

PROGRAM MANUAL

for the

ENVIRONMENTAL CONSERVATION PROGRAM

by

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Skagit Valley College
Mount Vernon Campus

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Preface

This manual has been developed to help the Environmental Conservation Program students at Skagit Valley College. The objectives are to help you get organized, well prepared, and provide a framework for your two years in the program. The manual will provide you with overall program guidelines and answer most of your questions regarding the Environmental Conservation Program. However, not all of the answers concerning your attendance at SVC will be found in this manual. You should also consult with a counselor or a department faculty member. Additionally, make sure you read through the SVC student handbook.

I would like to thank graduated students for their many helpful suggestions and ideas on improving the program and this manual. Finally, continuous work from advisory committee members is greatly appreciated. They have provided the program with invaluable ideas and improvements.

DR. CLAUD R. SVENDSEN

Department Chair

Mount Vernon, Washington

September 2005



I. Introduction

This manual has been developed to help new students entering into the Environmental Conservation Program. It includes answers to the majority of the questions asked in the past. In addition, a list of needed equipment has been included.

The manual also covers most safety issues in the field as well as in the laboratory. However, if you are in a situation not covered in this manual, ask an instructor for guidance. It is extremely important that you read through the entire manual. After reading the manual you *must* sign the two forms at the end of the manual and return them to the instructor within the first week of classes. One is to assure that you have read the manual and the second concerns liability during field trips.

I hope you will enjoy the program and grow in many ways during the next two years.

II. History of the Environmental Conservation Program

The Environmental Conservation Program was initiated Fall Quarter 1992. The previous two years were used to plan and initiate the program. The key people behind the creation of the program were State Representative Mary Margaret Haugen, Dr. Jim Ford, Bert Williamson, Susan Tinker, and a number of people in the community. During the summer of 1994, the NW Natural Resources Technologies Consortium was formed with the Environmental Conservation Program at SVC as one of the driving forces. The mission of the consortium is to ease transferability between community colleges and transferability to four-year colleges and universities, and to educate potential employers about environmental technicians.

During the academic year of 1994/95 an additional track for marine technician was added. Furthermore, a class in Forestry Techniques was incorporated as a supplement to the curriculum.

Program development continued in 1996. The curriculum requirements for English and math have been strengthened as requested by the advisory board. In addition, courses in Geographic Information Systems were launched in 1997. Further development is projected to continue with additional advanced classes.

In the autumn of 2001, the Environmental Conservation Program was asked to join a national committee to develop curriculum standard for water science technicians for the U.S. The primary focus is the use of real-time data, available on the web through Water on the Web (WOW) and other sites, using visualization tools and virtual textbooks. This effort will take three years. Students enrolled in the Environmental Conservation Program will be among the first ones to experience and evaluate this new curriculum.

Beginning Fall Quarter 2002, a new Parks option became available within the Environmental Conservation Program (see sample schedules VIII B). In the spring of 2003, new transfer options to four-year institutions were established.

Due to a demand from both students and industry a water treatment option is now available.

III. Program Mission Statements and Goals

It is the mission of the Department of Environmental Conservation to:

- ❖ Provide quality environmental and ecological courses for the public
- ❖ Provide students with an ATA and/or transfer degree leading to competencies that meet business and institutional standards for the workforce of today and tomorrow.
- ❖ Prepare individuals for placement as environmental technicians within the natural resource or marine areas.
- ❖ Provide education for a sustainable future.

The Department has the following goals:

- ❖ Provide state of the art environmental/ecological/biological classes.
- ❖ Provide a learning environment that stimulates rigorous and logical thinking.
- ❖ Provide understanding of biological systems and their environmental context.
- ❖ Develop problem-solving skills.
- ❖ Develop the ability to write technical reports within the natural resource area.
- ❖ Provide the skills necessary to design data collection and field sampling techniques.
- ❖ Develop the ability to perform descriptive statistics.
- ❖ Develop the ability to distinguish science from pseudoscience.
- ❖ Broaden the students' appreciation and working knowledge of our natural world and its underlying skills.
- ❖ Provide individuals with a global perspective, which appreciate biological and human diversity.

IV. Services

A. ADVISEMENT AND REGISTRATION

Students are expected to read the college catalog for a complete understanding of all ATA requirements. You are responsible for keeping an accurate record of your progress. You may request a transcript from the Registration Office at any time. Students must register at assigned times as specified in the college schedule issued quarterly. If you fail to register by the specified date, another student may fill your position.

B. DEGREE AUDIT

The computer assisted degree audit is designed to assist you in determining where you are in relationship to your degree plan. It is not an official degree evaluation. Official degree evaluations must be completed by the college evaluator. Forms for requesting an official evaluation are available at the Registration Window. The audit is divided into distribution requirement sections. The courses you have taken are listed under the appropriate sections. On the right hand side of the column is the statement, "Remaining requirements": There are three possible codes listed: (O) = Requirement completed; (R) = Requirement still outstanding; (TR) = transfer credit. For questions regarding your computer assisted degree audit, please contact your advisor. Please be sure to base your evaluation on the year that you started at SVC. This is your catalog year and will determine which requirements for graduation you will be evaluated against.

C. COUNSELING

Skagit Valley College counseling services are available to all students. Each vocational program has one counselor assigned as a program liaison. Generally the liaison is more knowledgeable about the program than other counselors. Currently, Leslie Peebles serves as the program liaison for the Environmental Conservation Program.

D. FINANCIAL AID

The college is interested in assisting students in need with obtaining financial aid. The term "financial aid" means any money resources that will help pay for the costs of attending college. It may include federal grants, part-time employment on campus, loans, state tuition waivers, and a limited number of scholarships. Some funds have definite deadlines for application; therefore, if you need financial aid, we urge you to seek assistance as early as possible. All necessary forms are available in the Financial Aid Office. Pick up the forms in person, or write to the office requesting a packet of materials to be mailed to your home address.

Students on financial aid are required to obtain signatures from instructors on a regular basis. To speed up the process, it is required that forms are filled out before obtaining signature.

E. TUTORING

If a student is having difficulty with studies, tutorial help is available on campus. There is no charge for this service. Contact the Student Support Services Program in Lewis Hall or your instructor for more information. In addition, peer mentoring is available from second-year students.

F. AVAILABLE JOBS

Information about job openings is available on the bulletin board near the counseling center. In addition, there is a job center located in the counseling center that has additional information about jobs and potential employers. The Environmental Conservation Program has a separate bulletin board available for part-time and full-time job opportunities. The bulletin board is located in the Environmental Conservation Classroom. Remember that these bulletin boards are provided for you as an addition to a normal job search, not as a substitute. (Also see Section X Employment, page 40.)

Visit the Career Services website for more information on career, occupation and employment resources: (http://www.skagit.edu/directory.asp_Q_pagenumber_E_52).

G. GRIEVANCE POLICY

A summary of steps to take regarding a grievance is as follows:

- Step I - Talk with your Instructor about the problem.
- Step II - If the problem still exists, make an appointment and talk with the Department Chairperson.
- Step III - If the problem still exists, please make an appointment to see the Dean of Professional/Technical Programs.
- Step IV - Consult the SVC student handbook for details regarding grievance procedures

H. LIBRARY/AUDIO-VISUAL

Library:

The library has numerous books, journals, and other resources available for your use. Most of the supplemental reading material you will need for the program is in the library. The most frequently used books and magazines are kept on reserve at the circulation desk. Some of these are for library use only; others can be checked out for varying periods of time.

If you need special information that is not available in our library, a reference librarian will help you with an interlibrary loan request. Often we can get the material in three or four days; however, it could take from ten days to two weeks and, in some rare cases, even longer.

Remember that you must plan ahead and be prepared to wait.

The following books are available resources in the library:

Environmental Encyclopedia. 1984. W.P. Cunningham et al. (Eds). Gale Research Inc., Detroit, MI. 981p. Call No. R363.7003 ENVIRON.

The Encyclopedia of Ecology & Environmental Manager. 1998. P. Calam. Editor-in-Chief. Blackwell Science, Oxford, England. 805pp. Call No. R363.7003 ENC/eco

The Dictionary of Ecology and Environmental Science. 1993. H.W. Art (Gen Ed). Henry Holt & Co., NY. 632pp. Call No. R363.7003 DICTION.

Audio-Visual (A-V):

Many materials are available in non-print formats, such as filmstrips, videotapes, or slide-tape programs. This material is located in the audio-visual section of the Library-Media Center. It will be checked out to you to use on the machines in the A-V area.

The first few times you use the equipment, you may want some assistance. The material is quite durable, but it can be damaged and you will be responsible for both equipment and material.

Our library and A-V staff is a good source of information. If you have any difficulty locating necessary information, be sure to ask for assistance.

