



VANCOUVER ISLAND
UNIVERSITY

Faculty of Science and Technology

Department of
Fisheries and Aquaculture

Student Information Guide
2010-2011

A student's primary source for information

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1.0 INTRODUCTION

Welcome to the Fisheries and Aquaculture Department! The following pages are intended to answer your questions and provide a statement of Department policy for your reference. If you have any concerns or questions, please contact a faculty member (refer to section 10.1). However, if you have any questions regarding the program during the academic year, refer to this manual **BEFORE** talking to a faculty member.

Visit our website at www.viu.ca/fisheries

2.0 OBJECTIVE

The objective of this program is to develop well-rounded technologists with a strong, flexible background both in Fisheries and in Aquaculture. This requires that students develop skills and an increased understanding in a variety of areas outside of fish and invertebrate husbandry, such as administration, communication, and engineering. Furthermore, in an attempt to provide a foundation for future developments and a broader understanding in Fisheries and Aquaculture, students are exposed to techniques and species not necessarily locally harvested nor available.

3.0 PROGRAM ADMINISTRATION POLICIES

3.1 *Standards*

Progress within the program is governed by grades. In the event a student receives a "D" or an "F" as a course grade, the instructor and/or program Chair **must** be approached to discuss remedial action. Generally, courses cannot be retaken within the 2 year time-frame due to timetable restrictions.

Students who have more than two "D"s, or one "D" and an "F" or two "F"s must withdraw from the program for a minimum of 1 year. This student will not be re-accepted the following academic year, but is encouraged to **reapply** after one year's absence

3.1.1 *Practicum (Aqua 171T/172T/271T/272T/371/372)*

An "F" (Fail) in one semester of the "field" courses means an automatic and immediate **EXPULSION** from the program. For further details, refer to section 5.0 (page 11).

3.1.2 Grading System:

At the beginning of each term, professors will hand out a course outline which shows the grading policy for that course. It is up to the individual professor to determine the grading scheme. Every attempt, however, will be made to satisfy the needs of individuals seeking scholarships or concerned with marks for further education.

Keep in mind that the field practicum courses use a unique grading scheme. For further information, refer to page 18.

3.1.3 Plagiarism:

Students should refer to policy 99.01 in the Vancouver Island University calendar (under the Academic Misconduct section). The first offense will result in either i) a mark of "0" on the assignment or exam or, ii) an "F" for the course at the discretion of the instructor. If a second offense occurs, the student **will** receive an "F" for that course and be expelled immediately from the program. Although the University calendar is quite clear on what constitutes plagiarism, there are sometimes gray areas and an unwary student might inadvertently make a mistake without realizing it. See the Calendar on Academic misconduct" under the section, "Student Conduct Policy". Read this carefully and under "plagiarism" please note the following..." appropriating the work of another, or parts or passages of another's writing or ideas or language of the same and passing them off as the product of one's own mind or manual skill...." This is the VIU definition of plagiarism. It could mean copying another student's paper, turning in a "bought" paper from another university (even one you wrote yourself for another course), using text from published works without clear quotation marks and the reference from which the passage comes. If a passage in a book or article is so well phrased that you feel you must use it, then it is perfectly permissible to do so as long as you obey the quotation mark rule. Usually it is best to get several sources together, come to an understanding of what they express and then write this in your own words, clearly referencing all of your sources (e.g. Jones, 2002, Rogers, 2004). Referencing is also important even when you are not using the exact text. In scientific and technical writing referencing is usually intense. Think of this as always giving credit to others for their work and ideas. Remember that citation is not the same as quotation. If you are unsure, take a sample of your paper in progress to an instructor to seek guidance.

These rules also apply to figures. If you are using a Xeroxed figure, clearly state that this is so and show the exact source of the figure including page number and full reference. Use of figures in this way is not usually recommended since it may contravene copyright laws. If you create your own figure but use another figure as your inspiration, then clearly state this (e.g. Figure after Jones, 2002, p45).

3.2 *Withdrawal from Courses or Entire Program*

Any student having difficulty should discuss their situation with the Program Chair and/or relevant instructor **before** doing anything rash. We will do our best to help but in order to assist you, we must be informed of your situation. Please note that student services offer a variety of courses and advice on study skills, time management, financial aid, etc.

<http://www.mala.ca/student-services/about.asp>

3.3 *Failure Grades and What To Do*

If you fail a course, you must talk to the instructor to examine available options. If a resolution can not be achieved the department Chair may become involved .

3.4 *Financial Aid*

Students in the program are eligible for general VIU scholarships and in addition there are many scholarships/bursaries available **exclusively for Fisheries and Aquaculture students**. Keep in mind that a high percentage of students in the Fisheries and Aquaculture programs (Diploma and B.Sc.) deservedly receive awards. There is an awards ceremony held in October. Parents and partners are welcome to attend!

**To view and apply for scholarships, awards and bursaries visit
<http://www.viu.ca/student-services/financialaid/>
(Applications available online after Nov 15th for fall and March 1st for spring)**

3.5 *Student Supplies/Equipment*

Students are reminded to carry spare dry clothing with them on field trips and during their field practicum. It is not uncommon to become wet (and cold) due to bad weather or mishaps.

