exceptional students with an interest in research. Students interested in careers in research-intensive areas or future graduate studies will benefit from this opportunity. Admission This option will only accept students with both a strong academic record during their first and second years of study, and an interest in research. A minimum cumulative average of 75% is required for admission to the Honours option. Application The applicant must write a letter explaining why they wish to enrol, their career goals, and any past or current research experience they may have. The applicant's request and Letter of Intent must be submitted to LFS Student Services by March 31 of their second year of study. Successful applications admitted into the Honours Option must complete a minimum of 132 credits rather than the 123 credits required to graduate with a Sustainable Agriculture and Environment degree. Of these 132 credits, 48 must be chosen from the Sustainable Agriculture and Environment restricted electives list in consultation with a program advisor. Students must complete their degree within a maximum of 5 calendar years. During the third and fourth years, Honours students must not fail any attempted courses, must complete a minimum of 30 credits per calendar year and maintain a minimum of 70% in every 300 and 400 level course completed. Students who do not meet these requirements will move to the Sustainable Agriculture and Environment Major, and will no longer be eligible to stay in the Honours option. Required courses:

- APBI 398 (3 credits) – Research Methods in Applied Biology
• APB 499 (6 credits) – Thesis

APBI 499 Thesis Course During the third year of study, students must contact a prospective supervisor for the APBI 499 thesis course to discuss possible thesis topics. A thesis application/proposal form must be filled out by the student and approved by the prospective supervisor before the end of the fall semester of the year prior to the year in which the thesis is to be completed. Completion of the 6-credit thesis course (APBI 499) will occur during the entire fourth year of study. Students will complete a research project and write up a thesis. At the end of the year, each student will present their work to other third and fourth year Honours students. Benefits of a Thesis The APBI 499 thesis course gives students an opportunity to work closely with a supervisor or faculty member and work with material at an advanced level. This experience will give students an idea of what it is like to work at the graduate level, working on a single topic over many months. The thesis will also provide experience in academic writing and communications. Benefits of the Honours Option Graduates of the option will have: 1. demonstrated their ability to succeed in a challenging program of study, 2. gained exposure to a wide variety of topics in sustainable agriculture and environment, 3. in-depth experience in one or more areas of research, 4. worked closely with faculty members and other researchers, 5. gained skills in independent research and oral and written communication useful for a wide range of professional careers.

B.Sc. in Food, Nutrition, and Health (FNH)

B.Sc. in Food, Nutrition, and Health (FNH) > Introduction

Food security and its impact on health is the focus of the academic theme in Food, Nutrition, and Health. New knowledge and advances in science and technology are integrated with socio-economic, cultural, ethical, and legal considerations in the provision of a safe, nutritious, and sustainable food supply. Our programs are designed to provide students with a broad education in food science and nutrition, as well as an academic background to pursue careers as professional dietitians, nutritionists, food scientists, and food market analysts. Research and teaching span the continuum from the production and processing of food to its marketing, consumption, and impact on public health and community.

B.Sc. in Food, Nutrition, and Health (FNH) > Advising Office

See the Academic Advising Office.

B.Sc. in Food, Nutrition, and Health (FNH) > Admission

Students may gain admission directly from secondary school or transfer from a recognized university or college with a minimum of 24 credits, or as mature students. For admission to the Bachelor of Science in Food, Nutrition, and Health, students should consult the Faculty's Admission section (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,793,0). Admission to the majors in Dietetics, Food Science, Food and Nutritional Sciences Double Major, and to the Kinesiology (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,909,0) and Commerce (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,909,0) minors is competitive. See those sections for details.



B.Sc. in Food, Nutrition, and Health (FNH) > Academic Regulations

Please see Academic Regulations (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,0).

B.Sc. in Food, Nutrition, and Health (FNH) > Dietetics Major

The Dietetics Major is a professional program planned to meet the accreditation standards for the dietetics profession in Canada. Graduates are eligible to write a national exam to qualify to register with a provincial dietetic regulatory body in order to use the designation Registered Dietitian and practice dietetics. The program involves five years of study: two prerequisite years and three program years. Practice education placements occur in year 3, 4 and 5 and span across British Columbia. The curriculum includes general courses in both biological and social sciences, as well as courses more directly related to dietetics such as basic and applied human nutrition, food and food systems, management, and professional dietetic practice. The Dietetics Major differs from other nutrition-related majors offered by the Faculty, in that it is a regulated health profession training program. The Dietetics Major has specific applicant selection procedures and includes campus-based and practice education courses to assist students to develop knowledge and skills for dietetic practice. Admission to the Dietetics Major is to third-year and is based on: 1. Initial screening for:

Prerequisite Requirements

Admission to the Dietetics Major is limited to students who will have completed a minimum of 54 credits of university or college coursework by April 30 of the year in which they are applying for admission. This must include the following prerequisites (or their equivalents): LFS 150 or ENGL 112 or WRDS 150 (or WRDS 150A/B), BIOL 112, 121, 152 and 200; BIOL 201 (or BIOC 202); CHEM 121 (or 111), 123 (or 113), 205 and 233 (or 203 and 213); FNH 200 and 250; LFS 250 and 252; Social Science (3 credits). These prerequisites can be met by following years one and two of the Food, Nutrition and Health Major, along with careful course planning (as some requirements are different).

1 Transfer students unable to access an equivalent course may take a course equivalent to MIBC 201. 2 BIOL 153 or CAPS 301 will also be accepted. 3 Or approved equivalent courses. 4 Note: This course has a first-year math requirement. See UBC course guide (http://www.calendar.ubc.ca/vancouver/courses.cfm) for details. 5 These courses have online sections (students planning to transfer into third-year dietetics from other institutions may enrol via non-degree studies). 6 Several BC post-secondary institutions offer an equivalent course. Equivalent courses include BIOL 300, EPSE 482, FRST 231 (available online), STAT 200. 7 Course that addresses normal human behaviour in a North American context. List of acceptable courses is posted on the Dietetics Major website (http://dietetics.landfood.ubc.ca/prospective-students/admissions/). 8 Math courses are not required prerequisites for Dietetics and are, therefore, not used towards admission GPA. However, math courses are required for year promotion within the Food Nutrition and Health Major, and to meet prerequisite requirements for some required courses.

Academic Performance

Admission is based on a minimum academic standing of 70%, calculated as a cumulative average of grades from all prerequisite (years one and two) and any program courses (years three and four) taken. Elective courses are not included in this calculation. (NOTE: In alignment with academic performance standards in place for admitted students, applicants must achieve a minimum level of academic performance (68%) in any 300 and 400 level FNH course taken prior to admission that is included in the course requirements for the Dietetics Major.) Note that due to enrollment limitations, the academic standard required for admission is typically higher than the published minimum.

Non-academic Application Components (cover letter, resume, and references)

These application components are used to assess an applicant's commitment to and suitability for the profession of dietetics. For more details, refer to the current Application Information Package (http://dietetics.landfood.ubc.ca/prospective-students/how-to-apply).

Non-academic application components are assessed using the following indicators of commitment to and suitability for the profession of dietetics:

- commitment to the dietetics profession (demonstrated interest in and understanding of the profession; demonstrated effort to seek professionally-relevant experiences)
critical thinking skills (ability to analyze and integrate information and apply knowledge to make sound judgements)
decision-making skills (ability to make sound, timely decisions)
dependability (ability to work with minimal supervision, be consistently dependable)
initiative/self-directedness (ability to independently initiate activities, seek new opportunities)
leadership skills (ability to gain support of and lead others)
learning abilities (ability to learn quickly and independently, quest for knowledge)
organizational/planning skills (ability to develop sound plans with attention to detail)
perseverance (ability to function effectively despite discouragement and setbacks)
response to feedback (ability to accept constructive feedback, develop plans for improvement and implement these plans)
suitability for health care environment (potential to work in a fast-paced environment with diverse patients and clients who face health challenges)
team skills (ability to work cooperatively and effectively with others)
time management skills (ability to consistently manage time effectively and efficiently)
written and oral communication skills (ability to communicate clearly, concisely, accurately)

2. Interview (short-listed applicants only) Short-listed candidates will be invited to participate in a brief (15 minute) online interview with two registered dietitians. Interviews are scheduled on a designated interview day in late April or early May. The main purpose of the interview is to assess oral communication skills (ability to convey information clearly and effectively), as strong oral communication skills are essential for dietetic practice. The interview will also be used (in addition to the cover letter, resume, and references) to assess an applicant's commitment to and suitability for dietetics as a career choice. The interview guide varies each year. Questions are fairly broad, focusing on applicant attributes, skills, and commitment to dietetics as a profession. A criteria-based scoring form and a consensus process are used to assess interview performance. Admission Score Applicants are admitted on the basis of a final admissions score, as follows:

- Academic Performance: 30%
Cover letter/resume: 30%
References: 10%
Interview: 30%

Each assessment component includes minimum acceptable criteria which must be met in order for the applicant to be considered (regardless of scores obtained in other components). Preparing to Apply: Dietetics is a professional program and it is essential that all prospective applicants take steps to consider whether this is an appropriate career choice for them, and obtain relevant skills and experience prior to applying. For further guidance, refer to the program website (http://dietetics.landfood.ubc.ca/). Application The annual application deadline is the last Friday in January for September admission. All application components must be received by this date. Application to the Dietetics Major has two components:

- Online application to enter the B.Sc. (FNH) program in the Faculty of Land and Food Systems (LFS) (not applicable to students already enrolled in this program)
A Dietetics Major application package, to be submitted to the Faculty.

