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:** 3
PROGRAM:	F& W Conservation Technician
AUTHOR:	V. Walker / T. Winter (Updated By: R. Namespetra)
DATE:	May 2013 **PREVIOUS OUTLINE DATED:** May 2011
APPROVED:	"C.Kirkwood"

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DEAN **DATE**

TOTAL CREDITS:	2
PREREQUISITE(S):	None
HOURS/WEEK:	N/A

For additional information, please contact Colin Kirkwood,
Dean Environment/Design/Business,
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I. COURSE DESCRIPTION:

This field camp provides many hands-on, practical experiences related to fish and wildlife, aquatic studies and ecosystem classification. Emphasis will be placed on field techniques and surveys to evaluate ecosystems, fish and wildlife populations and assess their habitats (e.g. *Wildlife 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.

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 for assessing water body parameters: YSI meter, and secchi disc • accurately map riparian vegetation, substrate types and other shoreline features for physical features map • 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 a habitat analysis for a specified Ontario wildlife species**
		• interpret and follow a Habitat Suitability Index (HSI) for a wildlife species • define suitability index variables • develop plot designs to complete a wildlife HSI • correctly apply field techniques and tools used to apply index • develop data collection formats for the variables and complete minor calculations necessary to determine the overall HSI value
	5.	**Complete in-field wildlife surveys applying standard protocols and techniques**
		Potential Elements of the Performance: • practice the techniques involved in locating and interpreting wildlife tracks and signs • correctly use telemetry equipment to collect location data for wildlife • accurately perform small animal surveys, using proper measurements and techniques • estimate wildlife populations using survey field data and applying

		calculations • follow the Marsh Monitoring Program Protocol to survey marsh birds and amphibians • define terminology related to in-field wildlife surveying and population estimation • perform a wildlife flushing survey to determine grouse population • perform and compare intensive and extensive field survey techniques of sandhill cranes.
	6.	**Complete in-field soil analyses supporting the ecosystem classification system**
		Potential Elements of the Performance: • demonstrate proper texturing techniques for soil analysis • texture prepared soil samples using keys • accurate identification of unknown soil samples
	7.	**Recognize and identify landforms and their associated structure**
		• define A,B,C soil horizons, characteristics and soil horizon forming processes • demonstrate auger sampling and texturing at 20cm • determine moisture regimes using ecological moisture regime scale 11 classes, soil depth, and coarse fragments • discuss soil texture with respect to topographic effects on drainage, moisture and soil fertility • define and discuss organic soils, profile horizons using auger at 50cm and Von Post's scale • define related geological terminology • link landform and soil characteristics to native vegetation communities and human land use • link soil water chemistry and vegetation to wetland types, including pH estimation
	8.	**Complete a soil pit analysis using protocol and keys defined in the *Field Manual for Describing Soils in Ontario***
		• in group excavation of 1metre deep soil pit • define the soil horizons by colour (*munsells*) , position, coarse fragment texture • name mineral soil horizons using horizontal descriptions • define organic layers by depth and structural consistency and humus form, and determine if it is stratified or un-stratified

		• relate soil profile characteristics to land form type and mode of deposition • estimate soil moisture 0-9, define 'mottles' and relate to soil moisture regime
	9.	**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 • neatly and accurately complete field forms for wildlife survey data

III.	**TOPICS:**	
	1.	Wildlife Habitat Evaluation
	2.	Lake/Stream Survey
	3.	Aquatic Invertebrate Collection
	4.	Wildlife Surveying Techniques
	5.	Wildlife Population Studies
	6.	Landform Assessment
	7.	Ecosystem Classification – Soil Analysis

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.
5. Second Year Fish & Wildlife Field Camp Manual. 2010 Sault College, Sault Ste. Marie. (*access through LMS*)
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 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 Aquatic Ecosystem Surveys (NET 200-3). Failure to receive a satisfactory (S) grade in F&W Field Camp may seriously hamper success in Aquatic Surveys.

The following semester grades will be assigned to students:

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.