3.5.1 *Required supplies: (estimated cost - \$600)*

- a) Industrial-style rain gear (slick style not fabric type)
- b) Chest waders

- c) Rubber boots
- d) Field notebook with waterproof paper
- e) Journal (see Item 5.3)

3.5.2 Recommended supplies:

- a) Sharp knife or “Leatherman type” survival tool
- b) Polarized sunglasses – Highly recommended if not mandatory for those planning to work in fisheries.
- c) Personal computer with Microsoft Office: Software can be purchased through the bookstore at a discounted rate
- d) Personal vehicle: Transportation to remote field sites is possible only for those students who have access to a vehicle on the field days.

3.6 Transportation/Accommodation

Students will make their own arrangements for transportation to and from practicum sites and most field trips. **Car-pooling is highly recommended.** Only in some cases VIU may provide transportation for field trips. Any out-of-town accommodation/food is the student's responsibility.

Where VIU vehicles are provided, the driver must hold a valid Class 4 (or higher) driver's license and be registered with Vancouver Island University (VIU policy). Attendance on field trips where VIU provides transportation is mandatory. If significant extra costs are involved, attendance may be optional. You must first discuss this with relevant faculty.

3.7 Use of VIU Equipment and Facilities: Make a Mess, Clean it Up!

Focus on developing a positive work reputation with each other, faculty and practicum contacts (job references).

3.7.1 Coffee / Lunch Room

All public areas (including the coffee/lunch room) must remain clean. This means that if you make a mess, you are required and expected to clean it up. Every year, dirty dishes accumulate in the lunchroom sink and in the lecture rooms. If dirty dishes are left around (in the sink, lunch room or any lecture room), they will be washed and dried by a technician and stored away leaving nothing for you or your colleagues.

3.7.2 Lab and Classrooms: (Building 380)

The course is **not** completed until everything is clean and put away. The facilities and equipment are here for all students and faculty to use. A clean work area is **mandatory**, here and especially in the field.

Note: Failure to develop good working habits will be reflected in course marks. For example, 25% of your project mark (90 series) is based on the cleanliness in your work area. Unscheduled inspections of the various project work areas will occur regularly. Any “mess” will be reported to the respective supervising faculty member upon which disciplinary action will take place including a reduction in your project grade.

3.7.3 The Feed Room (Building 375 :Room 106)

No human food or drinks are to be taken into this room. This is where all the fish pellets, various sturgeon foods, and warm water fish food (bloodworms and beef-heart) are kept. This is a high use area and must be kept clean at all times. If you spill fish pellets etc. immediately clean it up. If you notice we are low on a certain product bring it to the attention of Gord, Dan, Anne, Frank or Dave.

3.7.4 Tank Farms 1 & 2 (Building 375)

Students are not permitted to bring food or drinks and wear earphones in these areas. Gumboots should also be worn because they can be thoroughly disinfected by stepping on the bio-security mats in the entry ways to each farm. Bio-security mats are soaked with a 1% Virkon solution and this should not come into contact with bare skin. If you notice the mats are dry please inform Gord, Dan or Anne.

3.7.5 Microscopes (Building 380: Room 102 & 103)

Students will be using compound scopes (located in cupboard under lab benches in **380-103**) and dissecting scopes + light (located in cupboards in **380-102**) to use for the year. You are responsible for ensuring the microscopes stay clean and in good working order. Dust covers must always be put on before microscopes are stored. For the dissecting microscopes: place the corresponding light source ABOVE the microscope in the designated cabinets in 380-102. At the end of the year, microscopes will be evaluated by Anne or Dan and any unreported damage may be charged back to you.

3.7.6 Access to Facilities & After Hours Use: (Building 375 & 380)

Students will be issued a key card (\$10.00 payable to Frank Dalziel) which will allow entry into building 380 and all labs in building 375. This keycard is issued to specific students and therefore electronic access records are maintained by Facilities. If there are any incidences and your access code is involved you will be questioned and possibly disciplined.

Opening the padlocks to the saltwater well, walk-in coolers, tank farms 1 & 2 and the greenhouse (building 391) can be accomplished with a key on the main key block located outside building 375. The block code is _____. Replace the key block immediately after use!

The greenhouse (building 391) has an alarm which must be disarmed immediately after entry. Please see Gord to obtain the alarm code.

If there are any problems after hours or on the weekends refer to **emergency call out list** located on the bulletin board outside Frank's office.

4.0 STUDENT PROJECTS (AQUA 191T/192T/291T/292T/392)

Coordinator: Mark Noyon (Mark.Noyon@viu.ca)

Projects provide students with further practical experience, and the opportunity to self-tailor the experience and to experiment with unique species. Various project facilities associated with the program are available, and teams of students are assigned to each project. The team is responsible for all aspects of the facility, in consultation with the project faculty representative. Thus, the student is exposed to the daily and seasonal routines with the continuum provided by a single facility. Students can expect to spend 5 to 8 hours on average per week at their projects, which often includes working on weekends. As with most aquaculture endeavors, "**THE CRITTERS COME FIRST**" means that the welfare of the animals or plants takes priority over all other activities.

Each project "team" may consist of both diploma, Post-degree diploma and B.Sc. students. The project work is organized with the assistance of faculty, and adequate records are maintained throughout the terms.

At the end of **each** term, submission of individual project reports may be required for evaluation (discuss this with the faculty representative at the beginning of each semester). Available projects include the following (**Supervisor**):

Microalgae (**Anne McCarthy/Dan Fox**)

Aquaponics (**Anne McCarthy/Dan Fox**)

Chase River SEP Hatchery and Field Studies (**Frank Dalziel / Chris Foote**)

Fish Health (**Duane Barker**)

Shellfish (Invertebrate Culture Projects) (**Stefanie Duff**)

Sturgeon (**Gord Edmondson / Dave Switzer**)

Trout Hatchery (**Mark Noyon**)

Warm Water Fish (**Don Furnell**)

*Other individual projects (must first be discussed with Mark Noyon).