Non-paper Format:

The world is rapidly becoming more electronic when it comes to communication and distribution of reports, articles, and data. There are several options that you need to be familiar with:

- ❖ The World Wide Web (www). Today nearly all organizations and institutions have extensive websites where you will have to seek information.
 - Publications are increasingly being published electronically as html or PDF files. They are distributed as a downloadable file within a website or on CD-ROMs.

- Government reports, manuals, and regulations are often distributed as a CD-ROM or can be downloaded from an agency's website.
- Old government reports are likewise getting scanned and put into a PDF file that can be downloaded. For example, the Forestry Ministry of the Provincial Government of British Columbia has made all reports ever written available in PDF.
- Search engines like Google, Yahoo, and MSN are getting more and more powerful.
- Scientific journals are now nearly always published electronically. There are a few that only exist in electronic format.

I. ENVIRONMENTAL CONSERVATION BULLETIN BOARDS

Located inside the Environmental Conservation Program Classroom are a number of bulletin boards. One section is reserved for program employees and is used for displaying newsletters, job announcements, SVC news, time and date for final exams, etc. Another section is allocated for student use, including the Environmental Club. When posting a subject matter, be sure to date it or it will be removed. Do not post material advertising sales of any kind. Included are a number of publications available for your use in the classroom only.

An electronic bulletin board is available through the SVC Website. The Environmental Conservation Program home page contains pertinent information regarding the program and its students. Class syllabi and some student assignments are available on-line. The following topics are available:

| | |
|------------------------------|------------------------|
| Program Information | Students |
| Program Options | Environmental Club |
| Course Offerings | Program Advisory Board |
| Department Personnel | Potential Employers |
| Department Research Projects | Local Groups |

Please make sure that you keep yourself informed about current events in the region.

J. ENVIRONMENTAL CONSERVATION NEWSLETTER

A newsletter highlighting student projects, department research, and student employment successes as well as ecological news are published electronically on the SVC Home page (Faculty & Departments page). Students interested in participating in the production should contact Dr. Svendsen for details. College credits are available.

K. STUDENT ENDNOTE

A database containing articles, reprints and journals is available to program students. Materials are organized in the file cabinets by assigned numbers. The material can be searched by topic using the classroom computer (afternoons). The database is in Endnote[®]. Demonstration on the use of the program is available by request. The database will provide you with a reference number corresponding to the number in the file cabinet. After locating the material, fill out a slip and put it in the box. Material may only be checked out for 14 days.

L. INTERNET RESOURCES

The Internet is a tremendous resource. There are numerous credible websites developed by governments (EPA, WADOE, USGS, WADFW), non-governments organizations (UN, The Wildlife Society, Society of Ecological Restoration). However, there are also numerous sites with zero credibility.

A few interesting sites:

www.epa.gov/wateratlas

www.ejobs.org

www.epa.gov/owow/wetlands/bawwg/publicat.html

www.fishbase.org

www.USGS.gov

www.nap.edu

IV. Program Expectations

A. CHANGE OF NAME AND/OR ADDRESS

Any change of name, address, or telephone number must be reported to the department. The department needs current telephone access to all students. Report change of name and address to the office of the Registrar of the college.

B. TRANSPORTATION

Students are responsible for their own transportation to and from school. In some cases, it is required that students carpool to and from locations of field trips near the college. Students may be required to drive without compensation during their cooperative education.

Skagit Valley College's Environmental Conservation program provides transportation on all field trips unless the instructor makes other arrangements. In some cases, carpooling is used when the field site is within a few miles. Skagit Valley College, the Environmental Program and the instructors are not liable in any way for students and their vehicles, or for any persons riding in said vehicles on field trips when driving on their own.

If a student does not wish to return from the field trip with the rest of the class in the college's transportation system, Skagit Valley College's responsibility automatically terminates as soon as the field trip's objective is concluded.

Often classes meet at locations other than the main campus in Mount Vernon. In these situations, the student provides his or her own transportation, unless provided for by the instructors, as they would from their own home to the main campus. This is not considered a field trip.

In certain situations, arrangements can be made between the student and the instructor to meet and be picked up at points of departure other than the main campus if it is convenient to the student and instructor. The college, the Environmental Conservation Program and instructors will provide transportation and responsibility to and from this pickup point.

Persons driving school vehicles, other than the instructors, are responsible for the vehicle, the occupants, and their conduct.

For safety, repairs in case of accidents, need for gasoline, or other unforeseen problems, the vehicles must stay together whenever possible.

Any changes necessary will be made at the discretion of the instructor leading the field trip. Disciplinary problems will lead to disciplinary action and removal of privileges and activities.

C. SAFETY/EMERGENCY PROCEDURES

You are fully responsible for your own safety while in the laboratory and on field trips. Always follow the instructor's directions. Be very careful around glassware and chemicals during laboratory time. **Always use safety glasses and gloves**, which are provided by SVC. Ask your instructor. Regarding biohazards, familiarize yourself with Appendix A in this manual. In addition, MSDS (material safety data sheets) are located in the file cabinet next to the prep room door (N102). An eyewash station is located at the sink by the same door. A fire extinguisher is also present. Do not store food in the lab refrigerator due to the presence of chemicals and biohazards.

When on field trips you **must** buddy-up with one or two persons to assure that you are never completely alone, even when going to the bathroom in the field. People have been known to become disoriented and get lost within a few minutes. Students displaying unsafe behavior during lab sessions and on field trips will be prohibited from attending the program.

In case of an emergency, leave the building as quickly as possible. Assist anyone who need help to evacuate. Leave materials and backpacks behind. The building will be locked. The building is to remain evacuated until cleared by Emergency Response Personnel.

D. HEALTH STATUS AND IMMUNIZATIONS

Students must be in good physical and mental health. A TD (Tetanus Diphtheria) immunization is required; it can be obtained from your private physician or local Health Department.

E. PHYSICAL DEMANDS

This section refers to physical demands for graduated students in an average job situation.

Description of Essential Functions:

Field work will be approximately 60% of the job and will include conducting tests and field investigations to obtain data for use by environmental, engineering and scientific personnel; collecting water samples from streams and lakes, or raw, semi-processed or processed water to assess pollution problems; collecting various types of soil, silt, or rock to determine chemical composition and nature of pollutants. Collection of biotic material, census and survey sampling are also routine work in most natural resource organizations. Restoration work of streams may sometimes require heavy work, but does not apply to all positions.

The remaining 40% will be office work and will include report writing and possible presentation of fieldwork findings, computer usage and lab testing.

MACHINERY / TOOLS / EQUIPMENT: Turbidity meter, water analyzer, current velocity meter, pH-meter, and other equipment as needed by this industry. Occasional use of heavy machinery – may not apply to all positions.

SHIFT: HOURS / DAYS PER WEEK: Full-time; longer hours Spring and Summer.

QUALIFICATIONS NEEDED: College level coursework in Environmental Conservation or Biology.

Physical Demands:

The following categories have been established:

- Not applicable
- Occasional (10-30% of the time)
- Constant (over 70% of the time)
- Seldom (1-10% of the time)
- Frequent (30-70% of the time)
- * Denotes estimates

| | FREQUENCY | COMMENTS |
|-------------------------|--------------|---|
| Sitting: | Occ-Freq | depending upon field or office work less sitting during fieldwork. |
| Standing: | Occ-Freq | |
| Walking: | Occ-Freq | |
| Driving: | Occasional | to go to job site - could be on logging roads to reach outer areas. |
| Lifting: 35 lbs. | Occ. | from floor to shoulder (backpack) |
| 10 lbs. | | Freq. from floor to waist (samples) |
| Carrying: 35 lbs. | Occ. | for up to 5 miles, depending upon trail or road location. |
| Pushing/Pulling: | Seldom | with less than 10 lbs. of force; pushing equipment into truck/van/auto. |
| Climbing stairs | | N/A |
| Climbing ladders | N/A | |
| Working @ heights | | |
| Balancing: | | Seldom possibly standing on fallen trees or walking on logs across streams. |
| Bending @ waist | Occ. | putting equipment into vehicle. Other times crouch/squat possible |
| Twisting @ waist: | Occ. | most time full body turns possible |
| Crouching: | | Occ. to collect samples |
| Kneeling: | | Occ. to collect samples |
| Crawling: | Seldom | Dependent on terrain |
| Reaching: | | |
| Below knees: | Frequent | to collect samples |
| Knees to shoulder: | Occ-Freq | for office work and possibly to collect samples |
| Above shoulder: | Seldom | |
| Repetitive arm motion: | N/A | |
| Repetitive hand motion: | Occasionally | for computer use |
| Handling/grasping: | Frequent | sample bottles and meters |
| Hand (power) grasp: | Occ-Freq | more during fieldwork |

| | | |
|---------------------------|----------|--|
| Finger (pinch): | Occ-Freq | for note taking in field and use of field equipment. |
| Fine Finger Manipulation: | Frequent | push buttons etc. |

Dominant hand use required:

| | |
|----------|---|
| Constant | with writing; sample taking and computer usage. |
| Left | WNL† |
| Hearing | WNL |
| Seeing | WNL |

Other Factors

| | |
|----------------------------|------------|
| Whole Body | N/A |
| Upper extremity vibration: | N/A |
| Noise: | low/medium |

† Within normal limits (WNL)

Above or below normal temperatures are typical for the Pacific Northwest Region and should be considered as part of the job. Fieldwork will be done in all seasons and during most weather conditions. Employee's hands could be wet frequently during fieldwork.

