SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: FISHERIES TECHNIQUES

Code No.:   FOR316   **Semester:**   5

Program: INTEGRATED RESOURCE MANAGEMENT
TECHNOLOGY

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Date: SEPT 1998   **Previous Outline Date:** SEPT 97

Approved: _____   *Sept 30, 1998*
                Dean, Natural Resources   Date

Total Credits: 3   **Prerequisite(s):**
Length of Course: 3 hrs/week X 16 weeks
Total Credit Hours: 48

I.   COURSE DESCRIPTION:

A practical course designed to provide the opportunity for students to participate in fisheries surveys, data collection and hatchery operations. Students will learn a variety of fisheries techniques such as population assessment, fecundity studies, stomach content analysis, tagging and marking, commercial catch sampling, egg collection and aerial creel survey.

Workplace evaluation by immediate supervisors during placements with federal (US and Canada), provincial and state agencies will form the basis of the course grade.

II.   LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:

A.   Learning Outcomes

1. List and discuss the mandate and objectives of local federal, provincial, state and private fisheries agencies.

2. Demonstrate proficiency in sampling methodologies as well as in the use of fisheries gear and equipment to collect data for local fisheries agencies.

3. Document field activities and data collected concisely in the form of technical reports.

B.   Learning Outcomes with Elements of Performance:

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

1. List and discuss the mandate and objectives of local federal, provincial, state and private fisheries agencies.

Elements of the performance:

- Research and summarize the mandate and programming details of local federal, provincial, state and private fisheries agencies

This learning outcome will constitute 5% of the course's grade.

2. Demonstrate proficiency in sampling methodologies as well as in the use of fisheries gear and equipment to collect data for local fisheries agencies.

Elements of the performance:

-   demonstrate in the field passive and active fish capture techniques such as gill nets, trap nets, trawl nets and seine nets to specifications

-   assess larval lamprey (ammocoete) habitat and population densities

-   effectively operate an electrofishing unit to specifications and document data collected

-   effectively anesthetize fish and extract reproductive products of males and females to specifications

-   demonstrate proficiency in fertilizing, disinfecting and handling of fish eggs

-   effectively process fish with regards to species identification, length, weight, sex, state of sex organs, fin clips, marks or tags and general health

-   remove scales, otoliths spines or fins for aging purposes and document information on a scale sample envelope

-   accurately quantify and qualify stomach and ovary contents of fish

-   identify and enumerate fish species in commercial catches or experimental weirs

-   identify to species and determine length frequency distribution of larval lamprey

-   classify sea lamprey attack marks using standardized methodology

-   conduct an aerial creel survey following established survey design and procedure

Employer assessment of proficiency and attitude will constitute 25% of the course's grade

3.   Document field activities and data collected concisely in the form of technical reports.

Elements of the performance:

-    research the mandate of the agency for each placement completed

-    record field data concisely and accurately on appropriate forms

-    take photograph's where ever possible to document field technique and gear used
     record field activities concisely in field diary

-    organize details of placement as outlined in the form of a technical report

-    present tables, figures and graphs from field data using appropriate software

Technical reports will constitute 75% of the course's grade

III.   TOPICS TO BE COVERED

Topics will be in the form of on-site placements with various local agencies. They may be 6 of the following:

Seine hauls/Mid-water trawls for YOY of target species

Sea lamprey larval assessment

Fish stomach analysis

Commercial catch sampling

Commercial fishing operation

Whitefish fecundity study

Salmon weir processing

Spawning-taking operation

Aerial creel survey

IV.   REQUIRED STUDENT RESOURCES (OPTIONAL)

1.   Nielsen L.A. and David L. Johnson (editors). 1983. <u>Fisheries Techniques</u>. American Fisheries Society. Bethesda, Maryland.

V.   EVALUATION PROCESS/GRADING SYSTEM:

Evaluation in this course will be based on the students' ability to demonstrate proficiency in each of the three defined outcomes in Section II.

1.   Supervisor Evaluation (25%)

For each on-site location where a fisheries technique is performed for an agency, the student's immediate supervisor will complete an evaluation of the student's competence and attitude

Each student must have a **minimum of 6 evaluations**.

It is the student's responsibility to ensure the assessment of his/her performance is documented by the employer/supervisor and is submitted to the instructor using the form provided

2.   Technical Reports (75%)

The student is expected to document the details of each of the 6 fisheries techniques placements performed. Technical reports will include:

date/time/location (include map)
supervisor/overseer and titles
overview of program under which work was performed
objective(s) of the work performed
theory behind procedure performed (research required)
details of procedure including gear used (include PHOTOS where possible)
blank copies of data forms to include in Appendix (if applicable)
results for the day (tables, figures)
brief summary of results
critique of procedure/methodology
references
supervisor's evaluation

SUMMARY OF STUDENT EVALUATION

1.	Supervisors Evaluation	25%
2.	Technical Reports (6)	75%
		100%

Course Grading Scheme

A+	90% - 100%	outstanding achievement
A	80% - 89%	above average achievement
B	70% - 79%	average achievement
C	60% - 69%	satisfactory achievement
R	repeat	
X		a temporary grade that is limited to instances where special circumstances have prevented the student from completing objectives by the end of the semester. An "X" grade must have the Dean's approval and has a maximum time limit of 120 days

VI.   SPECIAL NOTES:

Special Needs

If you are a student with special needs (e.g. Physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717 or 491 so that support services can be arranged for you.

Students should refer to the definition of "academic dishonesty" in the "Statement of Students Rights and Responsibilities".

Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.

In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Advanced Standing

Students who have completed an equivalent post-secondary course should bring relevant documents to the Coordinator, Natural Resources Programs.

Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar's Office.

VII.   PRIOR LEARNING ASSESSMENT:

Please contact the Prior Learning Assessment Office (E2203) for further information.