Project tours will be during the first week of classes. After the tours are complete, each student will complete the student questionnaire (separate handout), which includes the ranking of three projects in order of preference. A project will then be assigned to you based on your requests and the labour requirements of the various projects. Every effort will be made to place you at your first choice but due to limited project sizes, you may be

assigned to your second or even third choice. Note: You may change your project after the first semester **only** if there is room in the prospective project.

Note: It is a good idea to keep a daily journal of your project activities. This eases the report writing and some instructors require that you submit your project journal for evaluation. Suggested points to include are: what you did, why it was carried out, what chemicals were used and how were they prepared, why they were used, what you observed and possible improvements, just to name a few.

5.0 FIELD PRACTICA (AQUA 171T/172T/271T/272T/371/372)

Coordinator: Don Furnell / Mark Noyon

5.1 Purpose

The objective of the field station experience is to provide practical experience and exposure to the industry to complement the academic classroom environment. Think of the practicum as a fisheries and aquaculture apprenticeship. Throughout the practicum you may be assigned work which can be routine and sometimes arduous. However, this is representative of any workplace and it is imperative that you understand the full working array of your chosen field. Often it is in the details of a job that true skill development takes place.

Students enjoy their days in the field as this is an integral part of the educational experience as well as a unique opportunity granted to you by the Fisheries and Aquaculture department and the private/government sector.

It is your responsibility to maximize the benefit procured at your practicum field site. At the field site, we expect you to be constantly learning, observing and working well with other employees. It is appropriate (and expected) to ask relevant questions concerning the functioning of the site and details regarding your specific duties.

Benefits of these short apprenticeships often include employment opportunities, either at that particular site or at other associated sites. As these field sites are often looking for new employees you should be aware that staff of the host facilities will be closely observing your performance and attitude, and sharing these evaluations with other sites. Students who work hard and enthusiastically, remain interested in their tasks and communicate well are remembered in a positive light and the benefits follow accordingly.

5.2 Determining Practicum Site Placements

5.2.1 2-year Tech Diploma Students:

In your first year of the practicum the field sites are chosen for you by the field practicum coordinator. Your field practicum locations will be posted on the bulletin board outside of our teaching lab (Building 380 Room 103). Each field site will be visited for 3-4 consecutive Tuesday's after which you will be rotated to another site. You will visit 3 different locations each semester (refer to section 5.7 for potential sites). *Note: in the spring semester, there will be one practicum day here on campus dedicated to the creation of resumes and cover letters as well improving your interview skills. In second year, you will select your field site prior to the beginning of the term in consultation with the field practicum coordinator and will remain at one station for the duration of the year (may be able to schedule a site change for the spring semester). Practicum day is Thursday for 2nd year students and Tuesday for first years.

In maximizing the student's benefit, you may work weekend stints, doubling up days, etc. (You must obtain approval from the field coordinator if your routine is not on Thursdays).

5.2.2 Post-Degree Diploma Students:

Students must complete 2 semesters of practicum. Students should discuss their academic interests and career goals with the practicum coordinator in order to determine the best practicum placement(s). Post-degree students can rotate between various sites, have 1 site placement in each semester, or stay at the same practicum site for the entire year. Your field practicum locations will be posted on the bulletin board outside of our teaching lab (Building 380 Room 103). In maximizing the student's benefit, you may work weekend stints, doubling up days, etc. (You must obtain approval from the field coordinator if your routine is not on Thursdays).

5.2.3 B.Sc. Students:

Students must complete 2 semesters of practicum in the third or fourth year of studies. Students should discuss their academic interests and career goals with the practicum coordinator, in order to determine the best practicum placement(s). Students can rotate between various sites, have 1 site placement in each semester, or stay at the same practicum site for the entire year. In maximizing the student's benefit, you may work weekend stints, doubling up days, etc. (You must obtain approval from the field coordinator if your routine is not on Thursdays).

5.3 Journals

Each student must purchase a hard cover notebook (~23.5 cm by 18.6 cm) for use as

their field journal.

The purpose of the journal is to provide you with a record of useful information including observations and answers to questions you may have. The value of the field experience is greatly enhanced if it is recorded and analyzed. In addition, writing skills improve when critiqued and subsequently marked by faculty members. Furthermore, this journal will provide you with recorded evidence of skill training experiences — this will be essential for future employment.

The journal is a personal record of your experiences, contacts, observations, comments, and opinions. It is therefore, considered confidential between you and the faculty.

5.3.1 Journal Layout

1. Print your last name on all three exposed sides of the journal so that you can readily identify and retrieve your journal from the stack located in the coffee room.
2. Start the entry for each field day on a new journal page
3. Remember to number **all** of your journal pages making it easier for faculty and you to reference specific entries.
4. The **first two pages** of your journal **must** have the following layout:

DATE	FIELD STATION	DAY #	PAGE #	MARK-GIVEN	MARKER INITIALS	DATE-MARKED
				*	*	*

TABLE OF CONTENTS, field site locations of “(your name) “

*For faculty use only. Do not fill anything in these spaces.