This analysis was based on the guidelines described in the Handbook of Analyzing Jobs published by the U.S. Department of Labor.

All concerns regarding disabilities should be directed to Eric Anderson, who is coordinating and counseling disabled students. Help needed for disabled students should be directed to Eric Anderson.

F. INSURANCE

All students are strongly encouraged to carry their own medical insurance because they are responsible for their own medical expenses. Medical insurance is available to students through the college at a reasonable price. Check with the registration office about current cost. Any accidents happening at school or on field trip should be reported to the instructors immediately. You should also pay attention to changes in the legislation regarding health insurance reforms in Washington.

During cooperative learning, students must carry their own insurance unless provided by the employer.

G. CONFIDENTIALITY

The instructor cannot release any information regarding a student to a third party. This includes telephone number, address, etc. Also, do not have friends and relatives call to ask for your whereabouts. It is illegal for us to confirm your presence. In case of emergency, call the Registration Office and leave a message, which will be delivered by security. You **must** pick up your own exams.

Letters of reference are separate from the above mentioned restrictions. Upon written request from a program student, faculty may make written or oral references.

H. HONESTY

The Environmental Conservation Program of Skagit Valley College expects its students to be honest in all of their assigned work. This includes the avoidance of plagiarism in all assignments. (See also X, E, page 38).

By signing the form at the back of this handbook, the student commits to honesty in the academic setting. Failure to comply with this commitment may result in disciplinary action up to and including expulsion from the program.

I. TESTS AND REPORTS

Examinations are to be taken as scheduled. If an emergency occurs, it is your responsibility to contact your instructor in advance of the test and to arrange to make it up as soon as possible. Failure to notify the instructor or to take the test within a week may result in receipt of zero for the test. Exams, which need to be taken at a time other than the scheduled time due to illness or extreme extenuating circumstances, will be taken at the Testing Center. A fee of \$5.00 must be paid at the Registrar's Office prior to taking the test. Check with the Testing Center regarding current policy and dates available. Following tests, feedback about questions and answers will be available. Individual instructors will specify how feedback will be handled, whether in written form or in groups or individual discussion sessions.

Reports and homework assignments are due on the dates specified in the syllabus for each class. They must be turned in by 16:00 PST or PDT on the due date. Late work is generally penalized. Penalties are outlined in each syllabus.

Graded tests and reports can be mailed back to students by supplying the instructor with a self addressed and stamped envelope.

J. TESTING PROCEDURES

Generally, make-up tests are not given.

- Be on time. Classroom cannot be entered after testing has started. People arriving late are disruptive to the students already testing.
- Have all pencils sharpened and ready before testing. Make sure you have everything ready BEFORE the test starts.
- Visit the restroom before the test begins. Only emergency restroom trips are allowed.
- If you cannot show up for a test, you must notify the instructor before test time. A message can be left on the instructor's phone listed on the class syllabus. If prior notification has not been received, makeup tests will not be given.
- If you have any questions regarding the test, raise your hand, but remain seated. The instructor will come to you.

K. EXPECTATIONS FOR CLASSROOM BEHAVIOR

The following expectations have been established to foster a constructive learning environment in that all participants are respected and the classroom environment is free from disruption.

- 1) It is the instructor's responsibility to direct and manage the classroom environment. Challenges to the authority of the faculty member are not appropriate in the college classroom.
- 2) Students will respect one another and the course instructor. Disrespect shown in word or action will not be tolerated.
- 3) One person will speak at a time unless the class is engaged in-group or teamwork. The instructor will determine who has the floor at all times.
- 4) Class discussions will be shared. No one student may monopolize class discussion. The instructor may ask any student to refrain from comment if the student's comments are not pertinent to the topic at hand or if the student is not giving other students the chance to participate.
- 5) Students will not sleep in class since sleeping constitutes disruption of, and disrespect for, the learning environment. Each student is responsible for managing his or her own sleep patterns, medications and any other factors that may affect his/her ability to stay alert in class.
- 6) Students will cooperate when asked to participate in group or teamwork in class.
- 7) Students are expected to be ready to begin class at the start time of each class. Repeated tardiness is a disruption to the learning environment.

8) All personal telephones and pagers must be turned off during class.

The instructor of this course may ask you to leave the class if you violate any of the above expectations. Repeated violations may result in a referral for College Disciplinary Action (See the *Skagit Valley College Code of Student Rights and Responsibilities*, http://www.svc.ctc.edu/pub_html/dept/StuServ/StudRightsResp.pdf)

L. GUIDES FOR STUDENT BEHAVIOR

- 1) Hold small group discussions in the student lounge rather than in the halls.
- 2) Sign up, as needed, for appointments with your instructor during designated office hours.
- 3) Don't bring children or pets to scheduled appointments with instructors or into the classroom.†
- 4) Don't bring food into the classroom.
- 5) The office phones are for office use only; please use the pay phones in the main lobby for calls.
- 6) Put away all materials you use in the common areas.
- 7) Keep corridors quiet; there are other individuals working.
- 8) Do not enter classrooms when lectures or exams are in progress.
- 9) Do not store field gear, plant material, bicycles or other equipment in the classrooms. NO EXCEPTIONS.
- 10) Computers in N102 are for staff use only.
- 11) DO NOT ADD OR REMOVE any material from the classroom aquariums.
- 12) Do not chitchat with students or staff in the offices. They are working.
- 13) Disruptive behavior and offensive language are not permitted (consult your SVC student handbook for details).
- 14) Weapons of any kind are not permitted on campus.
- 15) No SPAM to instructors email address. Only email related to schoolwork should be sent.

†In general, children are not permitted on campus unless they are directly supervised by a parent or responsible adult, officially enrolled in classes, or directly involved in an instructional process. In no case, even if accompanied by a parent or other adult, are children permitted in labs, shops, clinical areas, or any area where potential hazards exist, with the exception of children directly involved in the instructional. (e.g. Early Childhood Center).

Individuals who bring children to campus are responsible for their supervision at all times; leaving children unattended in public access areas such as the Multi-Purpose Room or Video Lounge does not meet this supervision standard. College officials are to contact parents or other parties responsible for children left unattended on campus, and inform them that children must

be properly supervised while on campus. Individuals who bring children to campus and refuse to abide by these guidelines are to be referred to security.

Failure to comply with these rules may result in disciplinary action up to and including expulsion from the program.

M. SEXUAL HARASSMENT

It is the intent of SVC to prohibit discrimination of any kind including sexual harassment, as defined by the Equal Employment Opportunity Commission in its guidelines on sexual harassment in 1980 under Title VII of the Civil Rights Act of 1964. If a student believes he or she has been subject to sexual harassment or other forms of prohibited discrimination, he or she may contact a college ombudsperson through the Student Activities Office. Procedures for handling such grievances are published in Chapter 132D-120 WAC. For more information, consults the Students Activities Office.

N. ENVIRONMENTAL CONSERVATION CLUB

In the Fall Quarter 1993, the Environmental Conservation Technician Club was formed. It generally meets twice a month. Attendance is voluntary. However, if club seminars are being used with coop education, attendance is mandatory.

The club invites speakers from environmentally related fields for both networking and educational opportunities. They can also participate in Earth Week and other on-campus environmental projects. It provides a good opportunity for students to discuss techniques and internship possibilities.

Recently, the club has conducted several restoration projects in the area.

O. DATA COLLECTION AND RETRIEVAL

Each student is responsible for obtaining all the data collected in the field and during laboratory sessions. During laboratory sessions and on field trips students will work in groups, and usually only one copy of the data set will be written down in a notebook. On the first day of school after a field trip or lab make sure that all the group members have a copy of the data set. This ensures that the group can continue to work even when one member is missing.

