

GRANDE PRAIRIE REGIONAL COLLEGE
EARLY LEARNING AND CHILD CARE PROGRAM
CD2050
SCIENCE, MATH AND SOCIAL KNOWLEDGE

Semester Fall 2006

Instructor: Jane Howes, ECD Diploma, Bed. BA, Med

HOURS: 30

CREDITS: 2 PHONE: 539 2046

DATES: Sept 11- Nov.22. E-MAIL: jhowes@gprc.ab.ca

DAYS: Mondays & Wednesdays OFFICE HOURS: posted or appointment.

CLASS TIMES: Mondays 8:30 -11:50 Wednesday 9:00 – 11:20

LOCATION: TBA

COURSE DESCRIPTION:

This course introduces students to science, mathematical and social knowledge. The course emphasis is on integrating social, physical and logical mathematical experiences in the preschool child's environment. Students learn to use developmentally appropriate curriculum to facilitate the young child's construction of knowledge in these areas.

PREREQUISITES: Successful completion of first year or consent of department.

TEXTS:

Additional Materials and Expenses: You may incur photocopying expenses and expenses for projects and assignments.

COURSE OBJECTIVES:

On completion of this course you should be able to:

1. describe young children's development of physical, social and logical mathematical knowledge
2. use a developmentally appropriate approach to plan a variety of experiences that will facilitate the child's development of physical, social and logical mathematical knowledge

CLASS FORMAT: Classes will be comprised of lectures, independent and small group tasks, class discussion, and field trips.

ATTENDANCE REQUIREMENTS: Attendance in this course is important as a significant amount of the course content is covered through in-class tasks and discussions. Students are encouraged to regularly attend classes.

TEACHING METHODS: Lectures will incorporate A.V. materials, discussion, in-and out-of-class activities and assignments.

GRADING POLICY:

A final grade of D (1.0) must be obtained in order to pass this course. The final grade is base on: Assignments (90%). In class assignments and discussions (10%).

ALPHA GRADE	4-POINT EQUIVALENCE	DESCRIPTOR
A+	4.0 (90- 100)	Excellent
A	4.0 (85-89)	
A-	3.7(84-80)	First Class Standing
B+	3.3 (79-75)	
B	3.0 (74- 71)	Good
B-	2.7(70-66)	
C+	2.3 (67-69)	Satisfactory
C	2.0(64-66)	
C-	1.7(60-63)	
D+	1.3 (55 59)	Poor
D	1.0 (50 -54)	Minimal Pass
F	0.0 (49 – 0)	Failure

CLASS CONDUCT:

It is the right of the student and of the instructor to a favorable learning/teaching environment. It is the responsibility of the student and of the instructor to engage in appropriate adult behaviour that positively supports learning. This includes, but is not limited to, treating others with dignity and being punctual. The student must be familiar with the ECD Department student manual, and students rights and responsibilities found in the college calendar.

ASSIGNMENTS: A variety of learning tasks to be completed in- and out-of-class will be assigned during the semester. These will contribute to 90% of the final grade. 10% will be class participation.

CLASS POLICIES:

It is the right of the student and of the instructor to a favorable learning/teaching environment. It is the responsibility of the student and the instructor to engage in appropriate adult behaviors that positively support learning. This includes, but is not limited to, treating others with dignity and respect.

The student must be familiar with the E.C.D. student handbook and students' rights and responsibilities found in the College calendar.

- Regular attendance and active class participation help you understand the content and be a successful student.
- Absence from 20% and over of the class hours will result in a grade of 0 for attendance/participation.
- Assignments are due in-class or before 4:30 on the assignment due date.
- Late assignments will be deducted an initial 5% and 1% per day, including weekends.
- Assignments will receive a grade of 0% after 10 days late.
- All work should be typewritten (or neatly handwritten) and double-spaced. Points will be deducted or the work may be required to be rewritten when there are significant spellings or grammatical errors. Refer to the College calendar and the E.C.D. Student Handbook for assignment submission guidelines.
- Projects with other students require your active involvement and contribution.

Science , Math and Social Knowledge Schedule

Date	Topic	Reading	Assignment
Sept. 11	Introduction Magic Mixtures Marble Works Egg Drop		Discuss activities in Children's Centre
Sept 13	Define Types of Knowledge	Children as constructors of Knowledge How do Children Learn by Handling Objects? ECD Math: Make it Manipulative.	
Sept. 18	Discovery Learning	Explore C.C. play ground	
Sept 20	Math & Science experiences	Conversational Science 101A Physics is fun Science Everywhere	
Sept 25	Math Concepts Math Skill Development Measuring Comparing Classifying Reading & math	Reading in the Math Class	Bring in 4 books that promote math connections
Sept 27	Math Concept Review	Reviewing commercial games Developing math games	Math game based on a favourite story , book or nursery rhyme.
Oct. 2 -4	Math Review Work on math game		Activities on math due Children's game due
Oct. 9	Thanksgiving		
Oct 11	Anti – bias curriculum Racism & Sexism	Anti-bias curriculum Racism & sexism in children's books	
Nov. 6	Discuss		Assignment #1

	observations of science, math & social knowledge the children are acquiring.		Analyze children's books for racism & sexism.
Nov.8	Discuss social knowledge Holidays & diversity	Celebrating diversity & meeting children's developmental needs.	
Nov. 15	Anti-bias curriculum Attitudes & Values	Anti-bias education Talking to Kids about Race Too Sexy too soon.	