5.3.2 Journal Entry Contents

For each field day entry, the information to be noted **must** include:

1. Date
2. Location (include directions to site on first visit)
3. Conditions: water and air temperatures, weather
4. Category of facility (see section 5.7)
5. Contacts / Student Partner
6. Summary / Overview: usually on first day at the site you would give a broad overview including a site diagram and then, on subsequent weeks, give a more focused (detailed) explanation as required
7. Duties Performed: which include—work assigned, techniques used, what you learned, your opinions of how things are done at the facility and questions regarding the facility/work.
8. Comments and Observations: Add commentary such as what you saw or heard, or answers to questions that you asked during the day or thoughts you have regarding the whole process

*Note: Include sketches, brochures, and photos,. Refer to them as Figure 1, 2, 3 etc.

5.3.3 Example Journal Entry

Date: September 10, 2008

*NOTE: this example entry is typed; however, you are expected to submit clear, concise, neatly hand-written entries. **Bold** items are required for every entry.

Location:

No name River Hatchery. Follow Highway 19 north to Horne Lake Road. Turn right and look for the hatchery sign after you cross railway tracks. Park in the area designated for the general public. (*NOTE: *Your first entry at a new site must include a detailed directions, but subsequent visits only require a reference to this entry.*)

Conditions:

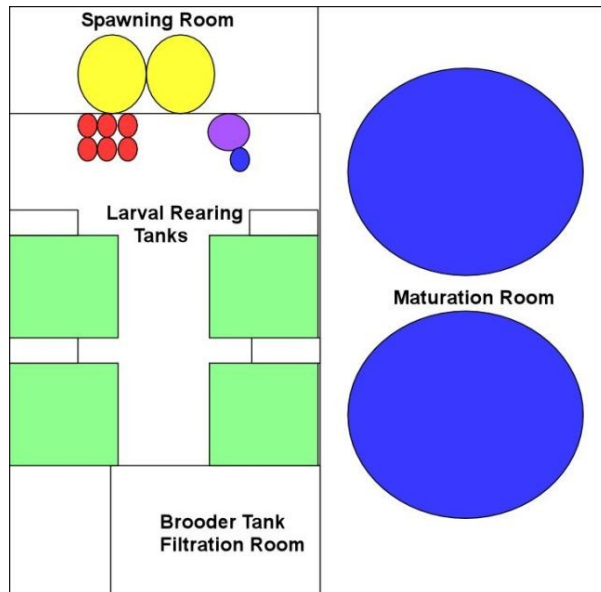
Partially cloudy with some rain and wind. Air temperature 18°C, water temperature 7°C.

Category of facility:

Federal government salmonid enhancement hatchery
(*NOTE: See section 5.7 for category of facility).

Contacts / Student Partner:

Keri Black—Site Manager—Telephone (250) 777-0000
Alvin Smolt—Assistant Manager
Sandy Shore—Technician
Karen Smith—Student partner—Telephone (250) 777-1111



*NOTE: in this example entry only Fig1. is shown. However, since three figures are referenced there should be three figures drawn.

Figure 1. No Name River Hatchery Site lay-out.

Summary/Overview:

This facility rears approximately 25, 000 Pacific salmon such as coho (*Oncorhynchus kisutch*), and pink salmon (*Oncorhynchus gorbuscha*) annually. In the spring, the eggs needed for the hatchery are obtained from wild brood stock located on the site (Fig. 1; *NOTE: *All figures need to be labeled with a figure number and appropriate title*). Both males and females are squeezed to obtain milt and eggs (*NOTE: *It is best that you describe this procedure in detail the first time and subsequently refer to this procedure*). The eggs are placed in a clean bucket and milt is added to fertilize them (*NOTE: *More detail such as the size of the bucket, the number of the eggs and the ratio of sperm to eggs is considered a better entry*). These eggs are then taken to the heath stacks where they can properly develop into viable offspring (Fig. 2). This development takes about 30 days if all goes well. Problems associated with the process include poor egg/milt take, poor fertilization, non-sterile equipment or disturbing the eggs prior to their eyed stage. If the eggs are disturbed prematurely the shock disrupts their development and they cease to develop.

The young fish (alevins) are moved from the heath trays to one of the 5 meter diameter holding tanks (Fig. 3). They remain in the holding tanks for approximately 1 year after which time they are transferred to the wild (*NOTE: *Specifics on locations of release are good to include.*)

Duties performed:

Upon arriving at the farm at 8:00 AM, I was instructed to clean two of the five meter diameter tanks. These tanks were void of water and were being prepared for new O. gorbuscha. Firstly, a special scrubbing brush fastened to a 2 meter handle was used to remove most of the buildup (debris) on the tank walls and base. Once this was done, the tanks were rinsed with a solution of ovadine (*NOTE: *Best to include the concentration of disinfection solutions and also describe the function of new equipment or facilities when you first comment on them.*) to disinfect the tanks. This cleaning process took until 10:00 AM.

After coffee break, I was instructed by Sandy to clean the feed shed. The feed was everywhere and it required two hours. After lunch, I continued cleaning five meter tanks in the same manner described previously. However, these tanks still had water in them which made cleanup faster and easier. I completed my tasks and departed at 4:15pm.

Comments and Observations:

This was a good first day and I learned a lot of new things. I don't especially enjoy cleaning but I realize how important it is in fish husbandry. I'm looking forward to returning to this site next week.

5.3.4 Suggestions and/or comments to create high quality entries:

You will see comments and suggestions for improvement in your journal entries from faculty members throughout the semester. We expect you to read these comments and incorporate them into the following entry.