P. FIELD TRIPS

You must arrive on time at the designated meeting place. Each person should be at departure points to and from destination at least ten (10) minutes prior to departure times to be accounted for, to avoid being left, and to load equipment needed for the trip. Skagit Valley College, the Environmental Conservation Program, and instructors are not responsible for any personal, items, or items not authorized on the field trip. Persons not enrolled in the program are not permitted. Firearms or any kind of weapon are not permitted. Drugs, alcohol, etc. are not permitted. Pets are not permitted. Smoking is NOT permitted while participating in fieldwork. Always bring the following unless otherwise specified:

- Hiking shoes/boots (appropriate footwear)
- Rain gear
- Notebook and pencils (bring at least one spare) (Rite-in the Rain)
- Plastic bags in different sizes
- Handouts regarding the field trip and other instructions given before the trip
- Rubber boots
- Compass
- Binoculars
- Day backpack
- Field guides
- Insect repellent
- Hat
- Hard hat
- Smile (required)

To promote field trip efficiency, please be prepared to receive instructions when we arrive at the site; this includes distribution of equipment.

Report any medical condition, such as allergies to bee stings or epilepsy, before the field trip.

Q. PROGRAM EQUIPMENT

The Environmental Conservation Program has a very limited amount of equipment. This requires cooperation among groups sharing the same equipment. Make sure that the groups coordinate their use to minimize "dead" time in labs and on field trips.

Students are fully responsible for the equipment they use. Lost and broken equipment will require replacement by the students if negligence was involved. Lost equipment is **always** a sign of negligence.

At each field trip, assign responsibility for equipment to one person. The name of the person assigned to the equipment must be given to the Instructor's aid. This will ensure that equipment is returned. Responsibility will rotate among the members of the group.

Equipment can be checked out for use outside of class, but only for school related activities and projects. See the program lab/research assistant to make arrangements for equipment checkout.

R. STUDENT TOOLS AND EQUIPMENT

The following is an approximate list of costs associated with the Environmental Conservation Program based upon prices in 2004.

| | FIRST YEAR | SECOND YEAR |
|-----------------|------------|-------------|
| Textbooks | 775.00 | 480.00 |
| Lab fees | 35.00 | 35.00 |
| Field Clothing | 110.00 | --- |
| School Supplies | 400.00 | 150.00 |
| Field Supplies | 200.00 | 50.00 |

The student must provide the following equipment (List may not be complete):

- Clipboard
 - Sharpie Pen
 - Overhead plastic
 - Day backpack
 - Binoculars
 - Dissecting kit
 - Zip lock bags
 - Calculator
 - Magnifying glass for Botany
(Same thing as hand lens)
 - Rain Gear
 - Compass \$30.00 (w/clinometer - \$180.00 - desirable)
 - Color pens for overhead writing (i.e. Vis-À-Vis)
 - Metric Ruler
 - String
 - Map wheel
 - Hard hat
 - Rubber boots
 - "Rite in the Rain" notebook
 - Field microscope
- *Optional - mailing envelopes and stamps for returning tests

S. FORMAT OF LABORATORY SESSIONS AND FIELD TRIPS

You will be divided into working groups. These groups will usually remain the same for the entire quarter. However, new groups may be formed each quarter.

T. RUNNING START

For all intents and purposes, Running Start students are to be treated like regular students; SVC has no special responsibility toward Running Start students, such as waivers or special transportation. It is important that Running Start students express their concerns regarding classroom work directly to the instructor, parents are allowed to be silent observers in instructor/student meetings; if a student files a formal grievance on an instructional matter they may use a parent as their advocate.

VI. Class Expectations

A. ATTENDANCE

It's strongly advised that students attend all classes. Tardiness to class is disruptive to students and faculty. It is the student's responsibility, when absent, to obtain missed information or announcements. Attendance is required on field trips and lab sessions.

All syllabi in the Environmental Conservation Program will be handed out to attending students. However, they are also available on the ENVC home webpage (<http://ww2.skagit.edu/MVc/Environ/>).

- Laboratory exercises and field trips are required for all classes. Consequently, attendance is mandatory. This requirement has been put in place because of the crucial hands-on experience. Absence from field trips and/or labs reduces the learning experience dramatically. The hands-on experience is not presented during classes. Therefore, the only insurance the college has that practical experience is obtained by the students is through attendance of labs and field trips.
- During each quarter, students will be allowed to miss one lab or field trip.
- The second time a student misses a lab or field trip, 25 points will be deducted from the sum of points on which the final grade is based.
- The third time a student misses a lab or field trip, additional 40 points will be deducted from the sum of points on which the final grade is based.
- Each additional time a student misses a lab or field trip, 40 additional points will be deducted.
- The reason for missing a lab or field trip does not matter. Whether sick, working, etc., the effect on the learning process is the same. Labs and field trips cannot be compensated for, and lack of attendance is therefore reflected in the final grade.
- It is the student's responsibility to ensure that assignments are handed in on time. Generally, assignments are due at 3 p.m. on the due date. If a student misses class when assignments or handouts are passed out, it is the student's responsibility to make sure that he or she receives a copy from the instructor.

B. TAPE RECORDERS

Tape recorders may be used, only with the permission of the instructor, to record the presentation for study purposes if the owner of the tape recorder is present in class or ill for an extended period of time. It is not acceptable for the student to plan to miss class and have it recorded. In selected cases, the instructor may deny permission to tape presentations.

C. FORMAT OF LECTURES

To ensure efficient use of classroom time, it is important that you arrive a little early to get ready for the lecture, group discussion etc. If you have questions regarding programs, earlier lectures, etc., wait until the lecture is finished. Questions regarding the lecture material are OK.

When the instructor asks a question, please respond by raising your hand. **DO NOT** respond spontaneously. If you need papers signed, fill out the forms before handing them to the instructor at the **end** of the class. To see an instructor, make an appointment ahead of time by contacting the office assistant in N102.

D. REPORT FORMAT

Format of reports is outlined in the syllabus for each class. In general, never include a cover of any kind. Just staple together in the upper left corner.

E. METRIC SYSTEM

The Environmental Program is using the metric system (S.I. units). Students will be provided with basic conversion tables from imperial units to metric. However, it is the student's responsibility to learn the metric system. The reason for the use of the metric system is that all state and federal agencies are in the process of switching to this unit of measure. All the scientific information, which the students receive now and in the future, will be in metric.

VII. Field Trip Behaviour

A. TRAILS AND TRAVELS

Pre-planning plays a large role in ensuring that your group Leaves No Trace. Trail conditions will vary according to season--contact the appropriate public land management agency before your trip to obtain trail information

TRAILLESS AREA

- ◆ Disperse use and impact.
- ◆ Traveling off trail required planning and sensitivity. Know your route, vegetation types, and hazards you may encounter.
- ◆ Avoid cross country travel when soil is saturated after heavy rain or snowmelt.
- ◆ Avoid stepping plants, including lichen on rock.
- ◆ Are you encountering sensitive soil slopes? Do you have to dig in to grip the soil? Travel on durable surfaces, such as snow, rock, sandy or gravel surfaces, or change routes.
- ◆ Spread out, don't follow each other. Four separate routes contribute less impact than four hikers traveling single file through an alpine meadow.
- ◆ Avoid lightly impacts areas, such as new social trails that could recover if not traveled over repeatedly
- ◆ Use care when ascending or descending slopes--find new routes if you have to dig toes or heels into soil.
- ◆ Leave trailless areas free of blazes, cairns, and flagging unless you plan to remove them on the way out. (Use your judgment if safety is an issue.)
- ◆ Many trailless areas have established campsites and social trails. Use these instead of creating new ones.

TRAIL ETIQUETTE

- ◆ When meeting others, tell them you'll step off the trail, this way you can find a hardened area to move onto. Avoid stepping off the trail and onto plants.
- ◆ Yield right-of-way to uphill hikers. Step off trail onto a durable surface.
- ◆ When encountering horses, stop and step off trail to the downhill side. Follow the instructions of the rider. Horses always have the right of way.

LEAVE NATURAL

- ◆ Take pictures, leave wildflowers for all to enjoy.
- ◆ Pick up litter along the way--make a game of it--whoever collects the most receives a candy bar at the end of the trail.
- ◆ Fragile trailsides can easily be destroyed by people resting there. Rest on the trail itself or non-hardened borders.

B. PEOPLE, PLANTS AND WILDLIFE

Observing wild animals, wildflowers, and birds is an integral part of the outdoor experience. There are many ways to enhance our ability to observe and identify wildlife and plants yet not impact them in any way.

Keep wildlife healthy and self-reliant by not feeding them, either intentionally or unintentionally. Respect the right of wildlife to remain wild.

NOISE

- ◆ Keep the noise level low. Shouting and yelling not only disturbs animals, but also other hikers.
- ◆ Avoid brightly colored clothing and equipment
- ◆ Leave radios and recording devices at home
- ◆ Use whistles only in an emergency
- ◆ Respect the right of other visitor for solitude and quiet

FOOD AND GARBAGE

- ◆ Keep a clean camp. All food should be kept in sealed containers and stored away from the sleeping area.
- ◆ Give your garbage the same protection as your food.
- ◆ Hang your food. Nylon pack cloth is not a deterrent for most animals and hanging it is extra insurance.
- ◆ At each meal prepare only what you can eat. Take all leftover food and food scraps home. Do not bury or scatter.