Application procedures:

- Non-UBC students must apply online through Enrolment Services to enter the B.Sc. (FNH) program in UBC's Faculty of Land and Food Systems (LFS). External applicants are encouraged to contact LFS Student Services in advance of applying to ensure they have met prerequisite course requirements.
Current UBC students who are not already enrolled in the B.Sc. (FNH) program must apply online through Enrolment Services to enter the program. In the event of an unsuccessful application, students in good standing have the ability to remain in their original program/faculty.
All applicants must submit a Dietetics Major application package to the Faculty (prepared using forms and guidelines available online (http://dietetics.landfood.ubc.ca/prospective-students/how-to-apply/)). Each application package must include:
completed application form
transcripts (as required)
cover letter
resume
two completed reference forms
the Integrated Dietetics Program Application Fee (as listed here (Calendar page: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,297,0,0#18098)).

8 If you self-identify as an Indigenous applicant, please contact LFS Student Services to inquire about a fee exemption. Short-listed candidates are identified for the interview component based on a preliminary applicant score which considers both academic and non-academic application components. Final applicant scores are computed once interviews are complete and final marks for the term are available (external applicants are required to submit final transcripts by the end of April). Applicants are typically informed about their admission status by late May. Admission offers are considered conditional pending receipt of a satisfactory criminal record check conducted according to Criminal Record Check Review Act procedures. Program Information All students accepted to the program are admitted to third year. Due to extra administrative costs associated with an integrated practice education program, an annual supplemental fee (as listed here, see Land and Food Systems section (Calendar page: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,296,0,0#18096)) is applied to students in each year (years three, four, and five) of the program. Students in the program must also fulfill, and bear any costs associated with, any practice education program requirements mandated by UBC and/or placement agencies, including student accident insurance, immunizations, Food Safe certificates, and respiratory mask fitting, violence prevention training (further details are provided on the program website) (http://dietetics.landfood.ubc.ca/current-students/additional-program-requirements/). Advancement Requirements Once admitted to the Dietetics Major, all students are required to abide by program-specific policies and maintain a good academic standing (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,874). Students must also meet the following program-specific advancement requirements: they must pass all courses, maintain an academic average at or above the minimum for entry into the program (70%) and achieve a minimum level of academic performance (68%) in each 300- and 400-level FNH course. The program reserves the right to require a student to change majors if they are not meeting these criteria. The Dietetics undergraduate program incorporates practice education in years 3, 4 and 5. Dietetics Major

Table with 2 columns: Course Name and Credits. Rows include Third Year (BIOC 302, FNH 340, FNH 345, FNH 350, FNH 351, FNH 370, FNH 371, FNH 375, FNH 380, FNH 381, FNH 398) and Fourth Year (FNH 415).



FNH 440 <sup>3</sup>	3
FNH 470	3
FNH 473	3
FNH 475	3
FNH 480	3
FNH 481 <sup>4</sup>	3
LFS 350	3
Restricted electives <sup>5</sup>	9
<b>Total Credits</b>	<b>33</b>

<b>Fifth Year</b>	
FNH 482 <sup>6</sup>	12
FNH 483 <sup>7</sup>	12
<b>Total Credits</b>	<b>24</b>

<b>Overall five-year total credits</b>	<b>146.5</b>
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- <sup>1</sup> FNH 340: Course registrants are required to possess a FoodSafe I certificate and show proof of completion on the first day of FNH 340.
- <sup>2</sup> FNH 381: Involves practice education placements in Term 3 of Year 3.
- <sup>3</sup> FNH 440: Course registrants are required to possess a FoodSafe II certificate and show proof of completion on the first day of FNH 440.
- <sup>4</sup> FNH 481: Involves practice education placements in Term 3 or Year 4.
- <sup>5</sup> Restricted electives are to be chosen from a list of approved electives (<http://dietetics.landfood.ubc.ca/current-students/restricted-electives>) posted on the Dietetics Major website (<http://dietetics.landfood.ubc.ca>), or by consultation with a Program Advisor.
- <sup>6</sup> FNH 482: Involves practice education placements in Term 1 of Year 5
- <sup>7</sup> FNH 483: Involves practice education placements in Term 2 of Year 5

**B.Sc. in Food, Nutrition, and Health (FNH) > Food Market Analysis Major**

This major is no longer accepting new students. Students who are interested in combining their interest in food and nutritional sciences, economics and business should consider applying for the B.Sc. in Food and Resource Economics program (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,1013,0>) Students enrolled in the Food Market Analysis Major will focus on the core of the Food Science Major, and on a core of Economics, Commerce, and Food Resource Economics courses. This will prepare graduates for employment in the food industry with special interest in market analysis aspects. Students wishing to concentrate on certain areas or who are interested in pursuing graduate studies should consult the program advisor. Food Market Analysis Major

<b>First Year</b>	
LFS 100	1
LFS 150 or ENGL 112	3
BIOL 112 & 121	6
BIOL 140	2
CHEM 121 (or 111) <sup>1</sup>	4
CHEM 123 (or 113)	4
MATH 102 & 103 or equivalent <sup>2</sup>	6
ECON 101 or LFS 101	3
ECON 102	3
<b>Total Credits</b>	<b>32</b>

<b>Second Year</b>	
LFS 250	6
LFS 252	3
BIOL 200	3
CHEM 233	3
FNH 200	3
FNH 250	3
FRE 285 or ECON 301	3
FRE 306	3
Unrestricted elective <sup>3</sup>	3
<b>Total Credits</b>	<b>30</b>

<b>Third Year</b>	
LFS 350	3
FNH electives <sup>4</sup>	6
FRE 374 or ECON 371	3
One of FRE 302, FRE 340, FRE 385 or ECON 325 <sup>5</sup>	3
Economics or Commerce electives <sup>6</sup>	6
Unrestricted electives	9
<b>Total Credits</b>	<b>30</b>

<b>Fourth Year</b>	
FNH 403	3
FNH electives <sup>4</sup>	6
One of FRE 402, 420, 460, 474, 490	3
Concentration electives <sup>7</sup>	6
Economics or Commerce elective <sup>6</sup>	9
Unrestricted Elective	3
<b>Total Credits</b>	<b>30</b>
<b>Overall 4 year total credits</b>	<b>122</b>

- <sup>1</sup> CHEM 111 is not for students with Chemistry 12.
- <sup>2</sup> Students who have not completed Calculus 12 should take MATH 180 or 184, plus either MATH 103 or 105, to fulfill their first-year mathematics requirement.
- <sup>3</sup> Students should review prerequisites for third-year FNH courses listed in footnote 4 (e.g., PHYS 101 FNH 300). One of MATH 200, 217, or 226 is recommended for students contemplating graduate studies or with a special interest in quantitative/empirical analysis.
- <sup>4</sup> Select from: FNH 300, FNH 301, FNH 302, FNH 303, FNH 309, FNH 313, FNH 330, FNH 335, FNH 340, FNH 342, FNH 355, FNH 402, FNH 413, FNH 415.
- <sup>5</sup> Students contemplating graduate studies or with a special interest in quantitative/empirical analysis should select ECON 325.



<sup>6</sup> Choose from COMM/COMR 329, 398, 457, 458, 465, 473, 493 (Note: COMM/COMR 457 is prerequisite for COMM/COMR 458, 465, 473, 493); any other FRE courses; and any 300- or 400-level economics courses. Students contemplating graduate studies or with a special interest in quantitative/empirical analysis should select ECON 326.

<sup>7</sup> Select from: FRE 302, 340, 374, 385, 402, 420, 460, 474, 490.

**B.Sc. in Food, Nutrition, and Health (FNH) > Food and Nutritional Sciences Double Major**

The Food and Nutritional Sciences Double Major provides students with the opportunity to build a solid foundation in both Food Science and Nutritional Sciences. Integration of the knowledge in these two complementary areas allows students to develop a better understanding of the principles of food science with respect to the manufacture, preservation, and quality of food products and the role of food in human health. Graduates of the Double Major are uniquely positioned to contribute to the development of healthy foods for healthy living. Admission to the first two years of the Double Major are comprised of the standard core of the FNH program. Students may apply after completing at least 24 credits of the listed first-year courses (or their equivalent). The annual application date is March 31 for September admission. Application information is available online (<http://www.landfood.ubc.ca/undergraduate/programs/fnh/food-science>). To apply for admission after second year, the student should have completed at least 48 credits of listed first- and second-year courses (or their equivalent). Admission to the Food and Nutritional Sciences Double Major is based on two components:

- Academic performance (85% of Admission Score): Admission to the Food and Nutritional Sciences Double Major is based on a minimum academic standing of 70%, calculated based on the best 21 credits per year of post-secondary courses required in this program. The student must have completed LFS 150 or equivalent. Elective courses and LFS 100, LFS 250, LFS 350, or LFS 450 are not included in this calculation.
- Letter of Intent (15% of Admission Score): The student must submit a 500 word (maximum) Letter of Intent which addresses the following: a) why the student wishes to enrol in the Food and Nutritional Science Major; b) the student's career aspirations; c) any personal, volunteer, or work experiences that demonstrates the student's interest in food and/or nutrition, and; d) for students who have taken less than 24 credits per year, a brief explanation of why.