1. Use and correctly label diagrams wherever possible (figure number, title and description). Figure titles go below a figure, table titles go above a table. The figures help the reader (and yourself in the future) understand the setup, layout, etc. plus, they make your entry look more professional.
2. Explain yourself whenever possible. Make the journal entry complete without adding unnecessary jargon. Do not assume that the reader knows or fully understands brief comments. Include and underline genus + species names (e.g., Salmo salar) of animals you describe.
3. Add your personal comments about the site, personnel, working conditions, improvements, etc. as long as they are objective (**Note: faculty will also be reading and evaluating this part of your entry**). These comments demonstrate to the faculty that you are assessing the working conditions and applying your knowledge to each situation.
4. If you make an error or do not like what you wrote, cross out the information using a single line only (scribbling out information looks unprofessional and the reader may question the validity of the current entry).
5. The entry MUST be very legible. If the faculty member cannot read your entry, he/she will most likely add comments in the margins and, you will probably receive a lower grade than expected or deserved.
6. Use the comments provided by faculty as a means of improving your future journal entries. If you do not use the advice of faculty, future entries will be graded lower. It is in your best interest to learn from these comments. Faculty refer back to earlier entries to see if you have acknowledged and utilized the advice provided.

5.3.5 Journal Due Dates and Submission Protocol

Journals are due the day after practicum is completed and must be handed in before 4:00 pm. After you have completed your journal entry place your practicum notebook on the appropriate shelving units located in the lunch room on the main floor of the Fisheries and Aquaculture building (380). These shelves are labeled Tuesday or Thursday practicum, with the left side for submitted journals (unmarked) and the right side for journals marked by faculty. **Late submission will have 1 point deducted per day overdue.**

5.4 Marking

Journal entries are read and commented on by a faculty member each week, and a mark is assigned for both the journal entry and for attendance at the site. Every effort will be made to return the journals the day before the student goes to their field station. This means that first year student journals will be returned by the **Monday** following their submission and second year journals by the **Wednesday** following their submission.

Attendance counts for **75 %** of your practicum mark the other **25 %** will be determined from journal entries. In order to pass you must attend practicum AND hand in all required journal entries. For example if you have attended all practicums but never handed in a journal you will get an "F" not a 75%. Remember according to section 3.1.1 an "F" results in automatic and immediate **EXPULSION** from the program.

Journals are marked based on 4 categories:

1. Proper journal layout (1,2, or 3 points)
2. Neatness (1,2 or 3 points)
3. Clarity in writing (1,2, or 3 points)
4. Level of detail & personal observations (1,2, or 3 points)

TOTAL JOURNAL POINTS AVAILABLE = 12

The practicum grading scheme used to evaluate students, differs from the standard academic grading scheme used in most other courses. The following system has been adopted:

A+	100—96%
A	95—92%
A-	91—88%
B+	87—84%
B	83—80%
B-	79—76%
C+	75—72%
C	71—68%
C-	67—64%
D	63—60%
F	< 60%

For Example: If a student attended practicum and scored 10/12 on the journal entry the grade would be calculated as:

Attendance: $100 \times 0.75 = 75$
 Journal: $10/12 = 83.3 \times 0.25 = 20.8$

$75 + 20.8 = 95.8 = 96 = \mathbf{A+}$

5.4.1 Unexcused absences

An unexcused absence for any practicum day or any part thereof may result in disciplinary action. Based on the severity of the situation, the student could obtain an "F" for the entire course and enrollment could be **terminated**. A less severe action is to allow a maximum grade of "C" if the student continues with high caliber entries for the duration of the semester. Faculty will decide which course of action is to be taken (case by case assessment). Unexcused absences include missed rides, sickness with no doctors note, sleeping in, just not showing up, didn't realize what day it was, etc.

In the event of an unexcused absence:

1. immediately contact your field site and Don Furnell or Mark Noyon and
2. in your journal write (date, practicum site, who you were able to contact, when you informed him/her of your status and, the reason for your absence)
3. Discuss with Don Furnell or Mark Noyon how to make up the missed field day prior to the semester's end. Failing to do so will result in an "F" in the practicum course thus, terminating your enrollment.

5.4.2 Excused absences

In the event of absence due to sickness, snow, etc., **it is the responsibility of the student to contact both the site manager and practicum coordinators before 8:30 am on the day of the field practicum to inform them of your absence**. You are then required to write one page in your journal regarding the missed field day (station, who you were able to contact, when you informed him/her of your status and, the reason for your absence) .

Acceptable waived field days include:

- Sickness with a doctor's note (call the site if you are ill the morning of your field day);
- Permission from the field coordinator prior to your field day
- Accidents en route to the station (write up all particulars in your journal and contact the station and Don Furnell or Mark Noyon ASAP)
- Poor weather (VIU is closed and/or field site suggested that you **NOT** come in)

In the event of an excused absence:

1. immediately contact your field site and Mark Noyon and
2. in your journal write (date, practicum site, who you were able to contact, when you informed him/her of your status and, the reason for your absence)

5.5 Performance and Safety

The purpose of the field program is to provide the student with industry experience and exposure. If you are paid for your services, you are **NOT** covered under VIU's policy and WCB. Therefore, you must not be paid for services rendered during the scheduled field days. Failure to follow this rule will result in remedial action. An agreement between the field site personnel and the student can be made if it entails working at the site **outside** of the scheduled routine.