PLANTS

- ◆ Leave wildflowers for all to enjoy.
- ◆ When gathering berries, mushrooms, or other edible plants take only what you can eat on your trip.
- ◆ Do not chop or scar trees in any way. This includes live and dead trees. Never hammer nails into trees.

- ◆ Avoid collecting plants, shells, rocks, and pinecones -- their presence adds to the beauty of the areas. Obey local regulations.
- ◆ Play low impact games that stress observation rather than collection.

ANIMALS

Grey jays, ravens, crows, nutcrackers, mice, marmots, skunks, raccoons, and bears can be persistent scavengers once we have allowed them to associate food with humans. Leave No Trace skills are essential to ensure that human encounters with animals are not only safe and exciting, but perhaps more importantly, that the habitat and wilderness of these creatures is respected.

- ◆ Never feed wildlife. Human food is not healthy for the animals and it discourages them from foraging for their natural nutrition.
- ◆ Dogs are naturally curious about the wildlife they encounter. This curiosity can lead to unpredictable behaviour. Barking dogs disturb everyone. Leave pets at home.
- ◆ Allow the animal to determine how close the encounter should be. Don't pursue wildlife in an attempt to get a better glimpse or picture of it. If the animal moves you are too close.
- ◆ Avoid coming between animals and their offspring. An "abandoned" baby animal has probably been left while the mother is out foraging for food. Resist the temptation to touch or move the baby.

IN BEAR COUNTY

- ◆ Hang your food well away from the sleeping area.
- ◆ You may want to have a separate food storage area, cooking area and sleeping area. Use your judgment.
- ◆ Do not sleep in the same clothes you cooked in.
- ◆ Don't use perfumes, deodorants, or other sweet smelling substances.
- ◆ Suspend food and garbage in stuff sacks at least 10 feet above the ground, 5-10 feet from the tree trunk, and 3-6 feet below the limb on which they hang. In areas above the treeline, hang food over a large boulder. Use bearproof containers if provided.
- ◆ **Pack It In Pack It Out**

VIII. Progression

A. *STUDENT RESPONSIBILITIES*

The student must pass all required classes with a C average or better to be eligible for graduation. It is strongly recommended that students periodically review their degree audit (see page 2) to confirm their academic progress. Each student is responsible for keeping track of their academic, interpersonal, and professional progress using a portfolio.

Scheduling and selection of classes should not be done without guidance from a program instructor or a counselor. Students should make a long-term plan of class work to be taken to ensure that classes are available and to avoid scheduling conflicts.

If you need to waive a course or want to do a substitution you need to schedule an appointment with the department chair. Also, you need to bring a Credit Request form from admissions. Finally, you need to have proper documentation to attach to the request. It should be noted that waives and course substitutions should be done as early as possible in your college career.

B. *SAMPLE SCHEDULES*

Essential Entry Skills

- Elementary computer skills/applications (high school level)
- Basic English composition; high school equivalent (ENGL 99)
- Basic Algebra; high school equivalent (MATH 97 and 99) [transfer students]
- High school chemistry

These entry skills are highly recommended for both program tracks.

Former students, Departments of Office & Business Technology and Computer Information Systems recommend the following computer classes:

| | |
|---------|----------------------------|
| CIS 146 | Spreadsheets |
| CIS 147 | Databases |
| OBT106 | Integrated Software |
| OBT 142 | Integrated Software Basics |

These classes are offered through Distance Education, and can be integrated into regular class curricula. In addition, all related general course requirements for an ATA degree is now available through SVC Distance Education.

Aquatic/Terrestrial Emphasis

Student Schedule:✂

First Year

Credits

Fall

| | | |
|----------|---|----|
| ENVC 101 | Introduction to Watersheds | 5 |
| ENVC 102 | Invertebrate Biology and Identification | 4 |
| ENVC 104 | Introduction to Natural Resources | 1 |
| BISC 107 | Environmental Science | 5 |
| | | 15 |

Winter

| | | |
|------------|--|----|
| ENVC 112 | Limnology (Pass with a C or better) | 5 |
| ENVC 123 | Fish Biology, Taxonomy & Life History | 5 |
| † MATH 108 | Introduction to Probability and Statistics | 5 |
| PE 200 | First Aid, Safety, & CPR | 2 |
| | | 17 |

Spring

| | | |
|------------|------------------------------|-------|
| ENVC 122 | Stream Ecology | 5 |
| ENVC 140 | Plants of Western Washington | 5 |
| † ENGL 101 | Composition I | 5 |
| ENVC Elec. | | 3 - 5 |
| | | 18+ |

Summer

| | | |
|------------|-----------------------|---|
| ‡ ENVC 199 | Cooperative Education | 6 |
|------------|-----------------------|---|

-
- ✂ A number of the program classes are transferable to a four-year college. For details you should consult your advisor.
 - * Learning Community (5-10 credits) or 5 credits of General Education (culture, natural world or arts). Must be outside technical area, approved by Department Chair.
 - † Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class.
 - ‡ ENVC 199 may be taken at any time during the two-year program with Department Chair approval.

Aquatic/Terrestrial Emphasis

Student Schedule: ✂

Second Year Credits

Fall

| | | |
|----------|--|----|
| ENVC 201 | Watershed Restoration | 5 |
| ENVC 202 | Wildlife Biology | 4 |
| GIS 101 | Introduction to Geographic Information Systems | 5 |
| SOSC 113 | Job Search | 1 |
| | | 15 |

Winter

| | | |
|-------------|---|------|
| ENVC 210 | Fish Ecology and Management | 5 |
| ENVC 211 | Ecological Sampling and Monitoring Design | 4 |
| * LC/GE | Learning Community or General Education | 5-10 |
| SOSC 125 | Employer/Employee Roles & Perspectives | 2 |
| SPCH 123 | Interpersonal Communication | 3 |
| or SPCH 121 | Public Speaking | 5 |
| | | 19+ |

Spring

| | | |
|----------|---|----|
| ENVC 220 | Wetlands in Managed Landscapes | 4 |
| ENVC 221 | Ecology of Ecosystem Edges - Ecotones | 3 |
| ENVC 222 | Field Project - Freshwater/terrestrial emphasis | 3 |
| ENGL270 | Technical Report Writing | 3 |
| GIS 105 | Global Positioning Systems (GPS) | 2 |
| | | 15 |

✂ A number of the program classes are transferable to a four-year college. For details you should consult your advisor.

* Learning Community (5-10 credits) or 5 credits of General Education (culture, natural world or arts). Must be outside technical area, approved by Department Chair.

† Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class.

‡ ENVC 199 may be taken at any time during the two-year program with Department Chair approval.

Total Minimum Credits 97

Marine Emphasis

Student Schedule: ✂

First Year Credits

Fall

| | | |
|----------|--|----|
| ENVC 101 | Introduction to Watersheds | 5 |
| ENVC 104 | Introduction to Natural Resources | 1 |
| BISC 107 | Environmental Science | 5 |
| GIS 101 | Introduction to Geographic Information Systems | 5 |
| **MT 108 | Boat Operation & Piloting | 3 |
| | | 19 |

Winter

| | | |
|------------|--|----|
| ENVC 112 | Limnology (Pass with a C or better) | 5 |
| ENVC 123 | Fish Biology, Taxonomy & Life History | 5 |
| † MATH 108 | Introduction to Probability & Statistics | 5 |
| PE 200 | First Aid, Safety & CPR | 2 |
| | | 17 |

Spring

| | | |
|------------|-----------------|----|
| ENVC 122 | Stream Ecology | 5 |
| BISC 190 | Life in the Sea | 3 |
| EASC 105 | Oceanography | 5 |
| † ENGL 101 | Composition I | 5 |
| | | 18 |

Summer

| | | |
|------------|-----------------------|---|
| ‡ ENVC 199 | Cooperative Education | 6 |
|------------|-----------------------|---|

Marine Emphasis

Student Schedule: ✂

Second Year Credits

Fall

| | | |
|------------|---|------|
| ENVC 202 | Wildlife Biology | 4 |
| BISC 101 | General Biology | 5 |
| * LC/GE | Learning Community or General Education | 5-10 |
| SOSC 113 | Job Search | 1 |
| ENVC Elec. | | 3-5 |
| | | 18+ |

Winter

| | | |
|-------------|---|-----|
| ENVC 210 | Fish Ecology and Management | 5 |
| ENVC 211 | Ecological Sampling and Monitoring Design | 4 |
| BISC 102 | Introduction to Plants | 5 |
| SPCH 123 | Interpersonal Communication | 3 |
| or SPCH 121 | Public Speaking | 5 |
| | | 17+ |

Spring

| | | |
|------------|--|----|
| ENVC 220 | Human Impacts on Aquatic Systems | 4 |
| ENVC 222 | Field Project - marine emphasis | 3 |
| BISC 103 | Introduction to Animals | 5 |
| SOSC 125 | Employer/Employee Roles & Perspectives | 2 |
| † ENGL 270 | Technical Report Writing | 3 |
| GIS 105 | Global Positioning Systems (GPS) | 2 |
| | | 19 |

✂ A number of the program classes are transferable to a four-year college. For details you should consult your advisor.