Admission after third year or a subsequent year will be considered on a case-by-case basis. Meeting the minimum requirements for application to the major does not guarantee admission. Students admitted to the Major will be required to maintain an average of at least 70% in required courses in each year, to remain in the program. Students who are not accepted into the major or do not maintain the required average would be eligible to complete the FNH general major, or select another program if appropriate. Food and Nutritional Sciences Double Major

First Year	
BIOL 112 & 121	6
BIOL 155 <sup>1</sup>	6
CHEM 121 (or 111) <sup>2</sup>	4
CHEM 123 (or 113)	4
LFS 100	1
LFS 150 or WRDS 150	3
MATH 102 & 103 or equivalent <sup>3</sup>	6
PHYS 131 or equivalent <sup>4</sup>	3
<b>Total Credits</b>	<b>33</b>
Second Year	
BIOL 200 & 201 <sup>5</sup>	6
CHEM 205 & 233	6
CHEM 235	1
FNH 200	3
FNH 250	3
LFS 250	6
LFS 252 or equivalent <sup>6</sup>	3
MICB 202	3
<b>Total Credits</b>	<b>31</b>
Third Year	
BIOC 302	3
BIOL 234	3
FNH 300	3
FNH 301	3
FNH 302	3
FNH 303	3
FNH 309	3
FNH 313	3
FNH 325	3
FNH 326	3
MICB 353	1
<b>Total Credits</b>	<b>31</b>
Fourth Year	
FNH 350	3
FNH 351	3
FNH 371	3
FNH 398	4
FNH 403	3
FNH 425 or 497 or 499	6
FNH 451	3
FNH 477	3
Unrestricted elective	3
<b>Total Credits</b>	<b>31</b>
Fifth Year	
FNH 370	3
LFS 350	3
One of ECON 101, ECON 310, LFS 101, FNH 415, or 300 or 400 level COMM	3
Restricted elective <sup>7</sup>	6
<b>Total Credits</b>	<b>15</b>
<b>Overall five-year total credits</b>	<b>141</b>

<sup>1</sup> Equivalent courses include BIOL 153, CAPS 301

<sup>2</sup> CHEM 111 is not for students with Chemistry 12.

<sup>3</sup> Students who have not completed Calculus 12 should take MATH 180 or 184, plus either MATH 103 or 105 to fulfill their first-year mathematics requirement.

<sup>4</sup> Equivalent courses include PHYS 101 or 117. Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses.

<sup>5</sup> Equivalent courses include BIOL 300, EPSE 482, FRST 231, STAT 200.

<sup>6</sup> Equivalent courses include BIOL 201, BIOC 202, BIOC 203 in

<sup>7</sup> To be selected in consultation with a program advisor. For suggested courses see the list (<http://www.landfood.ubc.ca/academics/undergraduate/restricted-electives/>) posted to the Faculty website.



Last updated: March 3, 2022

**B.Sc. in Food, Nutrition, and Health (FNH) > Food Science Major**

Food Science is a discipline encompassing food chemistry, food microbiology, physical, sensory, and nutritional properties of food, and food process science with respect to the manufacture, preservation, quality assurance, and development of food products. Students wishing to specialize in or concentrate on certain areas should consult the program advisor. Admission The first two years of the Food Science major are comprised of the standard core of the FNH program. Students may apply after completing at least 24 credits of the listed first-year courses (or their equivalent). The annual application date is March 31 for September admission. Application information is available online (<http://www.landfood.ubc.ca/undergraduate/programs/fnh/food-science>). To apply for admission after second year, the student should have completed at least 48 credits of listed first- and second-year courses (or their equivalent) Admission to the Food Science major is based on two components:

- Academic Performance (85% of Admission Score): Admission to the Food Science major is based on a minimum academic standing of 70%, calculated based on the best 21 credits per year of post-secondary courses required in this program. The student must have completed LFS 150 or equivalent. Elective courses and LFS 100, LFS 250, LFS 350, or LFS 450 are not included in this calculation.
- Letter of Intent (15% of Admission Score): The student must submit a 500 word (maximum) Letter of Intent which addresses the following: a) why the student wishes to enroll in the Food Science major; b) the student's career aspirations; c) any personal, volunteer, or work experiences that demonstrate the student's interest in food and/or nutrition, and; d) for students who have taken less than 24 credits per year, a brief explanation of why.

Admission after third year or a subsequent year will be considered on a case-by-case basis. Meeting the minimum requirements for application to the major does not guarantee admission. Students admitted to the Major will be required to maintain an average of at least 70% in required courses in each year, to remain in the program. Students who are not accepted into the major or do not maintain the required average would be eligible to complete the FNH general major, or select another program if appropriate. Food Science Major

First Year	
BIOL 112 & 121	6
BIOL 155 <sup>1</sup>	6
CHEM 121 (or 111) <sup>2</sup>	4
CHEM 123 (or 113)	4
LFS 100	1
LFS 150 or WRDS 150	3
MATH 102 & 103 or equivalent <sup>3</sup>	6
PHYS 131 or equivalent <sup>4</sup>	3
<b>Total Credits</b>	<b>33</b>
Second Year	
LFS 250	6
LFS 252 or equivalent <sup>5</sup>	3
FNH 200	3
FNH 250	3
CHEM 205 & 233	6
CHEM 235	1
BIOL 200 & 204 <sup>6</sup>	6
MICB 202	3
<b>Total Credits</b>	<b>31</b>
Third Year	
BIOC 302	3
FNH 300	3
FNH 301	3
FNH 302	3
FNH 303	3
FNH 309	3
FNH 313	3
FNH 325	3
FNH 326	3
MICB 353	1
Restricted Elective <sup>7</sup>	3
<b>Total Credits</b>	<b>31</b>
Fourth Year	
FNH 403	3
FNH 425 or FNH 497 or FNH 499	6
LFS 350	3
One of ECON 101, ECON 310, LFS 101, FNH 415, or 300 or 400 level COMM	3
FOOD SCIENCE elective <sup>7</sup>	3
Restricted electives <sup>7</sup>	6
Unrestricted electives	6
<b>Total Credits</b>	<b>30</b>
<b>Overall four-year total credits</b>	<b>125</b>

<sup>1</sup> Equivalent courses include BIOL 153, CAPS 301

<sup>2</sup> CHEM 111 is not for students with Chemistry 12.

<sup>3</sup> Students who have not completed Calculus 12 should take MATH 180 or 184, plus either MATH 103 or 105 to fulfill their first year Math requirement.

<sup>4</sup> Equivalent courses include PHYS 101, 107 or 117. Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses.

<sup>5</sup> Equivalent courses include BIOL 300, EPSE 482, FRST 231, STAT 200.

<sup>6</sup> Equivalent courses include BIOL 201, BIOC 202, BIOC 203

<sup>7</sup> To be selected in consultation with a program advisor. For suggested courses see the list (<http://www.landfood.ubc.ca/undergraduate/restricted-elective/>) posted to the Faculty website.

Last updated: March 3, 2022

**B.Sc. in Food, Nutrition, and Health (FNH) > Food, Nutrition, and Health Major**

The Food, Nutrition, and Health (FNH) Major offers to students the flexibility to tailor the program to reflect specific interests in food, nutrition, and health without the specialization depth afforded by the other majors. With suitable course selections, students may be prepared to enter the Home Economics Teacher Education Program at UBC once they have completed this major, a program that prepares graduates for employment opportunities in secondary schools as Home Economics teachers. Food, Nutrition, and Health Major

First Year	
LFS 100	1
LFS 150 or WRDS 150 <sup>1</sup>	3
BIOL 112 & 121	6
BIOL 155 <sup>2</sup>	6
CHEM 121 (or 111) <sup>3</sup>	4
CHEM 123 (or 113)	4



MATH 102 & 103 or equivalent <sup>4</sup>	6
Non-science electives <sup>5</sup>	3
<b>Total Credits</b>	<b>33</b>

**Second Year**

LFS 250	6
LFS 252 or equivalent <sup>6</sup>	3
FNH 200	3
FNH 250	3
CHEM 233	3
CHEM 235	1
BIOL 200	3
BIOL 201 <sup>7</sup>	3
Restricted electives <sup>8</sup>	6
<b>Total Credits</b>	<b>31</b>

**Third Year**

LFS 350	3
FNH 313	3
FNH 350	3
FNH 351	3
Health Elective <sup>8</sup>	3
Restricted electives <sup>8</sup>	9
Unrestricted electives	6
<b>Total Credits</b>	<b>30</b>

**Fourth Year**

FNH courses	6
FNH 403	3
Health Elective <sup>8</sup>	3
Restricted electives <sup>8</sup>	12
Unrestricted electives	6
<b>Total Credits</b>	<b>30</b>

**Overall four-year total credits<sup>9</sup>** 124

<sup>1</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875>).  
<sup>2</sup> Equivalent courses include BIOL 153, CAPS 301  
<sup>3</sup> CHEM 111 is not for students with Chemistry 12.  
<sup>4</sup> Students who have not completed Calculus 12 should take MATH 180 or 184, plus either MATH 103 or 105 to fulfill their first year Math requirement.  
<sup>5</sup> Students wishing to take FRE courses should select one of ECON 101 or LFS 101, and ECON 102 as their non-science and unrestricted electives. Students considering a transfer to another FNH major should take the required electives for that major.  
<sup>6</sup> Equivalent courses include BIOL 300, EPSE 482, FRST 231, STAT 200.  
<sup>7</sup> Equivalent courses include BIOL 201, BIOC 202, BIOC 203  
<sup>8</sup> To be selected in consultation with a program advisor. For suggested courses see the list (<http://www.landfood.ubc.ca/undergraduate/restricted-elective/>) posted on the Faculty website.  
<sup>9</sup> A minimum of 45 credits of the 124 credits required for the Major must be for courses numbered 300 or higher.

