

2009-3



EDUCATION 711
Conceptions of Numeracy
(Enroll #12203)

Fall Semester 2009	Instructor:	Dr. Rina Zazkis
Meeting Dates:	September 11-12-13 September 25-26-27 October 16-17-18 November 6-7-8	Office:
Times:	Fri: 4:30 - 9:00 pm * Sat: 8:30 - 4:00 pm Sunday: 8:30 - 1 pm * to be negotiated	Telephone: 778 782 3662
Location:	College of New Caledonia, Prince George	Email: zazkis@sfu.ca
Room:	2-121	

COURSE RATIONALE

This introductory course is designed for the off-campus M.Ed. program in Numeracy. The rationale for this course is twofold: (a) to examine the evolving conceptions of numeracy in contemporary society and the consequences of innumeracy, (b) to reflect on personal experiences as a learner enhancing numeracy skills.

DESCRIPTION

Exploration of the notion of numeracy and its role in contemporary society. An examination and enhancement of personal numeracy through immersion in a problem-solving environment.

REQUIRED TEXT

The Number Devil: A Mathematical Adventure by Hans Magnus Enzensberger

Students are asked to purchase the book through Amazon.com or Chapters

RECOMMENDED TEXT

Paulos, J. A. (1988). *Innumeracy: Mathematical illiteracy and its consequences*. New York: Hill & Wang.

COURSE OVERVIEW

Numeracy can be referred to as 'mathematics in action'. It is a response to the growing number of high school graduates who, although well educated, are not able to apply the mathematics they have learned to real life problem solving situations. Numeracy is not a curriculum item. It is not a chapter in a text book. Numeracy is a disposition – an ability and a willingness to apply and communicate mathematical knowledge and procedures in novel and meaningful problem solving situations. As such, the development of numeracy skills is heavily dependent on the mathematical experiences one has. This course will provide numeracy-rich experiences to its students through their immersion in a problem-solving environment in which they can come to experience the wonders of mathematical discovery.

Mathematics is more than just a collection of facts and skills: the facts to be memorized and the skills to be mastered. Mathematics is an activity to be experienced and an endeavor to be pursued. It is essential for teachers to understand this aspect of mathematics in order that they can help their students to experience, first hand, the wonder of creation and discovery in mathematics. This experience is essential in an attempt to develop numeracy in learners. The course is designed to provide teachers with the opportunity to examine their own learning processes, and to draw upon these processes in order to develop meaningful learning activities that will foster an appreciation of both the utility and the aesthetics of mathematics – and as such, become more informed learners and teachers of numeracy.

Tentative list of topics:

- Conceptions of numeracy, relationship between numeracy and mathematics, relationship between numeracy and literacy
- Numbers and number systems: a journey from counting pebbles to counting machines
- Problem solving: Connecting mathematics classroom to the “real” world
- Games of chance or how to lie with statistics
- Beyond numbers: Mathematics in Art
- Humans as patterning animals
- Numeracy around us – examination of examples from newspapers, movies, flyers etc.
- Innumeracy and its consequences

ASSIGNMENTS AND ASSESSMENT (tentative)

Attendance and participation in all class activities and discussions	Compulsory
Homework portfolio assignments (4), as requested during class sessions, that include response to readings and problem solving tasks	60% (4 x 15%)
Completion of a problem solving log (journal), detailing the process, analyzing personal problem solving experiences, linking (where applicable) their experience to the research literature;	20%
Review of a chapter or article	10%
Presentation of a problem	10%

ACADEMIC HONESTY STATEMENT

All members of the University community share the responsibility for the academic standards and reputation of SFU. Academic honesty is a condition of continued membership in the university community. Please review the Policy at <http://www.sfu.ca/policies/teaching/t10-02.htm>