SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: **SECOND YEAR FISH & WILDLIFE FIELD CAMP**

CODE NO. : NRT 251 **SEMESTER:** F10

PROGRAM: F& W Conservation Technician
Natural Environment Technician
Ecosystem Surveys-Field Skills

AUTHOR: V. Walker / T. Winter

DATE: May 2010 **PREVIOUS OUTLINE DATED:** May 2009

APPROVED: "B. Punch"

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CHAIR **DATE**

TOTAL CREDITS: 2

PREREQUISITE(S): None

HOURS/WEEK: N/A

I. COURSE DESCRIPTION:

This field camp provides a hands-on, practical experiences in F&W, wetland and aquatic studies. Emphasis will be placed on field techniques and surveys to evaluate fish and wildlife populations and assess their habitats (e.g. Ontario Wetland Habitat Evaluation, Ontario Aquatic Habitat (Lake) Inventory Survey, Ontario Stream Assessment Protocol). Students will demonstrate the proper use of field instruments, traps and nets. In addition, the correct procedures for humane capture, handling and marking of wild animals will be practiced. All terrain vehicle operation, safety and basic maintenance will be reinforced.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. **Conduct a lake survey using standard equipment and methodology**

Potential Elements of the Performance:

- effectively use passive and active fish capture techniques such as gill nets, trap nets, minnow traps and seine nets
- practice efficient and humane procedures to capture, handle fish
- process fish by determining and recording species identification; total length; fork length; weight; sex; stomach contents; state of health; presence of parasites, tags or marks and by removing scales, fin rays cleithrum and/or otoliths for age determination
- select and use appropriate field equipment to collect, document and preserve small littoral fish and aquatic invertebrates
- correctly operate and where necessary, calibrate the following instruments and equipment: oxygen meter, conductivity meter, pH meter, HYDROLAB, secchi disc, Juday plankton net, Eckman dredge
- accurately map riparian vegetation, substrate types and other shoreline features for physical features map
- correctly operate a Bathymetric Automated Survey System (B.A.S.S.) unit to map lake basin profile
- safely operate an outboard motor under field conditions

2. **Assess physical processes and channel structure of a stream**

Potential Elements of the Performance:

- properly demonstrate the Ontario Stream Assessment Protocol field procedures for assessing physical processes and channel structure
- accurately define site boundaries of the stream site
- set up transects and observation points
- correctly measure hydraulic head (velocity), active channel width, instream cover, maximum particle size, bank stability, bank vegetation and cover type, stream bearing
- classify stream substrate types

3. **Capture Aquatic Invertebrates for collection requirements**

Potential Elements of the Performance:

- correctly use dip nets and surber samplers in the collection of aquatic invertebrates
- proper preserve and document invertebrates collected
- accurately record habitat variables of collection location

4. **Complete field related components to complete a wetland evaluation**

Potential Elements of the Performance:

- follow the Ontario Wetland Evaluation System protocol
- Identify and describe features of various wetland types including associated flora and fauna
- accurately identify common wetland plants
- delineate and map vegetative forms within a wetland boundary
- document biological, social, hydrological and special feature components of a wetland for the purpose of evaluation
- Show proper safety and handling of a canoe

5. **Complete in-field wildlife surveys**

Potential Elements of the Performance:

- follow the Marsh Monitoring Program Protocol to survey marsh birds and amphibians
- accurately perform sandhill crane behavioral survey
- correctly use telemetry equipment in collecting location data for wildlife

- accurately perform small animal surveys, using proper measurements and techniques.
- estimate population using calculations from small animal survey field data

6. **Organize field data into neat, accurate and complete standardized field forms and field maps**

Potential Elements of the Performance:

- construct an accurate lake physical features map
- neatly and accurately complete a Lake Summary form, Gill Net Catch Record Forms, Field Collection Records, Scale Sample Envelops associated with a lake survey
- neatly and accurately complete field forms associated with the Ontario Stream Assessment Protocol
- perform basic calculations to summarized survey data
- construct a wetland vegetation and features map to be used to complete a wetland evaluation
- neatly and accurately complete habitat description forms associated with the Marsh Monitoring Program Protocol
- neatly and accurately complete field forms for wildlife survey data.

III. TOPICS:

1. Wetland Habitat Evaluation
2. Lake/Stream Survey
3. Aquatic Invertebrate Collection
4. Wildlife Surveying Techniques
5. Wildlife Population Studies
6. Wetland Habitat Evaluation

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Dodge, D.P et al. 1986. Manual of Instructions - Aquatic Habitat Inventory Surveys. Fisheries Branch, OMNR (ONLINE)
2. Kurta, Allen. 1995. Mammals of the Great Lakes Region. Fitzhenry and Whiteside. Toronto. 376 p.
3. Newmaster, S.G., A.G. Harris and L.J. Kershaw. 1997. Wetland Plants of Ontario. Lone Pine Publishing. Edmonton, Alberta. 240 p.
4. OMNR. 1993. Ontario Wetland Evaluation System (Northern Manual). NEST Technical Manual TM-001. 171 p (Manual to be provided)
5. Second Year Fish & Wildlife Field Camp Manual. 2010 Sault College, Sault Ste. Marie.
6 Hubbs, C. L and K. L. Lager. 2002. Fishes of the Great Lakes Region. University of Michigan. Ann Arbor, Michigan. 267 p.
7. McCulloch, R. D. 2002. The ROM Guide to Amphibians and Reptiles of Ontario. Royal Ontario Museum. McClelland & Stewart. Toronto, Ontario. 168 p.
8. Rezendes, P. 1999. Tracking and the Art of Seeing: How to Read Animal Tracks and Sign. Harper Collins. New York, New York. 325 p.
9. Peterson, R. T., 2002. A Field Guide to the Birds of Eastern and Central North America. Houghton Mifflin Publishing, Boston. 427 p.

V. EVALUATION PROCESS/GRADING SYSTEM:

The following semester grades will be assigned to students in post-secondary courses:

Grade	Definition
S	Satisfactory
U	Unsatisfactory
W	Student has withdrawn from the course without academic penalty.

The grade received will be based on attendance and participation. **MANDATORY** attendance and participation is required for all field activities for a satisfactory (S) grade.

NO ALCOHOL, ILLEGAL DRUGS or FIREARMS ALLOWED IN CAMP
Those students not complying with the Student Code of Conduct will be withdrawn from camp and receive an F grade.

NOTE: This course provides an opportunity for field data collection fundamental to mapping exercises and analysis in both Aquatic Surveys (NRT 246-3) and Wetland Management (NRT 259-4). Failure to receive a satisfactory (S) grade in F&W Field Camp may seriously hamper success in both Aquatic Surveys and Wetland Management.

The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded

	subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VI. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.