Last updated: March 3, 2022

**B.Sc. in Food, Nutrition, and Health (FNH) > Nutritional Sciences Major**

The Nutritional Sciences Major provides a strong foundation in human nutrition. All students take the same core, but students may use their elective courses to focus on an area of interest such as basic nutritional sciences, population and public health nutrition, and international nutrition. Graduates of the Nutritional Sciences Major can pursue advanced degrees or work in research related to health sciences, nutrition, and in public and private organizations related to health promotion. Nutritional Sciences Major

**First Year**

LFS 100	1
LFS 150 or WRDS 150 <sup>1</sup>	3
BIOL 112	3
BIOL 121	3
BIOL 155 <sup>2</sup>	6
CHEM 121 (or 111) <sup>3</sup>	4
CHEM 123 (or 113)	4
MATH 102 or equivalent <sup>4</sup>	3
MATH 103	3
PHYS 131 <sup>5</sup>	3
<b>Total Credits</b>	<b>33</b>

**Second Year**

LFS 250	6
LFS 252 <sup>6</sup>	3
FNH 200	3
FNH 250	3
CHEM 233	3
CHEM 235	1
CHEM 205	3
BIOL 200	3
BIOL 201 <sup>7</sup>	3
BIOL 234	3
<b>Total Credits</b>	<b>31</b>

**Third Year**

LFS 350	3
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BIOC 302	3
FNH 350	3
FNH 351	3
FNH 370	3
FNH 371	3
FNH 398	3
MICB 202	3
Unrestricted electives	3
Restricted electives <sup>8</sup>	3
<b>Total Credits</b>	<b>30</b>
<b>Fourth Year</b>	
FNH 451	3
FNH 477	3
One of ECON 101, ECON 310 or LFS 101	3
Unrestricted electives	12
Restricted electives <sup>8</sup>	9
<b>Total Credits</b>	<b>30</b>
<b>Overall four-year total credits<sup>9</sup></b>	<b>124</b>

<sup>1</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875>).

<sup>2</sup> Equivalent courses include BIOL 153, CAPS 301

<sup>3</sup> CHEM 111 is not for students with Chemistry 12.

<sup>4</sup> Students who have not completed Calculus 12 should take MATH 180 or 184 to fulfill their first-year MATH requirement.

<sup>5</sup> Equivalent courses include PHYS 101, PHYS 106, PHYS 107 or PHYS 117. Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses.

<sup>6</sup> Equivalent courses include BIOL 300, EPSE 482, FRST 231, STAT 200

<sup>7</sup> Equivalent courses include BIOL 201, BIOC 202, BIOC 203

<sup>8</sup> For suggested course see the list (<http://www.landfood.ubc.ca/academics/undergraduate/restricted-electives/>) posted on the Faculty website

<sup>9</sup> A minimum of 45 credits required for the Major must be for courses numbered 300 or higher.

Last updated: March 3, 2022

**B.Sc. in Food, Nutrition, and Health (FNH) > Dual Degree Program in Food, Nutrition and Health and Education**

The Dual Degree Program in Food, Nutrition and Health and Education offers qualified students the opportunity to earn a B.Sc. (Food, Nutrition and Health) and a B.Ed. (Secondary) in five Winter Sessions with some academic requirements in Term 1 of the Summer Sessions. After completing all the requirements, students are normally eligible for a British Columbia Professional Teaching Certificate. Admission to the Dual Degree Program requires application to the Land and Food Systems Student Services Office by January 31 of second year with approval by April in order to undertake a teaching practicum at the end of second year. Application for admission to the program is made through the Land and Food Systems website (<http://landfood.ubc.ca>) by January 31 of second year and must receive approval from the Faculties of Land and Food Systems and Education. All students will initially be accepted on a provisional basis. Admission will be confirmed only after successful completion of year two and successful completion of the in-school practicum in May following second year. A criminal records check is required of all teacher candidates admitted to the B.Ed. program. Admission at any time is conditional; maintenance of good academic standing and an average of at least 65% in each session are required throughout. Students who do not maintain a 65% average will be required to withdraw from Education, but may continue with the Food, Nutrition and Health major if their average is 50.0% or higher. In addition, students must participate in volunteer or work experience with youth aged 13-18 to meet the requirements of the Bachelor of Education program. Students must satisfy all of the degree and specialization requirements for both the Food, Nutrition and Health major in the B.Sc. Food, Nutrition and Health and the B.Ed. Secondary program. Some individual courses may be considered to satisfy requirements for both degrees. Students must communicate with an advisor in the Food, Nutrition and Health Program and the Teacher Education Office annually after admission to the program to discuss their progress. The Dual Degree Program is not open to students with a previous degree.

<b>First Year (Winter)</b>	
LFS 100	1
LFS 150 or WRDS 150 <sup>1</sup>	3
BIOL 112 & 121	6
BIOL 155 <sup>2</sup>	6
CHEM 121 (or 111) <sup>3</sup>	4
CHEM 123 (or 113)	4
MATH 102 <sup>4</sup>	3
PSYC 100 or SOCI 100	6
<b>Total Credits</b>	<b>33</b>
<b>Second Year (Winter)</b>	
LFS 250	6
LFS 252 or equivalent <sup>5</sup>	3
FNH 200	3
FNH 250	3
CHEM 233	3
CHEM 235	1
BIOL 200	3
SOCI 200 or SOCI 240	3
ENGL 110, 120 or 121	3
BIOL 201 <sup>6</sup>	3
<b>Total Credits</b>	<b>31</b>
<b>Second Year (Summer)</b>	
EDUC 319	1
<b>Total Credits</b>	<b>1</b>
<b>Third Year (Winter)</b>	
LFS 350	3
FNH 340	3
FNH 341	3
FNH 342	3
EDST 401	3
LLED 360	3
EPSE 317	3
Restricted electives <sup>7</sup>	9
<b>Total credits</b>	<b>30</b>
<b>Third Year (Summer)</b>	



EDUC 399	1
<b>Total Credits</b>	<b>1</b>
<b>Fourth Year (Winter)</b>	
EDCP 491	3
EPSE 308	3
FNH 313	3
FNH 350	3
FNH 351	3
FNH 403	3
Health electives <sup>8</sup>	6
Restricted electives <sup>7</sup>	9
<b>Total Credits</b>	<b>33</b>
<b>Fourth Year (Summer)</b>	
EDST 403	1
EDST 404	1
EDUC 440	3
LLED 361	3
Unrestricted Electives	3
<b>Total Credits</b>	<b>11</b>
<b>Fifth Year (Winter)</b>	
EDUC 315	2
EDUC 421	12
EDUC 430	1
EDUC 450	3
EDUC 451	3
EPSE 310	3
EPSE 311	1
EDCP 391	3
EDCP 492, 493, 494 or 498 (or alternate as advised)	3
<b>Total Credits</b>	<b>31</b>
<b>Fifth Year (Summer)</b>	
EDUC 452	3
<b>Total Credits</b>	<b>3</b>
<b>Minimum Credits for Dual Degree</b>	<b>174</b>

<sup>1</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875>).

<sup>2</sup> Equivalent courses include BIOL 153, CAPS 301

<sup>3</sup> CHEM 111 is not for students with Chemistry 12.

<sup>4</sup> Students who have not completed Calculus 12 should take MATH 180 or 184.

<sup>5</sup> Equivalent courses include BIOL 300, EPSE 482, FRST 231, STAT 200.

<sup>6</sup> Equivalent courses include BIOL 201, BIOC 202, BIOC 203

<sup>7</sup> To be selected in consultation with a program advisor. Must include 18 credits of approved family studies and/or clothing and textiles courses at the 300 or 400 level.

<sup>8</sup> To be selected in consultation with a program advisor. For suggested courses see the list (<http://www.landfood.ubc.ca/academics/undergraduate/restricted-electives/>) posted on the Faculty website

Last updated: March 3, 2022

### B.Sc. in Food and Resource Economics (FRE)

#### B.Sc. in Food and Resource Economics (FRE) > Introduction

The B.Sc. in Food and Resource Economics (FRE) allows students to critically analyze a wide range of economic issues in food supply chains, including the resource and environmental impacts of food production. The program consists of interdisciplinary courses in land and food systems, math and empirical methods courses, restricted elective courses, primarily in economics and business, and unrestricted electives. Students with an interest in agri-business and resource management can choose the Food and Resource Management stream, or apply for the Master of Management Dual Degree Program Option. Students who complete the B.Sc. (FRE) program are well suited to pursue graduate studies within the Masters of Food and Resource Economics (UBC), the School of Public Policy and Global Affairs (UBC) and various applied economics M.Sc. programs outside of UBC.

Students can select their courses from one topic area, or mix-and-match across topic areas:

- Food Markets and Trade
- Land, Resources and Environment
- Food and Resource Management.