* Learning Community (5-10 credits) or 5 credits of General Education (culture, natural world or arts). Must be outside technical area, approved by Department Chair.

† Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class.

‡ ENVC 199 may be taken at any time during the two-year program with Department Chair approval.

Total Minimum Credits 105

Parks Resources Management Emphasis

Student Schedule:✂

First Year

Credits

Fall

| | | |
|------------|--|-----|
| ENVC 101 | Management of Watersheds, Lakes & Wetlands | 5 |
| ENVC 102 | Invertebrate Biology and Identification | 4 |
| ENVC 104 | Introduction to Natural Resources | 1 |
| BISC 107 | Environmental Science | 5 |
| ENVC Elec. | | 3-5 |
| | | 18+ |

Winter

| | | |
|------------|--|----|
| ENVC 112 | Limnology (Pass with a C or better) | 5 |
| ENVC 123 | Fish Biology, Taxonomy, & Life History | 5 |
| ENVC 130 | Environmental Interpretation | 5 |
| † ENGL 170 | Technical Writing | 3 |
| | | 18 |

Spring

| | | |
|-------------|--|----|
| ENVC 133 | Facilities Maintenance Fundamentals | 5 |
| ENVC 140 | Plants of Western Washington | 5 |
| GIS 105 | Introduction to GPS | 2 |
| † MATH 108 | Introduction to Probability & Statistics | 5 |
| or MATH 100 | Professional/Technical Applied Math | 5 |
| | | 17 |

Summer

| | | |
|------------|-----------------------|---|
| * ENVC 199 | Cooperative Education | 6 |
|------------|-----------------------|---|

Cooperative experience **must** include maintenance of grounds and facilities components.

Parks Resources Management Emphasis

Student Schedule: ✂

Second Year Credits

Fall

| | | |
|----------|--------------------------|----|
| ENVC 201 | Watershed Restoration | 5 |
| ENVC 202 | Wildlife Biology | 4 |
| GIS 101 | Introduction to GIS | 5 |
| PE 200 | First Aid, Safety, & CPR | 2 |
| SOSC 113 | Job Search | 1 |
| | | 17 |

Winter

| | | |
|--|---|-----------------|
| ^AJ 228 | Parks Law Enforcement Academy | 30 |
| OR | | |
| @Electives (12 min as approved by dept. chair) | | |
| *LC/GE | Learning Community or General Education | 5-10 |
| | | 17 ⁺ |

Spring

| | | |
|-------------|--|----|
| ENVC 122 | Stream Ecology | 5 |
| ENVC 221 | Ecology of Ecosystem Edges - Ecotones | 3 |
| * ENVC 231 | Mammal Identification | |
| or ENVC 232 | Bird Identification | 5 |
| SOSC 125 | Employer/Employee Roles and Perspectives | 2 |
| SPCH 123 | Interpersonal Communication | 3 |
| or SPCH 121 | Public Speaking | 5 |
| | | 18 |

-
- ✂ A number of the program classes are transferable to a four-year college. For details you should consult your advisor.
 - * Learning Community (5-10 credits) or 5 credits of General Education (culture, natural world or arts). Must be outside technical area, approved by Department Chair.
 - † Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class.
 - ‡ ENVC 199 may be taken at any time during the two-year program with Department Chair approval.
 - @ Electives must be chosen from within the sciences, GIS or computer technology.
 - ** A certificate in boat piloting from the U.S. Coast Guard may substitute for this class.
 - ^ Satisfies General Education requirements (LC/GE) and PE 200.

Total Minimum Credits 107

Below are some requirements for different park jurisdictions if you are planning on following the Parks Resources Management emphasis:

Washington State Parks

Park Ranger Requirements

A Bachelors degree with 24 quarter/18 semester hours in parks and recreation or a natural resource field (Anthropology, Archaeology, Biology, Botany, Chemistry, Conservation, Ecology, Environmental Science, Forestry, Geology, History, Horticulture, Natural Resources, Outdoor Recreation, Park Management, Physics, Recreation, Wildlife, Zoology, or other related fields). **Parks Resource Management track may be the quickest path.**

Experience in a natural resource or outdoor recreation field will substitute year for year for education provided that 24 quarter/18 semester hours in parks and recreation or a natural resource field have been attained.

Graduating Options: After completion of a two-year Environmental Conservation degree at Skagit Valley College, student could transfer to Evergreen State University or Fairhaven, WWU for an additional two years to earn a Bachelors degree in an appropriate field.

Washington State Park Rangers are required to carry a firearm and therefore must go through the Law Enforcement Academy.

Becoming a state park ranger requires a battery of tests in the hiring process, which include physical fitness, psychological written exams, medical which includes alcohol and drug screening, polygraph, and psychological evaluation with a psychiatrist. Applicants must submit fingerprint cards when applying and be able to pass a criminal background investigation. In addition, applicants must obtain and submit all driving records for Washington and any other states where an applicant possessed a valid driver's license.

National Parks

Park Rangers: Naturalist, Fee Collector, and Law Enforcement

Seasonal positions are Generalist, Interpretation, and Law Enforcement. For more information go to www.sep.nps.gov.

A four-year degree is required to be a full-time ranger and also that you have worked two to five years as a seasonal ranger.

Some positions hire non-degreed applicants but at lower pay rates. Also, for some types of jobs, applicants can not be over the age of thirty-five.

For current government jobs go to www.usajobs.gov.

City and County Parks

These parks may hire SVC program graduates. Requirements vary.

C. *TRANSFER*

Coursework from the Environmental Conservation Program at SVC is transferable to some four-year colleges and universities. Currently, an ATA degree can be used as an “upside down degree” at the Evergreen State College, Olympia, and Fairhaven College, Western Washington University, and coursework can be transferred to the College of Forest Resources, University of Washington and the College of Natural Resources (formerly College of Forestry, Wildlife & Range Sciences), University of Idaho.

University of Washington and University of Idaho

Skagit Valley College has a transfer agreement with the University of Washington and the University of Idaho. The UW and U of I has approved the following sequence of courses:

Student Schedule:

First Year Credits

Fall

| | | |
|----------|--|----|
| ENVC 101 | Introduction to Watershed Management | 5 |
| BISC 101 | General Biology | 5 |
| BISC 107 | Environmental Science | 5 |
| PE 200 | First Aid, Safety, & CPR | 2 |
| SOSC 125 | Employer/Employee Roles & Perspectives | 2 |
| | | 19 |

Winter

| | | |
|------------|--|----|
| ENVC 112 | Limnology (Pass with a C or better) | 5 |
| ENVC 123 | Fish Biology, Taxonomy & Life History | 5 |
| * MATH 108 | Introduction to Probability & Statistics | 5 |
| CHEM 131 | Principles & Applications of Inorganic Chemistry | 5 |
| | | 20 |

Spring

| | | |
|-------------|---|----|
| ENVC 122 | Stream Ecology | 5 |
| ENVC 140 | Plants of Western Washington | 5 |
| or BISC 133 | Field Botany | 5 |
| * ENGL 101 | Composition I | 5 |
| CHEM 132 | Principles & Applications of Organic Chemistry & Biochemistry | 5 |
| | | 20 |

Summer

| | | |
|------------|-----------------------|-------------|
| † ENVC 199 | Cooperative Education | 6 |
| MATH 111 | Pre-Calculus I | 5 |
| **LC | Learning Community | <u>5-10</u> |
| | | 16+ |

Second Year

Credits

Fall

| | | |
|----------|--------------------------------|----------|
| ENVC 201 | Watershed Restoration | 5 |
| ENVC 202 | Wildlife Biology | 4 |
| SOSC 113 | Job Search | 1 |
| MATH 112 | Pre-Calculus II (Trigonometry) | <u>5</u> |
| | | 15 |

Winter

| | | |
|----------|---|----------|
| ENVC 210 | Fish Ecology and Management | 5 |
| ENVC 211 | Ecological Sampling and Monitoring Design | 4 |
| BISC 102 | Introduction to Plants | 5 |
| SPCH 121 | Public Speaking | 5 |
| MATH 124 | Calculus I | <u>5</u> |
| | | 24 |

Spring

| | | |
|------------------------|-------------------------------------|----------|
| ENVC 220 | Wetlands in Managed Landscapes | 4 |
| ENVC 221 | Ecology of Ecosystem Edges/Ecotones | 3 |
| ENVC 222 | Field Project - marine emphasis | 3 |
| MATH 125 | Calculus II | 5 |
| ENGL 270 or ENGL104 | Technical Report Writing | 3 |
| | | <u>3</u> |
| | | 18+ |

*Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class.

