

BC Fresh-Water Lakes/Rivers: Fly-fishing 11

District Name: Mission
District Number: 75
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School Name: Mission Secondary
Principal's Name: Randy Huth
Board/Authority Approval Date: December 14, 2004

Board/Authority Signature:

Course Name: BC Fresh-Water Lakes/Rivers: Fly-fishing
Grade Level of Course: 11
Number of Course Credits: 4 Credits
Number of Hours of Instruction: 120 hours

Prerequisite(s): Science 10

Special Training, Facilities or Equipment Required:

Special Training	Basic Course in Fly Tying
Facilities	Course presentation in a Biology equipped classroom Computer access recommended Gymnasium/park/playing field (accommodate Fly casting)
Equipment	TV/VCR/DVD/Smart Board Computers Fly-tying equipment Microscopes
Course Fee	\$20.00 (Course Materials)

Course Synopsis: "Hook and Release"

This course proposes to introduce students to educational and recreational values of the science of Limnology (Fresh-water Lakes), including physiology and ecology as related to fly-fishing. As we live in one of North America's most pursued fly fishing destinations it would only be fitting to encourage all students to learn basic skills of lake ecology, proper etiquette of fly fishing, fly tying and relate all of these aspects of the subject of Biology.

Rationale:

To expand and make relevant the importance of our biosphere related to ecology, microbiology, taxonomy, entomology and zoology covered in Science 10 and Biology 11.

To promote recreational sport fly-fishing and encouraging values of life long learning of our local ecology and conservation of both our environment and our natural resources.

To promote the value of proper outdoor education and safety while utilizing and sharing our natural parks and lakes of B.C.

Organizational Structure:

Unit/Topic	Title	Time
Unit 1	Freshwater Ecology	20 hrs
Unit 2	Microbiology of Plankton	10 hrs
Unit 3	Entomology	20 hrs
Unit 4	Fish Identification/Taxonomy	15 hrs
Unit 5	Fly fishing Equipment	20 hrs
Unit 6	Fly-tying	20 hrs
Unit 7	Fly casting	5 hrs
Unit 8	Etiquette and Safety	10 hrs
	Total Hours	120 hrs

Unit 1: Freshwater Ecology (Limnology)

Time 20 hrs

Limnology is the physical and chemical properties of bodies of freshwater and conditions of plant (flora) and animals (fauna) life.

Students will explore the major components of the geography of local lakes and rivers, related to the life of common trout and salmon species.

Learning Outcome:

It is expected that students will:

- identify major zones of a lake or river
- describe the chemistry and life forms exhibited by each zone
- analyze the effects of seasons, weather, erosion and pollution on lakes or rivers
- assess the interrelationships between human activities and lakes/rivers.

Evaluation will be based on a topographical map (contour) and predicting the local movement offish and explain rationale.

Unit 2: Microbiology of Fresh-water Plankton

Time 10 hrs

By studying the microscopic life forms of s fresh-water body one will be able to determine the ecological health as related to physiology offish.

Learning Outcomes:

It is expected that students will:

- identify the parts of a compound microscope
- demonstrate proper use and care of a compound microscope
- identify various plankton species of a lake
- relate the importance of plankton to the food chain of various trout and salmon

Evaluation will be based on designing a complex food web of a known (identified) B.C. lake or river.

Unit 3: Entomology

Time 20 hrs

Entomology is the study of the most successful and important group of invertebrates know as insects. Fly-fishing is entirely based on the artificial fly and how it mimics an important stage of a specific life cycle.

Learning Outcomes:*It is expected that students will:*

- students will be able to identify many insect species based on taxonomic keys.
- identify the life cycle stages of the five major categories of insect fly-tying.
- relate the importance of entomology to the basic food chain of trout.
- relate the importance of human recreational activities on the health of a lake and the insect population. i.e. impact of using gas-powered motors vs. electric motors/rowing/belly boats.

Evaluation will be based on selecting a local lake and predicting the local insects hatches and how they relate to fish food chains.

To pick a member of each of the five major categories of insert fly-tying for future assimilation.

Unit 4: Fish Identification/Taxonomy

Time 15 hrs

Identification of sport fish is essential to the proper usage of the B.C. fishing guide and rules developed for each zone of B.C.

Learning Outcome:*It is expected that students will:*

- be able to use a dichotomous key and identify the major fish species of North America and specifically local B.C. lakes.
- be able to identify the many species of trout and salmon.
- assess the interrelationship between trout/salmon hatcheries and sport fishing.

Evaluation will be based on proper identification often major species offish caught in B.C.

Unit 5: Fly fishing Equipment

Time 20 hrs

Apparatus and techniques used to encourage a sport fish to strike.

Learning Outcomes:*It is expected that students will:*

- be able to identify the major tools (listed below) used in the science of fly fishing and relate an understanding of each and how they all interrelate to the success of catching fish
 - rods
 - reels
 - lines
 - hooks
 - vest
 - tools
 - safety equipment
 - boats/bellyboats
- demonstrate the knowledge of basic knot tying

Evaluation will be based on predicting the proper equipment choice given a scenarios of the conditions of a local lake. I.e. "evening hatch among the weeds". How would you go about using successful techniques?

Unit 6: Fly-tying

Time 20 hrs

Fly-tying is the skill of assimilating an insect's life cycle stage, resulting in successful strikes to an artificial food source.

Learning Outcomes:*It is expected that students will:*

- be able to identify the five major categories of fly-tying.
- be able to demonstrate the knowledge of the basic equipment and materials used and techniques involved in fly-tying.
- be able to construct two different patterns from each major category.

Evaluation will be based on a hands-on test based on successful construction of a fly pattern chosen by instructor.

Unit 7: Fly casting

Time 5 hrs

Fly casting involves the skill of presenting an artificial fly to an enticing sportfish.

Learning Outcomes:

It is expected that students will:

- be able to demonstrate the basic fly casting patterns.

Evaluation will be based on the successful demonstration of a designed fly cast.

Unit 8: Etiquette and Safety

Time 10 hrs

This final unit will promote proper care and preservation of our natural resources with emphasis always to the safety of the fishing person.

Learning Outcomes:

It is expected that students will:

- be able to relate the basic applications to fishing on lakes, rivers and/or hiking.
- demonstrate proper etiquette of fishing among B.C. anglers.
- demonstrate the basic uses of equipment and clothing used in accommodating a safe fishing venture.
- give basic training for students to successfully write the B.C. Boating Certification (boats under 13 feet)

Evaluation will be based on a hypothetical fishing environment. Students will demonstrate proper safety and etiquette for each fishing environment.

Instruction Components:

- direct classroom instruction with demonstrations
- interactive/peer instruction
- independent instruction
- modeling each others successes
- guest speakers
- local field trip (local sporting shop)
- videos
- computer generated research

Assessment Component:

- 50% of the grade will be based on the evaluation of tests and quizzes.
- 30% of the grade will be based on the evaluation of unit assignments and flies constructed.
- 10% of the grade will be based on a research learning journal. -10% of the final grade will be based on a final exam.

Learning Resources:

Textbooks:

- Study of Limnology
- Algae and Water Supplies
- A guide to the Study of Fresh-Water Biology - The Fly-tying Bible
- Various fishing magazines

Lab Supplies:

Biological Specimen of Plankton and Insects

Videos: to be purchased in the future

Guest Speakers: - local skilled sporting shop employees
 - local fly-tying guides
 - local fly-fishing experts on various lakes or rivers.
 - fly-tying clubs of the lower mainland

This course may be the stepping stone for students to attend professional workshops, courses or careers that deal with Fly-fishing in B.C.: A Life Long Journey.