Last updated: March 3, 2022

#### B.Sc. in Food and Resource Economics (FRE) > Advising Office

See the Academic Advising Office (<http://www.calendar.ubc.ca/vancouver/profedit/index.cfm?tree=12,194,793,0#10175>). Last updated: March 3, 2022

#### B.Sc. in Food and Resource Economics (FRE) > Admission

Students can apply to the Food and Resource Economics program after completing a minimum of 24 credits of post-secondary level courses, including: LFS 150, WRDS 150 or ENGL 100-level; MATH 104, ECON 101 and either MATH 105 or ECON 102. To be considered, students are required to have a minimum academic standing of at least 70% (or 2.50 on a 4-point scale). Achievement of this minimum, however, does not guarantee admission. Due to receipt of many more qualified applicants than there are spaces available in most programs, a higher average is often required. To help assess suitability students must submit with their application a 500 word (maximum) Letter of Intent which addresses the following: a) why the student wishes to enrol in the Food and Resource Economics program; b) the student's professional aspirations; and c) any relevant personal, volunteer, or work experience. While not required, students interested in applying to the Bachelor of Science in Food and Resource Economics are strongly encouraged to follow the first-year requirements of the Food and Resource Economics Degree as outlined [here](#). Last updated: March 3, 2022

#### B.Sc. in Food and Resource Economics (FRE) > Degree Requirements and Program Options

##### Degree Requirements

<b>First Year</b>	
LFS 100	1
LFS 150 or WRDS 150 <sup>1</sup>	3
BIOL 112 <sup>2</sup> or 121	3
MATH 104 & 105 <sup>3</sup>	6
ECON 101 & 102	6
Unrestricted Electives <sup>4</sup>	12
<b>Total credits</b>	<b>31</b>
<b>Second Year</b>	



LFS 250	6
One of APBI 200, FNH 200, FNH 250	3
Two of FRE 290, FRE 306, ECON 255 <sup>5</sup>	6
LFS 252 <sup>6</sup>	3
ECON 301 and two of ECON 210, 221, 234, 255, 302, 303, 339, 360, 365 <sup>7</sup>	9
Unrestricted elective	3
<b>Total credits</b>	<b>30</b>
<b>Third Year</b>	
LFS 350	3
FRE 394	3
FRE 326 and one of FRE 385, FRST 399, GEOS or GEOB 270	6
FRE Topic Courses <sup>8</sup>	6
Supporting Topic Courses <sup>9</sup>	3
Restricted electives <sup>10</sup>	6
Unrestricted elective	3
<b>Total credits</b>	<b>30</b>
<b>Fourth Year</b>	
Two of FRE 385, FRE 497 <sup>11</sup> , FRST 399, FRST 443, GEOS or GEOB 270	6
FRE Topic Courses <sup>8</sup>	6
Supporting Topic Courses <sup>9</sup>	9
Restricted electives <sup>10</sup>	6
Unrestricted elective	3
<b>Total credits</b>	<b>30</b>
<b>Overall 4 Year Total Credits<sup>11</sup></b>	<b>121</b>

<sup>1</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875>).

<sup>2</sup> Students without credit for Biology 12 must take BIOL 111, which can be counted as an Unrestricted Elective.

<sup>3</sup> Students may substitute MATH 100, 102 or 110 for MATH 104, and MATH 101 or 103 for MATH 105. Students who have not completed Calculus 12 should take MATH 184 as a substitute for MATH 104.

<sup>4</sup> It is recommended that students take a minimum of 6 credits of 100, 200 level courses that contribute toward interdisciplinary breadth. This includes courses in science (e.g., biology), geography, sociology, psychology and political science.

<sup>5</sup> FRE 290 and FRE 306 are recommended.

<sup>6</sup> STAT 200, BIOL 300, FRST 231 or ECON 325 can be substituted for LFS 252.

<sup>7</sup> Students must complete their first year MATH requirement before taking ECON 301, 302 and 303, and must take ECON 301 and other prerequisites before taking 400 level ECON courses.

<sup>8</sup> Choose from FRE 302, 340, 374, 420, 460, 474 and 490. Recommended: FRE 340, 460 and 474 (Food Markets and Development); FRE 374, 420 and 474 (Land, Resources & Environment); and FRE 302 and either FRE 460 or FRE 420 (Food and Resource Management).

<sup>9</sup> There are three topic areas (see note 7). Students can specialize by choosing all supporting courses from one topic area or can achieve breadth by choosing supporting courses from multiple topic areas. Acceptable courses are listed on the Food and Resource Economics website.

<sup>10</sup> Choose any eligible 300 or 400 level course in COMR, ECON and FRE. Students with a strong interest in research should take FRST 399 and consider having a FRE faculty member supervise a directed studies course (FRE 497) and/or a 6 credit thesis (FRE 499).

<sup>11</sup> If FRE 497 (Directed Studies in Food and Resource Economics) is chosen, it must have a quantitative focus and the work plan must be approved by the program advisor.

<sup>12</sup> A minimum of 45 credits required for the Major must be from courses numbered 300 or higher.

Last updated: March 3, 2022

## B.Sc. in Global Resource Systems (GRS)

### B.Sc. in Global Resource Systems (GRS) > Introduction

The Bachelor of Science in Global Resource Systems program recognizes that resource problems are complex and require solutions that are global and interdisciplinary in scope, and draw on a range of skills. It offers a comprehensive and flexible undergraduate degree program in which students are given the opportunity to customize their degree by selecting both a resource area and region of the world to focus their studies. Students are eligible to apply to the Bachelor of Science in Global Resource Systems undergraduate program after completing first-year. They can begin the program at the beginning of second year of third year. In third and fourth years, students pursue a double major, a resource specialization, and a regional specialization. For the resource specialization, students focus on one discipline or choose courses from different disciplines that relate to a resource theme. Options include, but are not limited to: environment, food and resource economics, First Nations resource systems, food security, global health, and nutrition, horticulture, human ecology, international development, and sustainable agriculture. For the regional specialization, students choose Africa, Asia Pacific, Europe, or the Americas. Within the regional specialization, the program requires a relevant language other than English, a relevant international experience, and relevant coursework. The international experience requirement is met through a period of learning in the region via academic exchange, field study, or work-based learning (internships). Last updated: March 3, 2022

### B.Sc. in Global Resource Systems (GRS) > Advising Office

See the [Academic Advising Office](#). Last updated: March 3, 2022

### B.Sc. in Global Resource Systems (GRS) > Admission

Students can apply to the GRS program after completing 24 credits of first-year university-level courses. To be considered, students are required to have a minimum academic standing of at least 70% (or 2.80 on a 4-point scale). Achievement of this minimum, however, does not guarantee admission. Admission is limited by the Faculty's capability to accommodate students in this global program. Admission is based on grades, preparation, experiences, and commitment to a global education. When applying to GRS, students must submit a letter of intent (500 words or less) conforming to guidelines specified by GRS GRS (<http://www.landfood.ubc.ca/programs/grs Ug.htm>). The letter of intent is to be submitted to Enrollment Services at the time of application. Students are advised to complete first-year requirements listed in Degree Requirements. Transfer from the Environmental Studies Diploma, Langara College Students who successfully complete the Environmental Studies Diploma program at Langara College, and gain admission to the Faculty of Land and Food Systems and the Global Resource Systems (GRS) undergraduate program, will receive transfer credit for 60 credits into the GRS program if they have: satisfied first-year requirements of the GRS program in Biology, Chemistry, Economics, English, and Mathematics; completed UBC course ASCS 250 or equivalent; and completed 6 credits of language relevant to the regional specialization.

They will be able to finish the GRS program with the further 62 credits required.

Last updated: March 3, 2022

### B.Sc. in Global Resource Systems (GRS) > Academic Regulations

Please see [Academic Regulations](http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,0) (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,0>).

Last updated: March 3, 2022

### B.Sc. in Global Resource Systems (GRS) > Degree Requirements and Program Options

Bachelor of Science in Global Resource Systems

First Year	
LFS 100	1
BIOL 111/112 or 121	3
CHEM 121 (111) <sup>1</sup>	4
ECON 101 or LFS 101	3
LFS 150 or WRDS 150 <sup>2</sup>	3
Language <sup>3</sup>	6
MATH 100, 102, 104, 110, 180, or 184 <sup>4</sup>	3-4
Program Electives <sup>5</sup>	9/8



Total Credits	32
<b>Second Year</b>	
LFS 250	6
LFS 252	3
GRS 290 <sup>6</sup>	1/2
Language <sup>3</sup>	6
Program Electives <sup>7</sup>	11/10
Unrestricted Electives	3
Total Credits	30
<b>Third and Fourth Years</b>	
LFS 350	3
LFS 450	3
Field Experience <sup>8</sup>	3
GRS 390 <sup>9</sup>	1-2
GRS 490	2
Resource Specialization Electives <sup>10</sup>	21
<b>Regional Specialization<sup>11</sup></b>	
Anthropology and Culture	3
Economics and Commerce	3
Geography, History, and Political Science	3
Regional Specialization Electives	9
International Experience <sup>12</sup>	0
Program Electives <sup>7</sup>	3/2
Unrestricted Electives	6
Total Credits	60
<b>Overall four-year total</b>	<b>122</b>

<sup>1</sup> CHEM 111 is not for students with Chemistry 12.  
<sup>2</sup> Or equivalent course to fulfill Communication Requirement (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,875>).  
<sup>3</sup> Students who pass an oral proficiency test for a language relevant to their regional specialization are exempt, and must choose 6 credits of program electives approved by a program advisor.  
<sup>4</sup> Students who have not completed Calculus 12 should take MATH 180 or 184 to fulfill their first-year Math requirement.  
<sup>5</sup> Courses that provide a foundation for the resource specialization. Science-based resource specializations require BIOL 121 and 140 and CHEM 113 or 123. Economics-based resource specializations require ECON 102. Must be approved by a program advisor.  
<sup>6</sup> At least 1 credit is required.  
<sup>7</sup> Courses that provide further foundation for the resource specialization. Typically in land and food systems, biology, chemistry, or economics. Must be approved by a program advisor.  
<sup>8</sup> Met by a field studies course that is pre-approved by a program advisor.  
<sup>9</sup> At least 1 credit is required.  
<sup>10</sup> 300- or 400-level courses from one resource discipline or from several disciplines that relate to a resource theme. Must be approved by a program advisor.  
<sup>11</sup> Africa, Asia Pacific, Europe, or the Americas. The regional specialization requires 18 credits that are relevant to the region. These can include social sciences, humanities, language courses, and experiential learning. At least 3 credits must relate to each of these areas: anthropology and culture, economics and commerce, and geography, history, and political science. Must be approved by a program advisor.  
<sup>12</sup> Met by learning in the region of specialization for at least one term, or three-month period. Options include participation in UBC's Go Global Student Mobility Programs or work-based learning (internships). Must be pre-approved by a program advisor.

