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Course Name

Code No.

**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. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

**1. research and translate fundamental principles of science and math into learning experiences for children.****Potential Elements of the Performance:**

- analyze Piaget's developmental stages of concept and skill development as it relates to math and science
- recognize the needs and interests of the preschool child relating to science and math
- assess children's developmental level and plan appropriate learning experiences
- examine and interpret the fundamental principles of science and math
- research and plan science and math activities based on fundamental concepts and skills
- implement science and math activities in the preschool setting

**2. present a comprehensive, developmentally-appropriate curriculum which fosters math and science principles in young children.****Potential Elements of the Performance:**

- identify, locate and utilize available resources for a science and math program
- organize chosen science and math learning environments for pre- school children
- apply knowledge, understanding and skill in designing a sequence of science and math learning experiences

**3. Use process-oriented and divergent teaching techniques to incorporate science and math experiences throughout the curriculum.****Potential Elements of the Performance:**

- select appropriate methods of presentation of science and math experiences using process-oriented, open-ended teaching methods.
- communicate and interact effectively with colleagues by planning preschool science curriculum
- present math and science activities in the preschool setting

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- evaluate one's teaching and the learning of the children following the presentation of math and science activities.

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**III. TOPICS:**

1. Concept Development in Science and Math
2. Fundamental Concepts and Skills and Activities involving Math and Science
3. Scientific Investigations
4. Project Approach

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

1. Math and Science for Young Children, 4th Edition. Charlesworth and Lind. Delmar Publishers. 1999.
2. Practical Guide to Early Childhood Curriculum, 6<sup>th</sup> Edition. Eliason and Jenkins. (purchased in previous semester)
3. Project Approach, Book 2. Sylvia Chard. Scholastic. (purchased in previous semester)
4. Developmentally Appropriate Curriculum. Best Practices in Early Childhood Education. Kostelnik, M, Soderman, A., Whiren A. Pearson Education Inc. 2004 (purchased in previous semester)

**V. EVALUATION PROCESS/GRADING SYSTEM:****1. Math Activity Resource Binder – 25%**

Each student will prepare a “Math Activity Resource Binder” to include examples that are specifically related to the concepts presented in class. The binder will be handed in during the semester for evaluation.

Students will select three of these math activities, write up activity plans and present them in their placement. These will be handed for evaluation.

**2. Project Practice - 35%**

Each student will facilitate various ‘project practice’ activities in their placement. These activities will be handed in during the semester for evaluation. prepare and implement a Science Curriculum Project in their fieldwork placement.

**3. Tests 20%**

Two tests will be based on the material presented in class and in the textbook.

**4. In-Class Activities and Participation - 20%**

Various in-class and ‘overnight’ assignments are assigned to be handed in and/or reported on in class. These are due on the date assigned and no extensions will be granted.

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

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50-59%	1.00
F (Fail)	49% 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 <i>Policies &amp; Procedures Manual - Deferred Grades and Make-up</i> ).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	
W	Student has withdrawn from the course without academic penalty	

Note: For such reasons as program certification or program articulation, certain courses require minimums of greater than 50% and/or have mandatory components to achieve a passing grade.

It is also important to note, that the minimum overall GPA required in order to graduate from a Sault College program remains 2.0

## 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

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**Course Name****Code No.**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, 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.

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.

Students must complete tests on the designated date. If the student cannot attend the class for the test, the student must telephone the professor prior to the time of the test (759-2554 ext. 563) to make alternate arrangements (Refer to Testing Policy for Human Sciences and Teacher Education). If this procedure is not followed, a grade of zero will be applied for the test.

All assignments are due on the date indicated by the professor at the beginning of class. Late assignments will be deducted 5% per day. Assignments will not be accepted more than 1 week after the due date.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the instructor.

**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.