The student is expected to treat the field station assignment as a regular job; however, under no circumstances is the student expected or required to perform tasks in a manner, which are unsafe or illegal. If any problem develops, the student should refuse to risk their (or anyone else's) safety. It is required to document such incidents, and report them to the field program coordinator (Don Furnell).

5.6 Frequently asked practicum questions (FAQs)

1. How do I set up my journal entries?

See pages 12—16 of this handbook.

2. What do I do if I am sick?

Contact your field site and Don Furnell prior to 8:30 am of your practicum day. A doctor's note will allow you to be excused from the day; otherwise, it will have to be made up at the host facility.

3. What do I do if the weather is bad?

Log onto the VIU website (www.viu.ca) to check for closures. If VIU is closed, you are not expected to attend your field site. Contact your field site and Don Furnell prior to 8:30 am of your practicum day. Sometimes if VIU is open, your site contact will suggest you do not drive to the site (e.g., the weather in Port Alberni is sometimes worse than Nanaimo).

4. What do I do if I am sent home from the field site due to lack of work?

Contact Don Furnell ASAP

5. What do I do if I have missed my ride or if I have vehicle problems?

Contact your field site and Don Furnell prior to 8:30 AM of your practicum day. This is **NOT** an excusable absence. You will have to make up the day on your own time.

5.7 *Practicum Sites*

- 1. Big Qualicum River Hatchery** (ETA 1 hr) Les Clint cell: 757-8412
Category: *Federal government salmonid enhancement hatchery*
Follow Hwy. 19 north to Horne Lake Rd. Turn right and look for hatchery sign after you cross railway tracks (#215 Fisheries Rd.). Park in the area designated for the general public.
- 2. Centre for Shellfish Research** (on campus) Simon Yuan Tel: 740-6359
Category: *University & Industry Research Facility*
On Campus Building 373
- 3. Cowichan River Hatchery** (1 hr) Don Elliot Tel.: 746-5741
Category: *Community-operated salmonid enhancement hatchery*
Travel south on the Island Highway until just past the Village Green Inn in Duncan. Turn left onto Boys Rd. (first corner after the bridge over the Cowichan river) and follow the road to the junction. Turn left and continue to the hatchery.
- 4. Little Qualicum Spawning Channel** (50 min) John Hargrove Tel.: 752-3231
Category: *Federal government salmonid enhancement hatchery*
Take Highway 19 north, bypassing Parksville. Exit at Qualicum Beach/Port Alberni exit. Follow Hwy. 4 and turn left onto Hwy. 19A (Hwy. 4 intersects with Hwy. 19A; Payless Gas Station is on the corner), follow it north past Shady Rest Pub and watch for sign on right. Turn left on Garrett Rd and follow to end of pavement. Follow Laburnum Rd over railway tracks. You are forced to go right (Claymore Rd). Cross over the single lane bridge (about 1.5 km down road) and look for facility sign. Follow gravel road (sign says no vehicle access beyond this point) to main building. Note: If the road is snow covered, use a four-wheel-drive vehicle only, or call ahead to be picked up at the highway.
- 5. Mac's Oysters** (40 min.) John Foster Tel.: 897-5149
Category: *Private commercial shellfish farm*
Follow Highway 19A bypassing Parksville. Turn right at the Denman Island ferry exit and continue to highway 1 (old highway). Turn right and the facility is on your left.
- 6. Marine Harvest Canada** (TBA) TBA
Category: *Private commercial salmonid facility*
- 7. Nanaimo River Hatchery** (20 min.) Henry Bob Tel.: 245-7780
Category: *Nanaimo River Stewardship Society salmonid enhancement hatchery*
South of Nanaimo on the Island Highway, turn left just before the Cassidy Inn (approx. 10 km from Nanaimo), and follow the gravel road to the left. Park outside the gate.

8. **Ocean Farms Hatchery** (1 hr) TBA Tel.: 748-2103

Category: *Private Commercial salmonid production hatchery*

Drive south on the Island Highway 1 km south of downtown Duncan. Turn left just after the Farmers' Market and then the first right (Corfield road). They are located at the end of the road (brown fence surrounds property). The address is 2654 Corfield Road.

9. **Pacific Biological Station** (20 min.) Various site contacts Tel: 756-7000

Category: *Federal government research facility*

Follow Departure Bay Road north along the bay. Turn right onto Hammond Bay Road, and watch for a sign on the right. Go through parking lot to far side of building. Park in visitors area, report to commissionaire's office and ask for the appropriate contact.

10. **Puntledge Hatchery** (1.5 hrs) Bryan Munro Tel.: 703-0909

Category: *Federal government salmonid enhancement hatchery*

Travel north on the Island Highway and take the first exit on the right for Courtenay. Turn left at the first light, then left onto Marsden Rd. Next, turn right onto Lake Trail Rd., then

11. **Robertson Creek Hatchery** (1.25 hr) Kevin Bilton Tel.: 724-6521

Category: *Federal government salmonid enhancement hatchery*

Drive to Port Alberni and continue west towards Tofino (Highway 4) for approximately 14 km. Turn right onto Great Central Lake Road, and watch for hatchery sign on the right.

12. **Sea Springs Hatchery** (45 min.) Peter Griffiths Tel.: 246-9191

Category: *Private Commercial salmonid production hatchery*

Travel south on the Island Highway to the Cowichan area. Watch for Red Rooster Café / Tempo Gas Station on right prior to a stop-lighted intersection. Turn right at the intersection onto Mt. Sicker Road. Enter unmarked driveway directly in front of you and follow it around to the hatchery.