**Master of Management Dual Degree Program Option**

Interested students may apply for the Bachelor of Science (Global Resource Systems) – Master of Management Dual Degree Program Option. For details regarding this Dual Degree Program Option and application see the Faculty of Commerce and Business Administration section of the Academic Calendar.

Last updated: March 3, 2022

**B.Sc. in Global Resource Systems (GRS) > Credit/D/Fail**

Students in the Bachelor of Global Resource Systems program are permitted to take electives to satisfy degree requirements in compliance with the University's Credit/D/Fail policy.

Courses selected for Credit/D/Fail cannot be used to satisfy Regional or Resource specialization requirements. See Credit/D/Fail (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,42,910,0#18786>).

Last updated: March 3, 2022

**Dual Degree and Minor Options**

*Dual Degree Options*

1. Master of Management Dual Degree Program Option

This dual degree program option offers qualified students the opportunity to earn, in one course of study, an undergraduate degree from the Faculty of Land and Food Systems and a Master of Management degree from the Faculty of Commerce and Business Administration (also known as the Sauder School of Business). This dual degree program option can be completed in four and one-half years through intensive study and scheduling that includes one summer following fourth year. The Business Career Centre in the Sauder School of Business will also provide extensive professional development and career preparation throughout the dual degree program option of study.

Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do the Master of Management through the dual degree route.

Students admitted into this program can use COMR 120 (3), COMR 220 (3) towards their unrestricted elective requirement and COMR 320 (1.5), COMR 321 (1.5), COMR 420 (1.5), and COMR 421 (1.5) towards their restricted elective requirement.

Students who are in the Food Market Analysis Major or the Food and Resource Economics program as part of the Dual Degree Program Option cannot take COMR 329, COMR 398, COMR 457, COMR 458, COMR 465, COMR 473 or COMR 493, due to significant content overlap with the Masters of Management required courses.

Additional specialized fees (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,266,987,0#22547>) for the Master of Management will be paid by all students admitted into the dual degree program option. For further information on this dual degree program option see the Faculty of Commerce and Business Administration section of the Academic Calendar.

2. Dual Degree in Food, Nutrition and Health and Education

See Dual Degree in Food, Nutrition and Health and Education (<http://calendar.ubc.ca/vancouver/proof/edti/index.cfm?tree=12,194,261,1503>).

*Minor Options*

The Faculty of Land and Food Systems offers several minor options for students. Some minors are restricted to specific programs. For details please refer to the minor specific content below. Enrolment in a Minor is limited to students eligible for third-year standing with an average of at least 68% in each of the previous two years. Meeting the stated minimum requirements does not guarantee admission into the Minor.

An acceptable Minor must consist of a minimum of 18 upper-level credits. Students should design a coherent and academically sound course of studies for their Minor, which must be submitted at the time of application. For guidelines on appropriate course selection, please refer to the minor-specific content below. Students with questions should consult with an Academic Advisor in LFS Student Services.



Of the upper-level credits required for the minor, a maximum of 6 credits can be double-counted towards the required courses or restricted elective requirements of the major. The remaining upper-level credits may be completed within unrestricted elective requirements (if possible with careful planning). There are no restrictions on double-counting lower-level prerequisites or requirements, if they exist for the minor program.

Application forms for minors may be obtained from the Land and Food Systems website. Completed applications must be submitted no later than March 31st of the students' second year.

Continuation in a Minor requires that the student maintain Good Academic Standing. In addition, space in many courses is limited. Admission to a Minor does not guarantee access to courses agreed upon for the Minor. Where space in courses required for a Minor is limited, a sessional average substantially higher than the minimum for Good Academic Standing may be required to enable registration in such courses. Students who wish to pursue a Minor should be aware of the prerequisites of many of the upper-level courses.

Students might encounter difficulty fitting the courses for the Minor into their program timetable; careful planning is essential, and completion of the Minor may require an additional period of study beyond four years.

#### 1. Minor in Arts

An acceptable Arts Minor must comprise courses in the Faculty of Arts that are for credit toward a Bachelor of Arts degree and must consist of 18 upper-level credits in a single subject or field of specialization.

All courses must be acceptable for a B.A. major in the proposed subject area or field, although the student is not bound by other requirements of the Faculty of Arts.

Space in many courses is limited. Admission to an Arts Minor does not provide priority access to courses agreed upon for the Minor.

Upon successful completion of the minor, the notation "Minor in Arts" will be added to the student's transcript.

Students wanting a subject-specific minor may also undertake a minor in a specific Arts discipline's minor program, which requires the completion of at least 30 credits in a single subject field of specialization, of which at least 18 credits must be numbered 300 or higher. Upon successful completion, the notation "Minor in [subject-specific]" will be denoted on the student's transcript.

Space in many Arts courses is limited. Admission to an Arts Minor does not provide priority access to courses agreed upon for the Minor.

#### 2. Minor in Commerce

Students wanting a foundation in business management are encouraged to consider the Minor in Commerce. Enrolment in this is limited.

Meeting the stated minimum requirements does not guarantee admission into the Minor.

Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do a Commerce Minor.

Due to the significant overlap in coursework, students in the Food Market Analysis Major and the Food and Resource Economics program are not normally permitted to complete a Commerce Minor.

Applicants must have successfully completed one of MATH 100, 102, 104, 110, 120, 180, or 184 and one of ECON 101, LFS 101, ECON 310, and one of ECON 102, ECON 311. In addition, a statement of intent is required as part of the application.

The Minor will consist of COMR 329 (3), COMR 457 (3), COMR 465 (3), COMR 473 (3), COMR 493 (3), and one of COMR 398 (3) or COMR 458 (3) for a total of 18 credits.

Upon successful completion the notation "Minor in Commerce" will be placed on the student's transcript.

#### 3. Minor in Fermentations

Courses from both the UBC Vancouver and Okanagan campuses can be used to complete the Fermentations minor. Students interested in applying credits earned at the Okanagan campus to Vancouver campus programs should be aware of the Requirements to Receive a Degree or Diploma on the Vancouver campus (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,40,0,0>).

An acceptable minor must comprise:

- FNH 405 (UBC Vancouver) or BIOL 380 (UBC Okanagan)
- One of BIOC 302 (UBC Vancouver); BIOL 311 or BIOC 304 (UBC Okanagan)
- Both FNH 330 and FNH 335 (UBC Vancouver)
- At least 6 credits from the following courses: BIOL 323, CHEM 311, CHBE 381, FNH 300, FNH 301, FNH 302, FNH 313, FNH 430, APBI 442 from UBC Vancouver; BIOC 310, BIOL 382, BIOL 480 from UBC Okanagan.

Upon successful completion of the Minor, the notation "Minor in Fermentations" will be denoted on the student's transcript.

#### 4. Minor in Kinesiology

Only students enrolled in the Bachelor of Science in Food, Nutrition, and Health degree may undertake a Minor in Kinesiology. Enrolment in this minor is limited.

Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do a Kinesiology Minor.

Admission to the minor is competitive and will be based on a cumulative grade point average of 54 credits of required first- and second-year courses for the Bachelor of Science in Food, Nutrition, and Health degree.

The Kinesiology Minor will consist of 18 credits selected from the following: KIN 310, 313, 316, 320, 335, 355, 368, 411, 420, 424, 438, 459, 460, and 464.

Students who wish to pursue a Minor in Kinesiology should be aware of the 300-level prerequisites for 400-level Kinesiology courses. 100- and 200-level prerequisites for KIN courses may be waived for students taking the minor, however students are required to take either BIOL 155, BIOL 153, CAPS 301 or all of KIN 110, KIN 131 and KIN 132 in lieu of the KIN course prerequisites. Space in many Kinesiology courses is limited.

Upon successful completion of this minor, the notation "Minor in Kinesiology" will be placed on the student's transcript.

Students who wish to pursue studies in the Faculty of Education should be aware that courses that are acceptable for a Kinesiology Minor might not necessarily meet the requirements for a teaching concentration in the Faculty of Education. Students planning to enter the Teacher Education Program in the Faculty of Education (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,202,320,157>) need to review the detailed admission requirements.

#### 5. Minor in Science

An acceptable Science Minor must comprise courses in the Faculty of Science that are for credit towards a Bachelor of Science degree and consist of at least 18 credits numbered 300 or higher in a single subject (see [Biochemistry, Chemistry, Environmental Sciences, and Oceanography Minor listings for exceptions](#)).

Upon successful completion of the Minor, the notation "Minor in [Subject]" will be denoted on the student's transcript.

#### 6. Minor in Sustainable Food Systems

The Minor in Sustainable Food Systems emphasizes an interdisciplinary perspective and experiential learning.

The Sustainable Food Systems Minor consists of LFS 350, 12 credits from 300- or 400-level courses from an approved list of courses available on the Faculty website (<http://landfood.ubc.ca/undergraduate/restricted-elective/>), and 3 credits selected from APBI 465, LFS 450, or LFS 496 for a total of 18 credits. Students must have their course of studies approved by an LFS advisor.

Upon successful completion of the minor program, the notation "Minor in Sustainable Food Systems" will be added to the student's transcript.

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## First Year Options

The Faculty of Land and Food Systems offers two options for enrolment in the first year:

1. Students admitted to the Faculty select their courses in accordance with the designated Degree Requirements for the program to which they have been admitted. Students create a timetable by selecting both the courses and the sections they wish to attend. Students with questions about credit load options, should consult Credit Load, Credit/D/Fail, Repeating Courses, Taking Courses Outside of UBC (<http://calendar.ubc.ca/vancouver/index.cfm?tree=12,194,795,1678>).