- Changes to this course outline will be discussed with you in class.

ASSIGNMENT Overview:

Assignment One

Observations of children in outdoor and indoor play environments.

Assignment Two

Take home assignment , view video segments from Children's Centre and identify the social, physical and mathematical knowledge the children are exploring.

Assignment Three

Take home assignment on naturalistic, informal and structured math experiences.

Assignment Four

Make a math "path game" based on a favourite song, finger play or story. Lab in the Children's Centre where you observe and analyze what the children are learning when playing with your games.

RESOURCES FOR CD2050 SCIENCE, MATH AND SOCIAL KNOWLEDGE

_____(1993). Creative Teaching in Early Childhood Education. Toronto, ON: Harcourt
Brace Javonovich

Baratta -Lorton, M. (1972). Workjobs, activity centered learning for early childhood education. Don Mills, ON: Addison-Wesley

Benish, D. (1977). Water, water everywhere: science through water play. Lewisville, NC: Kaplan Press

- Canady, R. & Raines, S. (1989). Story stretchers and activities to expand children's favorite books. Beltsville, MD: Gryphon House
- Charlesworth, R. & Radeloff. (1978). Experiences in Math for Young Children. Albany, NY: Delmar
- Derman-Sparks, L. (1989). Anti-bias curriculum: tools for empowering young children. Washington, DC: NAEYC
- Fleming, B. & Hamilton, D. (1977). Resources for Creative Teaching in Early Childhood Education. New York, NY: Harcourt Brace Jovanovich
- Fleming, B. et al. (1993). Creative teaching in early childhood education: a sourcebook for Canadian educators and librarians. Toronto, ON: Harcourt Brace Jovanovich
- Granovetter, F. & James, J. (1989). Sift and shout: sand play activities for children ages 1-6. Lewisville, NC: Kaplan Press
- Harlan, J. & Rivkin, M. (1996). Science experiences for the early childhood years: an integrated approach. Englewood Cliffs, NJ: Merrill
- Hendrick, J. & Chandler, K. (1993). The Whole Child Canadian 6th ed. Scarborough, ON: Prentice Hall
- James, J. (1987). Waterworks: water play activities for children age 1-6. Lewisville, NC: Kaplan Press
- Lind, K. (1991). Exploring Science in Early Childhood: a developmental approach. Albany, NY: Delmar
- Macdonald, S. (1996). Squish, sort, paint & build: over 200 easy learning center activities. Beltsville, MD: Gryphon House
- Miller, K. (1984). Things to do with Toddlers and Two's. Chelsea, MA: Telshare Publishing
- Miller, K. (1989). The Outside Play and Learning Book. Chelsea, MA: Telshare Publishing
- Mitchell, A. & David, J. (eds). (1992). Explorations with young children: a curriculum guide from the Bank Street College of Education. Mt. Rainier, MD: Gryphon House
- Seefeldt, C. & Galper, A. (2000). Active Experiences for Active Children: Social Studies. Upper Saddle River, NJ: Merrill
- Shaw, J. & Blake, S. (1998). Mathematics for Young Children. Englewood Cliffs, NJ: Prentice Hall

Smith, S. (2001). *Early Childhood Mathematics*, 2nd ed. Needham Heights, MA: Allyn & Bacon

Taylor, B. (1993). *Science Everywhere: opportunities for very young children*. Orlando, FL: Harcourt Brace Jovanovich

Waite-Stupiansky, S. (1997). *Building Understanding Together: a constructivist approach to early childhood education*. Albany, NY: Delmar

York, S. (1991). *Roots and Wings: affirming culture in early childhood programs*. St. Paul, MN: Toys 'n Things Press

PERIODICALS

Young Children

Day Care and Early Education

Child Care Information Exchange

WEB SITES

www.redding.com

www.headstartinfo.org/publications

www.npin.org

www.nccic.org

www.earlychildhood.com

www.scholastic.com

[www.bubble links](http://www.bubblelinks.com)

www.bubbles.org/solutions/

www.kidsolr.com/science/page17.html

www.kids.net.au/kidscategories/Kids_and_Teens__School_Time/Science/Physics

homeschooling.gomilpitas.com/explore/Explore.htm

<http://volcano.und.nodak.edu/>

www.sciencebob.com

www.tripl.org/science.htm

www.nsta.org/elementaryschool