13. **Vancouver Island Trout Hatchery** (1 hr) Tony Massey Tel.: 746-5180

Category: *Freshwater Fisheries Society of BC Salmonid Enhancement Hatchery*

Follow Island Highway south to Duncan. Get in left hand lane and turn left onto Trunk Road (Chevron is on other side of road at corner of Trunk and Island Hwy.). Turn right onto Marchmont Road at the first set of traffic lights. Follow the signs to the hatchery.

5.7.1 Potential Practicum Sites:

1. **Evening Cove Oysters** (20 min.) Andrew Dryden Cell: 616-7882

2. **Vancouver Island University
Fisheries & Aquaculture Department** Gord Edmondson Tel.: 250-753-3245 x 2613
Find Gord or Anne at 9:00 a.m. in the hatchery area.

3. **University of Victoria** (2.0 hrs) Brian Ringwood 250-721-7139 Cell: 250-883-6807
Travel south on Island Highway to Victoria. Turn left on to McKenzie St. and follow to the
end of the road (ends at University of Victoria's door step). You can either park on Cedar
hill cross road (3 hour free parking) or pay for parking (\$4.00/day). Once on campus, lo-
cate the Outdoor Aquatics building and ask for Brian.

4. **Island Seafarms** (Mussel Hatchery on Salt spring Island)

5. **Sablefin Hatchery** (Sablefish Hatchery on Salt spring Island)

6. **Fanny Bay Oysters** (Largest oyster / clam / mussel farm in BC)

7. **Redfish Ranch** (Tilapia farm: land based re-circulating system)

8. **Ocean Discovery Centre** (Sidney Aquarium)

9. **Bamfield Marine Sciences Centre**

10. **Vancouver Aquarium**

11. **DLG Marine Research Ltd** (Cedar, BC) Sablefish Hatchery

6.0 FIELD TRIPS

Generally, transportation, meals and accommodation are the responsibility of the students. At various times, for specific courses, field trips will be arranged. It is the responsibility of the students to ensure their own safety and comfort by arranging for and providing the necessary personal clothing and field equipment. **Life jackets will always be provided.**

Note: There will be a cost of \$20.00 per person for the Vancouver Aquarium / Skretting trip in April of first year.

7.0 MISCELLANEOUS COURSES

7.1 *Swift water rescue*

Swift water rescue is now mandatory for D.F.O. field workers. It is quite expensive (> \$550) but is well worth your time if you plan to work with either the federal or provincial governments. For those interested, contact Darren Hebert (NREP).

7.2 *Small Boat Handling*

Students are encouraged to have a small boat-handling course. By September 15, 2009 it will be mandatory for every person operating any powered craft to be certified in small boat handling. A course will be offered to students sometime during the spring semester shop skills class (AQUA 162T).

7.3 *Electrofishing*

It is the intention of the program to include background information on electrofishing safety, and an opportunity will be available for certification during the spring semester. If you plan to work in the fisheries field, having electrofishing certification is generally required. For further information, contact Darren Hebert. (NREP)

7.4 *First Aid*

Occupational First Aid (WCB - Level 1) is a mandatory part of the program and will be provided for an **additional** cost of about \$90. Students should also consider expanding this with further emergency aid training including wilderness first aid or WCB level 2 first aid.

7.6 *Small Engines*

This course is no longer a required component of the program. It was, however, considered by some graduates to be extremely valuable - from a survival viewpoint in the industry. This course is still offered at VIU so, if you are interested in taking it in addition to your regular workload, you should contact Greg Klimes (RMOT chair).

7.7 *Summer Practicum*

Completion of this course requires the student to orally present his/her summer work experience to the faculty and students of the fisheries and aquaculture department. For additional information about format, etc., contact Don Furnell.

The summer work site must be either Fisheries or Aquaculture related if the student wants to complete the course requirements and, receive his/her diploma or degree. 2-year technical diploma students normally complete their summer practicum between first and second year of the program; Post degree diploma students, complete it after his/her year of study; degree students can complete it between second and third year or, third and fourth year. If a student does not secure Fisheries or Aquaculture related work during the summer period, the oral presentation and the report will be deferred until after their first four months of work experience (after course completion), on consultation with Don Furnell.

Note: If you are in doubt whether your summer job will be an acceptable practicum, contact Don Furnell before the spring semester ends.

8.0 CREDITS FOR GRADUATION

Currently, 73 credits are required for graduation from the 2-year diploma program, 30 credits from the post-degree diploma and 130 credits from the degree program (refer to our website for updates). Note: The summer practicum is a program requirement, and graduating requires a passing grade in all courses.

8.1 *Advanced Credit*

It is possible to "challenge" courses based on previous background or to receive credit for work done at other institutes. The challenge may take the form of a project, exam or interview at the discretion of the instructor of the course in question.

If advanced credit is granted, the student must take a form, signed by the instructor, to the Registrar so that the credit will be shown on the transcript. It is the student's responsibility that credits be accounted for and cleared with Registration. This is especially important for post-degree diploma students: acceptance in the program does not mean your advanced credits are recorded by Registration.

8.2 Graduation Requirements

Before a diploma can be issued, all courses must be satisfactorily completed. In the past, outstanding essays and projects have often delayed and prevented graduation. Unless otherwise arranged, students have only three months after their expected graduation to complete all requirements. After this time, an "F" grade will automatically be assigned and students will be required to re-register, pay for the course or courses and, complete all of the course requirements.

