SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: **Science and Nature Part 1**

CODE NO. : NRT118 **SEMESTER:** **I**

PROGRAM: **Fish & Wildlife and Parks & Outdoor Recreation Technician**

AUTHOR: **Jerry Zuchlinski, M.Sc.**

DATE: **June 2001** **PREVIOUS OUTLINE DATED:** **NEW**

APPROVED:

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DEAN **DATE**

TOTAL CREDITS: **2**

PREREQUISITE(S): **None**

HOURS/WEEK: **3 hrs Per Week X 8 Weeks**

SCIENCE & NATURE PART I — NRT118
COURSE NAME — CODE NO.

I. COURSE DESCRIPTION:

This is an introductory course to provide Fish & Wildlife and Parks and Outdoor Recreation Technician students with a fundamental understanding of three scientific concepts as they relate to natural resources management. Topics include: the species in an evolutionary context; the scientific process and its application to technology; and, the cell as a model of biological function in general.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. **Explain and apply the scientific method to natural resource problem solving.**

   Potential Elements of the Performance:
   - distinguish between science and technology
   - describe the steps in the scientific method
   - using the scientific method demonstrate how you would solve a given natural resource problem
   - prepare a technical report to describe the results of a lab analysis of waste recycling at Sault College
   - describe the organization and purpose of each section of a technical report

2. **Explain the relationship of species to evolutionary process.**

   Potential Elements of the Performance:
   - describe the various criteria used to determine species status
   - explain the basis for classifying living organisms
   - categorize select examples of specimens from the field into their respective taxonomic groups
   - correctly use the binomial system of classification

3. **Show how cells satisfy the 9 characteristics of living organisms.**

   Potential Elements of the Performance:
   - list the 9 characteristics used to describe living organisms
   - identify the fundamental components of a living cell
   - explain how cells obtain nutriment
   - summarize the processes of photosynthesis, respiration, diffusion, osmosis, protein synthesis and exchange of genetic information

- demonstrate division of function in multicellular organisms
- demonstrate the application of cell biology in bacterial immune defenses and genetic alteration of species

4. **Develop use of the compound microscope.**

Potential Elements of the Performance:

- use a compound microscope to observe and draw cellular material
- measure size of microscopic materials
- calculate the scale of drawings
- demonstrate proper care and handling of the microscope

III. TOPICS:

1. **The Species in an Evolutionary Context**
2. **Science and the Scientific Method**
3. **The Cell as the Fundamental Unit of Life**

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Science & Nature 1 Lab Manual.

V. EVALUATION PROCESS/GRADING SYSTEM:

1 Unit Test	10%
1 Final Exam	40%
3 Labs	50%
TOTAL	100%

Late lab assignments and report values will be reduced at a rate of 10% per day for a maximum period of 5 days after the due date. After 5 days the lab assignment/report value will be zero.

All lab assignments and reports must be submitted regardless of lateness to pass the course**.**

Failure to attend a test without medical or severe personal reasons will result in a zero and no opportunity to make up the test will be offered.

Course re-writes are not offered.

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The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has not been possible for the faculty member to report grades.	

VI. SPECIAL NOTES:

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

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:
Students should refer to the definition of “academic dishonesty” in *Student 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/program, as may be decided by the professor/dean. 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.

Course outline amendments:
The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean’s secretary. Students will be required to provide a transcript and course outline related to the course in question.