2.



2. The Land One cohort option is jointly offered by the Faculty of Land and Food Systems and the Faculty of Forestry. In this limited-enrolment option, students admitted to their respective Faculty and degree programs enroll in a timetable of 16 core credits as a cohort. The timetable includes BIOL 121, MATH 180, LFS/FRST 101, LFS/FRST 110, and LFS/FRST 150. Additionally, students register for the remaining first-year credits outlined in their Degree Requirements (<http://calendar.ubc.ca/vancouver/index.cfm?tree=12,194,0,0>).

#### Land One Cohort Option for the Faculty of Land and Food Systems

Land One is a unique way for first-year Land and Food Systems students in the Bachelor of Science in Applied Biology or Bachelor of Science in Food, Nutrition and Health programs to begin their degrees. Students with a passion for learning in an integrated format will benefit from the program's cohort model, where complex issues related to food security, climate change, land use, and sustainability are explored through a coordinated curriculum offered in a small learning community.

Jointly offered by the Faculty of Land and Food Systems (LFS) and the Faculty of Forestry, the option integrates required first-year subjects (BIOL 121, MATH 180, LFS 101, LFS 150 and LFS 110) within the context of real-world cases from both Indigenous and Western perspectives. It facilitates students' transition to university and enhances the connections to their home Faculty by creating a learning community centred on collaborative engagement and learning with their peers and instructors.

Land One instructors teach the same course content as the standard program using examples, approaches, and case studies that relate to current issues in Land and Food Systems and Forestry through lectures, tutorials, and peer-to-peer engagement. All Land One students attend their lectures together and have access to a designated study space, creating a smaller social and learning community.

LFS 110 is integrative seminar that discusses the connections between courses in Land One and current issues. Each week, students meet for a one-hour lecture and a one-hour tutorial session throughout both terms 1 and 2. Students work in groups to explore disciplinary and integrative approaches to cases involving both Indigenous and Western perspectives. Students also participate in field trips (e.g. to UBC farm, Malcolm Knapp Research Forest, and Museum of Anthropology) and engage in various hands-on activities.

All majors/programs in LFS allow for the Land One courses to meet first-year degree requirements, however, students are responsible for meeting all remaining degree requirements in their respective program. The 16-credit standard timetable leaves space for students to take other courses in first-year and build their own program path within LFS, and across campus.

#### Application Process

The Land One program is limited to applicants directly from high school entering in their first-year of study in either the Bachelor of Science in Applied Biology or the Bachelor of Science in Food, Nutrition and Health. Students must be admitted to LFS in order to be eligible for the Land One cohort option. Students should consult the Admission (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,793,0>) section for details on applying to the Faculty of Land and Food Systems at UBC. As Land One integrates five courses, in addition to the Faculty's admission requirements, students must meet the pre-requisites of these courses as listed below (or the equivalent in the students' home curriculum):

- BIOL 121: Biology 11 or 12, or BIOL 111
- MATH 184: One of BC Principles of Mathematics 12 or Pre-calculus 12 and one of (a) a grade of 80% or higher in BC Principles of Mathematics 12 or Pre-calculus 12, or (b) a satisfactory score in the UBC Mathematics Basic Skills Test.
- FRST/LFS 101: No pre-requisites
- FRST/LFS 150: Enrolment limited to LFS students with first year status. Because writing will be a significant part of the Land One option, proficiency in English is strongly recommended.
- FRST/LFS 110: No pre-requisites

Students must submit a separate application for the Land One program, via an online application by May 31. Students are required to submit a Letter of Intent (500 word maximum) addressing why they would like to join Land One.

Additional information about the Land One cohort option and the application process are available on the Land One website (<http://landone.ubc.ca>).

Last updated: March 3, 2022

### Co-operative Education Program

Co-operative Education (Co-op) is a process of education which integrates academic study with relevant, supervised and paid work experience in co-operating employer organizations.

An optional Co-op Program is available for students in all Land and Food Systems programs, with the exception of students in the Dietetics Major of B.Sc. in Food, Nutrition and Health. The Program is intended to help prepare interested and qualified students for careers within the private or public sectors with at least four work terms (i.e. each work term is normally 4 months long) supervised by qualified professionals. Faculty advisors or Co-op Coordinators also conduct site visits at the student's work place and provide advice and support for the placement.

To be eligible, students must be in at least third year of an undergraduate program in the Faculty of Land and Food Systems (other than the Dietetics Major). Admission is by application to the Science Co-op Office. Selection of students will be based on academic performance and general suitability to the work environment as determined by the Co-op intake interview.

Total enrolment is subject to the current state of the market as well as the resources available to support coaching and job development. Acceptance into the program does not guarantee students employment in each work term. The work terms are arranged by mutual agreement between students and employing organizations.

Participating students will be registered for LFS 398, 399, 498, or 499 as appropriate for each work term, once a suitable position is confirmed, and will be required to pay the Co-op course fee and a Co-op administration and workshop fee (see Program and Course Fees (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,296,0,0#18094>)).

Students admitted into the Science Co-op Program are required to accept and comply with the Program's Terms & Conditions (refer to [www.sciencecoop.ubc.ca/students/terms](http://www.sciencecoop.ubc.ca/students/terms) (<http://www.sciencecoop.ubc.ca/students/terms>)).

Students are not permitted to withdraw from the Co-op course without permission of the Co-op Program.

If the Science Co-op Program Terms & Conditions (<http://www.sciencecoop.ubc.ca/students/terms>) conflict with the UBC Academic Regulations (<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,46,0,0>) regarding withdrawing from courses, the Co-op Program Terms & Conditions shall be followed.

Graduation in the Co-op Program for Land and Food Systems requires a student to complete LFS 398, 399, 498, and 499, in addition to the normal academic requirements.

Detailed information on the program can be obtained from the Science Co-op Office in Room 170, Chemistry and Physics Building, 6221 University Boulevard, Vancouver, BC V6T 1Z1 or online (<http://www.sciencecoop.ubc.ca/prospective/apply/land>).

Last updated: March 3, 2022

### Exchange Programs

Formal exchange programs facilitate the exchange of undergraduate students with other universities in Canada and abroad. These exchanges allow students to experience a different cultural and academic life, and receive credit for courses successfully completed. Undergraduate students normally in their third year of studies are eligible to spend a semester or two on exchange. Graduate students are also eligible. Interested students should see Go Global (<http://students.ubc.ca/career/international-experiences/exchange-study-abroad/exchange-eligibility#graduate-students>) for further information.

#### Canadian Exchange Programs

Opportunities for student exchanges at Canadian universities exist at McGill University, University of Toronto and Université de Montréal. Opportunities also exist at University of Guelph, which has an exchange agreement with the Faculty.

#### International Exchanges

Go Global (Calendar page: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=4,228,549,735#446>) offers eligible students the opportunity to spend one or two semesters at a variety of partner universities throughout the world, including the University of California, University of Melbourne and Queensland University (Australia), University of Auckland (New Zealand), University of Copenhagen (Denmark), Wageningen University (Netherlands) and Swedish Agricultural University.

Last updated: March 3, 2022

### BC Institute of Agrologists

In British Columbia, agrology is recognized by the provincial statute of 1948, the Agrologists Act, under which the BC Institute of Agrologists (BCIA) (<http://bcia.com>) is incorporated.

A graduate who plans to practice as an agrologist in the province of British Columbia is expected to register as a member of the BCIA. Students in the Faculty should consult the BCIA to determine their eligibility to register as an Agrologist under the Act. BCIA also has an option for student membership.

Last updated: March 3, 2022

### Dr. and Mrs. A. S. Dekaban Foundation

A foundation was established by Dr. and Mrs. A. S. Dekaban primarily to permit graduate students from the Polish agricultural universities to study in the Faculty of Land and Food Systems. Polish students may spend up to six months in the Faculty, undertaking research related to their study program in their home institution. The students are selected by the Polish agricultural universities. The foundation also supports occasional short-term visits by members of the Faculty Land and Food Systems to Polish agricultural universities and visits by scientists from the Polish agricultural universities to the Faculty.

Last updated: March 3, 2022

### Graduate Certificate in Aquaculture



Program Overview

The Graduate Certificate in Aquaculture is a 4-month, 16 credit specialized program that will prepare students with the necessary skills and knowledge for careers in the aquaculture and related industries.

Admission Requirements

Applicants to the Graduate Certificate in Aquaculture must meet the minimum requirements of the Faculty of Graduate Studies for a Master's degree as follows:

- Completion of a recognized Bachelor of Science at an accredited academic institution. Applicants who have completed a Bachelor of Applied Science will be considered on a case-by-case basis
- Academic standing of a minimum 76% (B+) average in 300- and 400-level.
- with at least 12 credits of 300- and 400-level courses in the A grade range (80% or higher at UBC) in the field of study presented.
- Submission of an application form (from the website), official transcripts from all academic institutions attended, and a personal written statement explaining why the applicant is seeking enrolment in the Aquaculture Certificate Program.
- English competency: Applicants from a university outside Canada for which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language, prior to being extended an offer of admission. Acceptable English language proficiency tests for applicants are listed at [www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,345,0](http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,345,0) ( <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,345,0> ). Note: these tests must have been taken prior to and within two (2) years of starting the program.
- Recommended: completion of at least one course in each of Biology, Organic Chemistry, Calculus.