**Learning Community (5-10 credits) or 5 credits of culture, natural world or arts. Must be outside of technical area, approved by Department Chair.

†Cooperative education may be taken at any time during the two-year program with Department Chair approval.

Options after completion of program:

Aquatic-Terrestrial Track
2 years

When graduating, you have the following options:



- Work as a technician in the environmental field.
 - Transfer to **Evergreen State University**, additional 2 years earns a BA in environmental sciences.
 - Transfer to Faculty of Forestry, **University of British Columbia**.
 - Transfer to **Fairhaven, WWU**, additional 2 years earns a BA.
- Aquatic-Terrestrial Track may be modified for Water Treatment option.

Marine Track
2 years

When graduating, you have the following options:



- Work as a technician in the environmental field.
- Transfer to **Evergreen State University**, additional 2 years earns a BA in environmental sciences.
- Transfer to **Fairhaven, WWU**, additional 2 years earns a BA.

Park Resources Management
2 years

When graduating, you have the following options:



- Work as a technician in the environmental field.
- Transfer to **Evergreen State University**, additional 2 years earns a BA in environmental sciences.
- Transfer to **Fairhaven, WWU**, additional 2 years earns a BA.

4-year Institution Transfer Track
2 years

When graduating, you have the following options:



- Work as a technician in the environmental field.
- Transfer to College of Forest Resources, **University of Washington**, additional 2 years earns a BS in: *Wildlife Science, Forest Management, or Conservation of Wildland Resources*.
- Transfer to **University of Idaho**, additional 2 years earns a BS from College of Natural Resources in: *Ecology & Conservation Biology, Forest Resources, Rangeland Ecology & Management, Resource Recreation & Tourism*. **See advisor for details.**

D. WATER TREATMENT - NEW DEGREE OPTION

This is a new degree option. Students interested in a career path in a wastewater and drinking water treatment emphasis should take ENVC 212 and 249 as electives as well as CHEM 131 and 132. Please see the Department Chair for details.

E. PROGRAM WEBPAGE

For current information on quarterly syllabi, homework assignments and general program information please visit the program website (<http://ww2.skagit.edu/MVc/Environ/>).

E. WITHDRAWAL/DISMISSAL

In order to progress in the environmental program, the student must meet certain requirements and grade requirements for specified courses. To progress from the first to the second year environmental courses, the student must meet requirements for ENVC 201 as specified in the college catalog.

Students might find it necessary to withdraw from the Environmental Program for academic or personal problems. The student is responsible for completing the withdrawal process and requesting that his/her name be entered on the waiting list for future re-entry to the program. Students are strongly advised to seek an appointment with a counselor prior to withdrawal.

The instructor or department chair and the student should complete the student withdrawal form, as well as the add/drop forms that go through the Registrar's Office. Failure to complete the process will result in an "E" grade. The withdrawal form will remain in the student file, along with the final course summary.

F. READMISSION

The student should follow the process for re-entry to the program as outlined in the catalog. A student may petition only once for re-entry into the Environmental Program.

IX. Outcomes

A. PERFORMANCE STANDARDS

The following abilities are necessary for environmental technicians with a natural resource emphasis. They are based upon employer surveys and interviews, and interviews with other educators. Since most management decisions in the natural resource area are ultimately built on our scientific knowledge, I have included the trends from the most recent literature in ecology. This should ensure a longer lifetime for the standards. I have stayed within the guidelines in the SCANS report from 1993.

Abilities from general education

- Ability to summarize numerical information; including descriptive and analytical statistics.
- Ability to plan and follow a work schedule.
- Ability to prioritize and delegate workloads; personally, as well as in team efforts.
- Ability to utilize a word processor and spreadsheet software.
- Ability to write a technical report; to include style, format and vocabulary.
- Ability to conduct oral presentations.
- Ability to think quantitatively.

Personal abilities

- Ability to communicate orally as well as written (see above).
- Ability to work and collaborate in team efforts.
- Ability to perform Quality Assurance Analyses on performed jobs.
- Ability to work with different points of view.
- Ability to work with the public.
- Ability to understand management constraints in relation to socio-economic and cultural settings.

Specialized abilities

- Ability to use environmental/ecological vocabulary.
- Ability to perform aerial photo interpretation.
- Ability to locate and identify field locations through orienteering.
- Ability to utilize ecological software.
- Ability to conduct water quality assessment using hydrological and physio-chemical parameters.

Ability to quantify and evaluate watershed parameters.

Ability to conduct water quality assessment using bioassessment methods.

Ability to sample wildlife. (fish, mammals, birds, amphibians, reptiles)

Ability to understand basic ecology of fish and wildlife.

Ability to sample and identify soils.

Ability to understand the geology of fluvial systems.

Ability to understand aquatic ecology/marine ecology.

Ability to understand estuarine ecology.

Ability to apply the ecotone concept during planning of work and interpretation of data.

Ability to read professional journal articles within the natural sciences.

Ability to utilize key elements of aquatic systems in managed landscapes through the DNR Watershed Manual.

Ability to utilize ecological census techniques.

Ability to understand jurisdictional guidelines among natural resource agencies and their permit systems.

Ability to identify and delineate wetlands.

Ability to identify macroinvertebrates, North American Fishes, Pacific Northwest Fishes.

Ability to conduct bioassessments of fluvial systems using macroinvertebrates with US Forest Service, EPA and the DOE procedures.

Ability to analyze and discuss technical papers.

Ability to perform ecological restoration of ecological functions and biodiversity using bioengineering.

Ability to understand and utilize biological conservation of biodiversity.

Ability to understand how global issues interrelate with Natural Resource Management in the Pacific Northwest.

Ability to understand the basic principles of conservation biology.

The above abilities are acquired through a number of different classes and subject combinations. Class curricula include statements identifying the types of abilities a student will receive.

X. Evaluation

A. PROCESS

Generally, students will be evaluated through midterm and final exams. In addition to these standard methods, a number of other evaluation processes such as seminars and practicums have been developed for the program. Each course syllabus will outline the evaluation procedure for the course.

B. GRADING

| GRADE | POINTS PER CREDIT |
|--------------------------------------|-------------------|
| A (Excellent) | 4.00 |
| A- | 3.70 |
| B+ | 3.30 |
| B (Above Average) | 3.00 |
| B- | 2.70 |
| C+ | 2.30 |
| C (Average) | 2.00 |
| C- | 1.70 |
| D+ | 1.30 |
| D (Below Average) | 1.00 |
| D- | 0.70 |
| E (Failing) | 0.00 |
| W (Withdrawal) | Not Counted |
| I (Incomplete) | Not Counted |
| N (Audit) | Not Counted |
| P (Pass, credit but no grade points) | Not Counted |
| V (Vanished, course not completed) | Not counted |
| Y (In Progress/Reregister) | Not Counted |
| Z (Passing Level Work Not Attained) | Not Counted |

Grade+* (D & E grades "Removed by Statute of Limitations" - Low Grades Removed from GPA Calculation)

Grade+R (Course Repeated) Original grade removed from GPA calculation.

The total points accumulated by the student is divided by the maximum number of points possible for the class, and the figure obtained is the grade point average. When made up, an Incomplete yields the number of grade points corresponding to the grade received.

C. ACCESSING GRADES

Grades are no longer mailed to students at the end of the quarter. Instead, it is up to the student to access his or her own grades.

On-line by Internet Kiosk:

- You must have a 128-bit version Web browser. You can download the correct version from Microsoft (www.microsoft.com) or Netscape (www.netscape.com).
- Go to www.skagit.edu
- Using the *Student Toolbox* click the **Unofficial Transcript** button and follow the instructions.
- Enter your student ID number and PIN. (See Helpful Hints Section for more information on ID numbers and PINs.)

By Student Kiosk:

- To access your grades using the Student Kiosk at the Mount Vernon or Whidbey campuses, visit a Kiosk site at either campus.
- Select the option to view your transcript and follow the instructions.

D. FACULTY AND STUDENT RIGHTS AND RESPONSIBILITIES

Faculty Responsibility:

Faculty have a responsibility to protect a student's right to privacy. Names and grades cannot be posted.

- Grades may be posted by the last 4 digits of the SSN only - the full SSN cannot be used.
- Completed assignments cannot be placed in a stack outside the classroom doors or even inside class where other students may have access. Similarly a stack of graded assignments cannot be passed around the classroom, with students removing their own assignment.

