

Archived: August 11, 2020

Science and Technology Programs

Fisheries and Aquaculture Technology

Location Offered:

Nanaimo

Credential:

Diploma

Options:

Co-op

Program Length:

2 Years

The Program

The program is designed to develop well-rounded technologists with a broad background in the practical and academic skills of fish and invertebrate culture, fisheries habitat and fish stock assessment, wild stock management, and environmental control and planning.

Both the “why” and “how” are presented through formal lectures and practical experience. The selection of program material is designed to give a broad theoretical background to provide flexibility, as well as foster a professional attitude toward a future career. Students will spend approximately 25 per cent of their time on “hands-on” fisheries and aquaculture projects on- and-off campus.

The first year provides a foundation in such basic conceptual areas as statistics, biology, English, habitats of fish and fish rearing methods. There is a weekly practicum, in which students are sent into the field for a day to work in various aquacultural or fisheries facilities (salmonid hatcheries, spawning channels, wild fish projects, oyster farms, invertebrate hatcheries and others), and students also work one half day each week on aquaculture or fisheries field projects on campus or in the field. Many courses also involve significant field experience. Over the two years this practical work experience exposes students to a wide variety of activities, and introduces them to the facilities, organizations and personnel important in their future careers.

Students will work in fisheries or aquaculture summer jobs between their first and second year. Assistance in finding jobs is provided by VIU Faculty and staff, and students will receive credit for the summer practicum courses on completion of required written reports and oral presentation.

In the second year, students are exposed to more advanced and specialized topics in fisheries and aquaculture. These include engineering courses for both fisheries (hydrology with a stream surveying component) and aquaculture (e.g., hydraulics and hatchery design), as well as special courses in aquaculture. There is a special field course on practical limnology in which students work and live, for a week, on the shores of a remote lake under flycamp conditions. Both the second-year weekly practicum and project courses may be designed by the student to emphasize areas of special interest.

The one-year, post-degree diploma program is a limited-entry option for university graduates with degrees in biology, zoology or related sciences. In this case, students complete the requirements for the diploma in one year, plus one summer practicum (see below for admission requirements).

In addition to the many scholarships available to all VIU Students, there are numerous special awards for Fisheries and Aquaculture students, ranging in value from \$300 to \$2,500. For more information contact the Financial Aid & Awards office.

Program Outline

| Year 1 | Credits |
|---|----------------|
| FISH 100T - (Introductory Field Trip) | 1 |
| FISH 127 - (Fish Husbandry II) | 3 |
| FISH 124 - (Biology of Fishes) | 4 |
| FISH 132 - (Aquatic Habitats) | 3 |
| FISH 162T - (Shop Skills) | 1 |
| FISH 171T - (Aquaculture Practicum I) | 1 |
| FISH 172T - (Aquaculture Practicum II) | 1 |
| FISH 191T - (Project in Husbandry I) | 1 |
| FISH 192T - (Project in Aquaculture II) | 1 |
| FISH 204 - (Aquatic Plant Ecology and Culture) | 4 |
| FISH 211 - (Life History and Management of Salmonids) | 3 |
| FISH 227 - (Fish Husbandry I) | 3 |
| BIOL 121 - (Introductory Zoology) <i>or</i> , FISH 123 - (Concepts in Biology) | 4 |
| ENGL 115 - (University Writing and Research) | 3 |
| MATH 181 - (Intro to Statistics) | 3 |
| Total Credits | 36 |

| Special Session | Credits |
|-------------------------------|----------------|
| FISH 173T - (Work Experience) | 1 |

| Year 2 | Credits |
|---|----------------|
| FISH 205 - (Invertebrate Zoology) | 4 |
| FISH 210 - (Trout Culture) | 3 |
| FISH 222 - (Larval Rearing & Invertebrate Culture) | 4 |
| FISH 223 - (Introduction to Fisheries Management) | 3 |
| FISH 231 - (Non-salmonid Aquaculture) | 3 |
| FISH 241 - (Fish Health) | 4 |
| FISH 253 - (Fisheries Engineering I—Hydrology) | 3 |
| FISH 254 - (Fisheries Engineering II—Hydraulics II) | 3 |
| FISH 271T - (Aquaculture Practicum III) | 1 |
| FISH 272T - (Aquaculture Practicum IV) | 1 |
| FISH 281 - (Fisheries Field Techniques) | 3 |
| FISH 291T - (Project in Aquaculture III) | 1 |
| FISH 292T - (Project in Aquaculture IV) | 1 |
| FISH 453 - (Fish Habitat Assessment and Rehabilitation) | 3 |
| Total Credits | 37 |