Program Requirements

Courses will be delivered during the Winter Term 1 (September – December). Students will complete the certificate on a full-time basis over a period of 4 months, completing 7 required courses:

- AQUA 501 (3) Aquaculture Production Systems
- AQUA 502 (2) Fish Nutrition, Feeds and Feeding
- AQUA 503 (3) Fish Health
- AQUA 504 (2) Finfish Genetics and Reproduction in Aquaculture
- AQUA 505 (2) Ecological Sustainability of Aquaculture
- AQUA 506 (2) Business Concepts in Aquaculture
- AQUA 507 (2) Seafood Processing

Definition of Satisfactory Progress

The minimum passing grade in any course taken by a student enrolled in the certificate is 60%. However, only 3 credits of courses with grades in the C to C+ range (60-67%) may be counted towards the certificate. For all other courses, a minimum of 68% must be obtained.

Where a failing grade is obtained in a course, on the recommendation of the Faculty's Associate Dean of Graduate Studies, the student may repeat a course for higher standing. If the Associate Dean does not make such a recommendation, the student will be required to withdraw. A student who obtains a grade of less than 68% in more than 3 credits will normally be required to withdraw for inadequate academic progress. **The student will be informed of unsatisfactory academic progress in writing before any action regarding withdrawal is taken.**

When repeating a failed course, a minimum mark of 74% must be obtained.

If a course is repeated, both marks will appear on the transcript. The higher mark will be used to determine promotion in a program and in any decision to admit or withdraw a student from a program. For all other purposes, averages will be calculated using both marks.

Last updated: March 3, 2022

Academic Staff

Academic Staff > Applied Biology

Professors

- T. A. Black**, B.Sc. (Br.Col.), M.Sc., Ph.D. (Wis.)
- A. Farrell**, B.Sc. (Bath), Ph.D. (Br. Col.)
- D. G. Fraser**, B.A. (Tor.), Ph.D. (Glas.)
- M. von Keyserlingk**, B.Sc. (Br.Col.), M.Sc. (Alta.), Ph.D. (Br.Col.)
- D. M. Weary**, B.Sc., M.Sc. (McG.), Ph.D. (Oxf.)

Professors Emeriti

- K. M. Cheng**, B.S. (Tenn. Tech.), M.S. (S. Ill.), Ph.D. (Minn.)
- G. W. Eaton**, B.S.A. (Tor.), Ph.D. (Ohio)
- F. B. Holt**, B.Sc., M.Sc. (Manit.), Ph.D. (Camb.), P.Ag.
- M. B. Isman**, B.Sc., M.Sc. (Br.Col.), Ph.D. (Calif.)
- P. A. Jolliffe**, B.Sc. (Qu.), Ph.D. (Br.Col.)
- C. R. Krishnamurti**, B.V.Sc., M.V.Sc. (Madras), Ph.D. (Alta.)
- L. M. Lavkulich**, B.Sc., M.Sc. (Alta.), Ph.D. (C'neil.)
- J. Leichter**, B.S. (Cracow Coll., PL), M.S., Ph.D. (Calif., Berkeley)
- B. March**, B.A., M.S.A., Hons. D.Sc. (Br.Col.), F.A.I.C., F.R.S.C., F.P.S.A., P.Ag.
- J. H. Myers**, B.Sc. (Chatham), M.Sc. (Tufts), Ph.D. (Indiana)
- V. C. Runeckles**, B.Sc. (Lond.), A.R.C.S. (Imp.Coll.), Ph.D. (Lond.), D.I.C. (Imp.Coll.)
- H. E. Schreier**, B.A. (Colorado), M.Sc. (Sheff.), Ph.D. (Br.Col.)
- D. M. Shackleton**, B.Sc. (Leic.), M.Sc. (W.Ont.), Ph.D. (Calg.)
- M. Shaw**, M.Sc., Ph.D., D.Sc. (McG.), F.A.P.S., F.R.S.C.
- T. P. Sullivan**, B.Sc., M.Sc., Ph.D. (Br.Col.)
- I. E. P. Taylor**, B.Sc., Ph.D. (Liv.)
- J. R. Thompson**, B.Sc., M.Sc. (Br.Col.), Ph.D. (Calif., Davis), P.Ag.
- M. K. Upadhyaya**, B.Sc. (Ag.) (J. Nehru Agri), M.Sc. (I.A.R.I.), M.A. (Princ.), Ph.D. (Mich.), P.Ag., C.P.H., C.P.Ag., F.W.S.S.A.

Associate Professors

- S. Castellarin**, B.S., M.S., Ph.D. (Udine, IT)
- R. Cerri**, M.Sc., Ph.D. (Calif., Davis)
- E. Jovvi**, B.Sc. (Cal.Tech.), M.Sc., Ph.D. (Br.Col.)
- M. Krzic**, B.Agron., M.S. (Belgrade), Ph.D. (Br.Col.)
- A. Riseman**, B.Sc., M.Sc., Ph.D. (Penn)
- R. Sargent**, B.Sc. (U.Cal.), M.Sc. (SFU), Ph.D. (Br.Col.)
- S. Smukler**, B.Sc. (Calif., Davis), M.Sc. (Wash.), Ph.D. (Calif., Davis)

Associate Professors Emeriti

- A. A. Bomke**, B.S., M.S. (S. Ill.), Ph.D. (Ill.)
- R. J. Copeman**, B.Sc. (McG.), Ph.D. (Wis.)
- J. De Vries**, B.A., M.A., Ph.D. (Br.Col.)
- R. C. Fitzsimmons**, B.Sc. (Wash.), M.Sc., Ph.D. (Minn.)
- M. D. Novak**, B.Eng. (McG.), M.Sc. (W.Ont.), Ph.D. (Br.Col.)
- M. D. Pitt**, B.Sc., M.S., Ph.D. (Calif.), P.Ag.
- R. M. Tait**, B.Sc. (Durham), Ph.D. (Nole (U.K.))

Affiliate Assistant Professors

- R. Harbut**, B.Sc., M.S. (Guelph), Ph.D. (Cornell)
- A. Lyon**, B.Sc. (Smith), M.S., Ph.D. (Wisc.-Mad.)

Assistant Professors

- G. Brar**, B.Sc. (Punj. Agr.), M.Sc., Ph.D. (Sask.)
- J. Carrillo**, B.A., M.A., Ph.D. (Rice)
- J. T. Cornelis**, B.Sc., M.Sc., Ph.D. (U. Catholique de Louvain)
- A. Frommel**, B.Sc. (Calif., Santa Cruz), M.Sc. (S. Denmark), Ph.D. (Christian-Albrechts U, Kiel)
- J. Grenz**, B.Sc., M.Sc., Ph.D. (Br. Col.)
- T. Knipfer**, M.Sc. (Bayreuth), Ph.D. (U. College Dublin)
- D. Lewis**, B.A. (Indiana), Ph.D. (Br.Col.)
- T. Martens**, B.Sc. (Wpg), M.Env. (Manit.)
- A. Protopopova**, B.S., M.S. (Flor.), Ph.D. (Mass.)

Clinical Assistant Professors

- C. Schuppil**, B.Sc. (Guelph), M.Sc. (Alta.), Ph.D. (Br.Col.), D.V.M. (Sask.)



Associate Professor of Teaching

**W. Valley**, B.Sc., B.Ed. (Br.Col.)

Assistant Professor of Teaching

**S. Brown**, B.Sc., M.Sc., Ph.D. (Br.Col.)  
**K. Walker**, B.Sc. (Calif., S. Diego), M.Sc. (Port.), Ph.D. (Br.Col.)

Lecturers

**J. Wilson**, B.Sc., M.Sc. (Br.Col.)

Adjunct Professors

**P. K. Abram**, P.K. Abram, B.Sc. (Qu.), M.Sc. (Car.), Ph.D. (Montr.)  
**P. Ackermann**, B.Sc., M.Sc., Ph.D. (Br.Col.)  
**M. Bejaei**, B.Sc. (Tabriz), M.Sc., Ph.D. (Br.Col.)  
**S. M. Berch**, B.Sc., M.Sc. (Wat.), Ph.D. (Laval)  
**A. Boo**, B.Sc. (Br.Col.), DVM (W.Col.Vet.Med)  
**R. R. Burlakoti**, B.Sc., M.Sc. (Tribhuvan), Ph.D. (N.Dakota)  
**L.-P. Comeau**, B.Sc. (Mexico), M.Sc. (Sask.), Ph.D.(Aberdeen)  
**M. Dossett**, B.Sc. (Wash.), M.Sc., Ph.D. (Oregon)  
**S. Dubois**, B.Sc. (UVic.), M.Sc., Ph.D. (Br.Col.)  
**T. A. Forge**, B.Sc. (Kansas), Ph.D. (Wisc.-Mad.)  
**E. Gerbrandt**, B.Sc. (UVic.), Ph.D. (Sask.)  
**I. J. Makowska**, B.Sc. (McG.), M.Sc., Ph.D. (Br.Col.)  
**J. Mann**, B.Sc., M. Sc. (Br.Col.), P. Ag. (BCIA)  
**A. Messiga**, M.Sc. (Ghent), Ph.D. (Laval)  
**B. Milligan**, B.Sc. (Regina), M.Sc. (UVic.), D.V.M. (Guelph)  
**P. Mitchell-Banks**, B.S., M.S., Ph.D. (Missouri), Ph.D. (Br.Col.)  
**M. Molnar**, B.Sc. (Reading), M.Sc., Ph.D. (Central Euro U.)  
**J. Rushen**, B.S., Ph.D. (Qld.)  
**S. Slater**, B.Sc., M.Sc. (James Madison), Ph.D. (Case West. Reserve)  
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