Letters of reference are separate from these procedures and may be made by faculty upon student request. All requests must be in writing.

Student Rights:

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

- (1) The right to inspect and review your education record within 45 days of the date of receipt of the request for access. Submit your written request to the Registrar, identifying the record(s) you wish to inspect.

- (2) The right to request an amendment of your educational record if you believe it is inaccurate or misleading. You may ask the College to amend a record that you believe is inaccurate or misleading. Write the Registrar, clearly identifying the part of the record you want changed, and specify why it is inaccurate or misleading.
- (3) The right to consent to disclosure of personally identifiable information contained in your education record, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests.

E. CHEATING

Academic dishonesty is defined as meaning plagiarism, cheating on examinations, fraudulent representation of student work product or other similar act of academic dishonesty. No form of cheating will be tolerated. Students are expected to do their own work. If a student is caught cheating, the discipline policy of Skagit Valley College that is outlined in the student handbook will be followed. The student may fail the particular assignment, test, or course at the discretion of the instructor. Should students be found to be cheating, all parties involved will be disciplined (i.e., if you allow someone to copy your assignment, you are as guilty of cheating as the person who copies it cheats). Do not leave your work or computer disks unattended in the computer labs or classrooms. Maintain security on your work at all times.

F. BLACKBOARD

The following is an explanation on how to log on to Blackboard.

1. Access the Website: <http://skagit.blackboard.com>
2. Enter your Username:
This will be the first initial of your first name, your full last name, followed by the last 4 digits of your student identification number (SID). (For example, jdoe2345)
3. Enter the User Password:
Your password will be the letters **svc**
(if you have a password from last quarter, it will not change)

This will take you to the Blackboard Welcome page. Look for your courses in the “My Courses” window.

XI. Employment

The following are links to the labor market and wage information:

General Employment/Industry Information: <http://www.workforceexplorer.com/Wage>
Information: <http://www.workforceexplorer.com/?PAGEID=67&SUBID=117>

These are example of potential employment groups:

| Public Sector | Private Sector |
|--|--------------------------------------|
| - WA Department of Fisheries and Wildlife | - Timber companies |
| - WA Department of Natural Resources | - Forestry consulting companies |
| - WA Department of Ecology | - Environmental consulting companies |
| - U.S. Forest Service | - Forestry contractors |
| - Indian Nations and Administrations | - Land development contractors |
| - City and County Administrations | - Ag-business |
| - USDA Natural Resource Conservation Service | - Engineering companies |
| - WA Conservation Districts | - Marine consulting companies |
| - USDI Bureau of Land Management | - Non-governmental organizations |

See also Environmental Conservation Club section IV.N.

Link(s) to environmental internships and jobs:

www.oriononline.org/pages/ogn/ics.cfm

Job Titles from Graduates:

- Restoration Technician
- Environmental Technician
- Watershed Coordinator
- Watershed Technician
- Noxious Weed Coordinator
- Natural Resource Technician
- Research Assistant
- Field Biologist
- Environmental Health Specialist

XII. Advisory Committee for the Environmental Conservation Program

Each vocational program has an advisory committee that meets two or three times a year. The members are representative of the employers and employees in the field where graduating students will find work. In addition, a student representative from the Environmental Conservation Program attends meetings. The objective of the advisory committee is to provide information regarding skill level and training issues required for the environmental field.

Advisory Committee for the Environmental Conservation Technician Program (2005/06)

Active members:

Brian Adams, Operations and Land Management, Skagit County Parks and Recreation, Anacortes
Bill Blake, Natural Resource Manager, City of Arlington
Doug Couvelier, TFW Biologist, Upper Skagit Indian Tribe, Sedro Woolley
Dale Kolbe, Habitat Steward, Snohomish County Parks and Recreation, Everett
Rick Rogers, Field Projects Coordinator, Stillaguamish Nation Reservation, Arlington
Jon Vanderheyden, District Ranger, Mt. Baker-Snoqualmie National Forest, Sedro Woolley

Affiliated members:

Dr. Timothy Quinn, Chief Scientist, Habitat Program Washington Department of Fish & Wildlife, Olympia
Dr. James M. Shields, Wildlife Biologist, State Forests of New South Wales, Australia

Personnel:

| | | | |
|--------------------|------------------|----------------|---------------------------|
| Dr. Claus Svendsen | Department Chair | (360) 416-7816 | claus.svendsen@skagit.edu |
| Diane Redmer | Office Assistant | (360) 416-7817 | diane.redmer@skagit.edu |

Adjunct Faculty:

Sue Koenig
Chuck Leavitt
Rick Rogers

XIII. Questionnaire

This manual is the twelfth edition. Some issues that you as a student would like to have included may not be covered. In order to improve the manual for next year's students, please use this page for suggestions. Every time you come across an item not covered, please note it on this page. During Spring Quarter, I will ask for this page, and use your suggestions for next year's edition.

Item:

XIV. Statement Regarding Program Manual For the Environmental Conservation Program

When you have finished reading the handbook, please sign the statement below, remove this page, and return it to the program secretary.

I HAVE READ AND AGREE TO ABIDE BY THE REQUIREMENTS OF THE ENVIRONMENTAL PROGRAM AS DEFINED IN THE STUDENT ENVIRONMENTAL HANDBOOK.

SIGNATURE: _____

NAME: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

DATE: _____

XV. Statement Regarding Safety

ENVIRONMENTAL CONSERVATION ACKNOWLEDGMENT OF RISK FORM

I, _____, hereby state that I wish to participate in the Environmental Conservation Program and its field trips offered by Skagit Valley College. I recognize that any outdoor activity may involve certain dangers, including but not limited to the hazards of traveling in mountainous terrain, in and around aquatic environments, accidents or illness in remote places, forces of nature, and the actions of participants and other persons.

I acknowledge the risks in connection with these activities, which might include injury or death related to falls, avalanches, or illness. I further agree to release and hold harmless Skagit Valley College and all its members from all liability, claims and action which I may have arising from my participation in activities except those which stem from the ordinary negligence of any officer, agent, or employee of Skagit Valley College, on behalf of my heirs, assigns and personal representatives. (Parents or legal guardians must sign for all persons under eighteen [18] years of age.)

**I HAVE FULLY INFORMED MYSELF OF THE CONTENTS OF THIS RELEASE AND
INDEMNITY BY READING IT BEFORE I HAVE SIGNED IT.**

Signature

Date

Printed name

XVI. APPENDIX A

Keep this in your workbook at all times

Procedures for Trapping of Small Mammals: to Avoid Transmittal of Diseases

25 April, 1996

Department of Environmental Conservation
Skagit Valley College

Introduction:

In the past decade there has been an increased awareness of diseases, such as Lyme disease and Hanta virus, transmitted through rodents or other wild animals. Consequently, an increase in protection is required when conducting wildlife inventories. The following procedures have been developed after consulting with the College of Forest Resources, University of Washington and the USFS Pacific Northwest Regional Research Group.

1) Field Procedures

Field personnel must use protective latex gloves at all times. In dry weather an additional protective filter over the respiratory apparatus must be in place. It is important that field personnel avoid contact with feces and urine, except on the protective gloves. After a trapping session, protective gloves and masks must be discarded into a plastic bag and disposed of immediately. Plastic bags used for trapping should also be changed daily and disposed of as described above. After completion of a trapping session, the collectors must wash their hands as soon as possible. Preferably, the collector should bring water and soap in the field. If animals were in contact with clothing, it should be changed as soon as possible and washed quickly thereafter.

2) Transportation of Trapping Material

All trapping material should be carried in double plastic bags closed with a closing pin or other device to avoid any escape of dust. If possible, the trapping material should be kept in a separate compartment, such as a trunk, of the vehicle during transportation. If possible, a mask should be worn over mouth and nose.

After handling the trapping material, hands should be washed.

3) Cleaning of Traps

All traps must be cleaned the following day after the last trapping session. Wear a respiratory mask to avoid dust. If traps are dry they should be soaked immediately. Traps must be opened by removing the pin and scrubbed in chlorinated water solution. If possible disinfecting solution may be used. Included in the cleaning are the transportation boxes provided for the Sherman traps.

4) Storage of Traps

Traps must be stored in a place secure from rodents such as deer mice.

5) Storage and Handling of Dead Animals.

Dead animals must be collected and stored in a Ziploc bag. The bag must contain a note on date trapped, trap number, and collector's name. When properly labeled, the animal must be frozen and deposited in the freezer in the Environmental Conservation Laboratory. Whenever a frozen animal has been handled, hands must be washed.

If you have any questions, consult the leading biologist, or if any disease symptoms occur, contact a physician immediately.