Further Studies

National Research Council of Canada

The National Research Council has established an office in the Centre for Shellfish Research (CSR) at Vancouver Island University to provide services of NRC's Industrial Research Assistance Program (IRAP), especially applied aquaculture research, to the North Vancouver Island region. The program involves either direct extension services or funding for research and development projects. For further information, please contact NRC, c/o Fisheries & Aquaculture Department at Vancouver Island University, 250-740-6348.

Completion Requirements

Grades for individual courses are awarded as described in the Grading Scale section of this Calendar. The program has minimum standards as follows:

- Registration in the second, third and fourth semester requires the satisfactory completion, with grades of "C-" or better, of all the courses in the previous semester. In the event that a student achieves less than "C-" in any FISH course, registration in any other FISH course may be denied or, at the discretion of the instructor, a satisfactory opportunity to improve the grade to "C-" may be made available, in order to allow the student to progress. Application of this clause is subject to review by program Chair and affected course instructors.
- Practicum courses (FISH 171T, 172T, 271T, 272T) will be automatically assigned an "F" if students miss more than one session at their field station, without prior notification to the station. An "F" in any of these courses will result in suspension from the program. Students must satisfactorily complete all courses in the program. Students may not graduate with more than two "D"s.
- Students who have more than two grades less than "C-" must withdraw from the program. They may reapply in the next year and make up the "D"s or "F"s to a "C-" grade or better.
- For more information regarding the above, students admitted to the program are advised to read the "Student Guide" issued in the first week of classes.

Admission Requirements

- General admission requirements apply.
- A minimum "C" grade in one of Precalculus 11, or Foundations of Mathematics 11, or equivalent.
- Life Sciences 11 with a minimum "C" grade, or equivalent.

Recommended for Admission

- Physics and other science courses are highly recommended.
- Additional English courses that lead to improved writing skills are invaluable.

Notes on Admission

- Enrolment in this program is limited. Students who meet or exceed the minimum admission requirements may not necessarily be admitted to the program. Applicants are encouraged to apply early. Seats in the program are offered as follows: first completed applications are given first offers, until all seats are filled.

- Aboriginal students can apply for reserve seats by submitting the Access Initiative for Aboriginal Students form.
- Students may take the program on a part-time basis, but admission to courses will be subject to prerequisites, where applicable, and space in the classroom after full-time students have been served.
- Applicants are strongly urged to talk to Fisheries and Aquaculture staff about the program and application procedures.
- Students will complete Occupational Level I First Aid, in accordance with WorkSafeBC requirements, and Transportation Endorsement courses during the first year of the program.

Career Opportunities

Careers in fisheries and aquaculture typically involve both outdoor work related to the rearing or assessment of aquatic stocks, and indoor activities related directly to field or support activities, including personnel and business management. Aquaculture is usually practiced in relatively remote areas.

It should be noted that the skills required for both the aquaculturist and the field fisheries technician broadly overlap, and that aquaculture plays an increasingly important role in wild stock management through the employment of hatcheries and fish stock enhancement. Students in this program are prepared for both career areas and after graduation frequently work in both.

Other placements include laboratory, sales, research and international opportunities. Many career opportunities are available to graduates willing to work in outdoor conditions, often in remote areas. Such work often includes field work with wild stocks including habitat assessment in both fresh and salt water, estimates of wild stock population, habitat restoration, research assistance, and monitoring of harvests.

Start Date and Application Deadline

The program starts in September and applications are accepted between the first business day in October and March 31.

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