

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



COURSE OUTLINE

Course Title: Teaching Science and Math

Code No.: ED 267

Semester: 98W

Program: Early Childhood Education

Author: Dorothy O'Connor

Date: Jan 98

Previous Outline Date: Jan 97

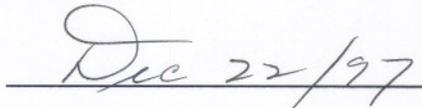
Approved:



D. Tremblay, Dean

Health, Human Sciences and Teacher Ed.

Date:


Dec 22/97

Total Credits: 2

Prerequisite(s): ED265

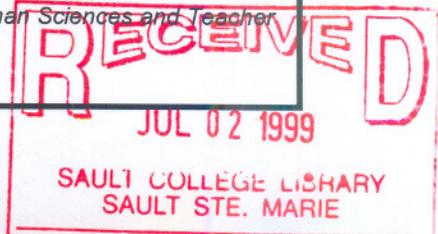
Length of Course: 15 wk.

Total Credit Hours: 30

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For additional information, please contact Donna Tremblay, Dean, School of Health, Human Sciences and Teacher Education, (705) 759-2554, Ext. 690.



I Course Description

This is an advanced methods course dealing specifically with math and science concepts and skills with emphasis on Piagetian theory. The focus of this course is familiarizing the students with classification and discovery systems applicable in child care settings.

II Student learning Outcomes

Upon successful completion of this course the student will be able to:

1. research and translate fundamental principles of science and math into learning experiences for children.
2. present a comprehensive, developmentally-appropriate curriculum which fosters math and science principles in young children.
3. use process-oriented and divergent teaching techniques to incorporate science and math experiences

III Terminal Objectives

The student will demonstrate the following skills through course development, project construction and implementation:

1. to recognize needs and interest of the preschool child relating to science and math;
2. to understand the science materials and information which will be used in the program (general background knowledge);
3. to identify, locate and utilize available resources for a science and math program;
4. to organize chosen science and math learning environments for nursery school children;
5. to select appropriate methods of presentation of science and math experiences using process-oriented, open-ended teaching methods;
6. to apply knowledge, understanding and skill in designing a sequence of science and math learning experiences;
7. to evaluate one's teaching, the learning of the children and the science and math programs;
8. to communicate and interact effectively with colleagues by micro-teaching the science and math programs designed;

9. to research and organize materials which demonstrate understanding of fundamental math concepts.

IV Evaluation Method

1. Science Learning Activity - 10%

Each student will plan and present a science activity in his/her fieldwork setting. Students should also be prepared to share their learning activity with the class. Schedule to be arranged in class

2. Math Activity Resource Book - 30%

Each student will prepare a "Math Activity Resource Book" to include examples that are specifically related to the following fundamental concepts. The book will be handed in 3 times during the semester for evaluation and will include 1 activity for each "fundamental concept". Each activity must be described in detail using the form supplied in class.

Fundamental Concepts

1. One to One Correspondence;
2. Number & Counting;
3. Sets & Classifying;
4. Ordering & Patterning

1. Shape;
2. Space;
3. Parts & Whole;
4. Comparing

1. Measurement:
2. Time;
3. Volume;
4. Weight;
5. Length;
6. Temperature

3. Math Learning Activity - 10%

Each student will choose one of the math activities prepared for the "Math Activity Resource Book" and plan and present this activity in his/her fieldwork setting.

4. Science Centre and Preschool Curriculum Ideas - 30%

Students will research a chosen topic and then gather materials to design a science centre related to the topic. Students will refer to the list of topics to be given in class. The centre will include visual and concrete materials, pertinent experiments and appropriate curriculum learning devices. They will also prepare an information packet for use in the preschool setting including: title, page, research material, bibliography of references and resources, centre planning chart, and specific details for 2 circle ideas, 2 art ideas, 2 science activities and 2 related children's stories. These activities must be thoroughly explained with procedures, materials recipes, etc.

These centres will be displayed in class. Students must submit a typed 2 page "basic outline" of basic research and preschool ideas to be duplicated ONE week in advance of presentation for distribution to the class. The complete information packet is due when the centre is presented. Dates to be arranged in class.

5. End of Term Test - 20%

A test based on material presented in class and in the texts will be tested.

*NOTE: Failure to present on the scheduled date will result in a mark of "0" for the project.

COLLEGE GRADING POLICY

90 - 100% = A+

80 - 89% = A

70 - 79% = B

60 - 69% = C

BELOW 60% = R

V Required Student Resources

Exploring Science in Early Childhood: A Developmental Approach - Lind

Experiences in Math for Young Children - Chatsworth and Radcliff

VI Special Notes

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

TESTING POLICY SCHOOL OF HUMAN SCIENCES AND TEACHER EDUCATION

All students are responsible for completing assigned tests on the date and time scheduled either on the course outline or through notification by course Professor.

Should a student be unable to write a test on the date assigned, the following procedure must be followed:

1. Student must provide the Professor with **advanced notice**, in writing, of the need to miss a test.
2. Student will require **documentation** to support the excused absence, i.e.:
 - . Doctor's note
 - . Notice of meeting

Copies of all documentation will be kept on file
3. All decisions regarding rescheduling of tests are at the discretion of the Professor.
4. Student is responsible to make arrangements, with course Professor for make-up of missed test **prior to next scheduled class** for the course in question.
5. In the event of an emergency, on the day of the test, students will require documentation to support absence, and must call in to identify absence.

Failure to comply with this policy will result in a zero grade being recorded for the missed test.

Sault College 24-Hour Phone Number: **759-2554**

Course	Instructor	Office #	Extension #
HSC104	D. O'Connor	E3211	439