Note 1: The grace period only applies to AQUA and FISH courses; most of the other departments will not be so lenient.

Note 2: Generally, students are prevented from receiving their diploma or degree due to the incomplete summer practicum. Many students have completed the work component but failed to present orally and, submit a write-up. Remember: In order to work in many countries, you must have a post-secondary diploma or degree.

9.0 MISCELLANEOUS

9.1 Security

This is everyone's responsibility. Stock, stores and equipment are at risk in the Department, and every effort must be made to prevent losses. The basic common sense rules are i) to close and lock doors and gates during off hours (even if you're only away for "a minute") and, ii) to be vigilant about not leaving equipment in unsecured areas (especially outside). Note that whenever you use your access card, it is permanently logged into the computer system with the date and time. Therefore, if you fail to lock a door or, leave it opened for someone else, the responsibility is on you to make certain that the door is secured. If something disappears from that room, the last person that logged into that room is **held responsible**. Frank Dalziel will provide security cards and keys to students as required. If you need access, see Frank. NB. Keys must be returned to Frank Dalziel when classes are completed. Transcripts will be withheld until such keys are surrendered.

9.2 Parking

The main parking lots are for students. If your vehicle is parked in the faculty area, in or around the hatchery and offices or, along the fire road, it will be removed **at your expense**. It is strongly recommended that you purchase a parking pass (the student rate is \$15.00/month, \$62.50/semester, \$125.00/year). Otherwise, you can expect to pay \$3.00 per 9 hours. Passes can be purchased online <https://records.viu.ca/parking/stuparkreq.htm> or in Building 315 Room 110.

10.0 Contact Information

10.1 Fisheries and Aquaculture Department Faculty (www.viu.ca/fisheries)

	Title	Local	Email
Dr. Don Furnell	Professor / Fish Physiologist	2467	Don.Furnell@viu.ca
Dr. Chris Foote	Professor / Fisheries Ecologist	2406	Chris.Foote@viu.ca
Mark Noyon, M.Sc.	Dept. Chair / Professor / Civil Engineer	6371	Mark.Noyon@viu.ca
Dr. Duane Barker	Professor / Fish Health Parasitologist	2296	Duane.Barker@viu.ca
Dr. Stefanie Duff	Professor / Invertebrate Ecologist	2074	Stefanie.Duff@viu.ca
Dr. Stefanie Duff	Professor / Invertebrate Ecologist	2074	Stefanie.Duff@viu.ca
Frank Dalziel	Technologist / Chase River Hatchery Manager	6370	Frank.Dalziel@viu.ca
Gord Edmondson	Technologist / Hatchery Manager	2613	Gordon.Edmondson@viu.ca
Anne McCarthy/Dan Fox	Technologist / Lab Manager	2100	Anne.Mccarthy@viu.ca Daniel.fox@viu.ca
Kayla Mohns	Student Hatchery Tech.	Cell: 250-714-5618	
Chase River Land Line		250-753-1951	

10.2 Centre for Shellfish Research: Building 373 (www.viu.ca/csr/)

	Title	Local	Email
Don Tillapaugh	Director	6113	Don.Tillapaugh@viu.ca
Dr. Helen Gurney-Smith	Research Scientist	6381	Helen.Gurney-Smith@viu.ca
Brian Kingzett	Field Station Manager	6399	Brian.Kingzett@viu.ca
Stephanie Richards	Administrative Coordinator	6398	Stephanie.Richards@viu.ca
Koren Bear	Shellfish Training Manager	6537	Koren.Bear@viu.ca
Simah Dodd	Projects Coordinator	6537	Simah.Dodd@viu.ca
Simon Yuan	Facilities Manager	6359	Simon.Yuan@viu.ca

10.3 Natural Resources Extension Program: Building 380
(www.viu.ca/nrep)

	Title	Local	Email
Darren Hebert	Fisheries/Habitat Projects Coordinator	6377	Darren.Hebert@viu.ca
Krista Convey	Program assistant	6165	Krista.Convey@viu.ca
Chris Godfreyson	Project Worker	6305	Chris.Godfreyson@viu.ca

10.4 National Research Council of Canada: Building 373
(www.nrc-cnrc.gc.ca)

	Title	Local	Email
Dr. Warren Nagata	Industry Technology Advisor	6348	warren.nagata@nrc-cnrc.gc.ca

10.5 International Centre for Sturgeon Studies
(www.viu.ca/sturgeon/index.asp)

	Cell Phone	Local	Email
Gord Edmondson	250-714-5843	2613	Gordon.Edmondson@viu.ca
Dave Switzer	250-618-5895	2809	Dave.Switzer@viu.ca

10.6 Research Associates

Dr. Richard Beamish, Pacific Biological Station
 Bill Bennett, M.Sc., Pacific Biological Station
 Dr. Kees Groot, Pacific Biological Station (retired)
 Dr. Gordon Hartman, Pacific Biological Station (retired)
 Dr. Dave Lane, VIU Professor Emeritus
 Dr. Bill Pennell, VIU Professor Emeritus & Institute for Coastal Research
 Dr. Chris Pearce, Pacific Biological Station
 Dr. Tim Dejager, AquaPort
 Dr. Craig Stephen, Centre for Coastal Health
 Rob Marshall, Ph.D. Candidate—Pacific Biological Station
 Dr. Simon Jones, Pacific Biological Station
 Dr. David Welsh, Kintama Research