

Designs for Learning: Elementary Mathematics

Education 475

Section: D600

Term: 2014 Summer

Instructor:

Instructor:

Harpreet Kaur

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Tuesday 1:30-5:20 pm EDB 7608

Discussion Topics:

This course is designed for pre-service and in-service elementary school teachers who wish to explore the fundamentals of the learning and teaching mathematics. The course will draw on the latest research in

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mathematics learning, and will show how such findings may be used in the classroom. It will provide opportunities to explore your own learning powers and to examine common mathematical misconceptions. Participants will explore mathematical learning, their own mathematical thinking, and curriculum; and plan mathematical instruction within a consistent framework using appropriate instructional materials and methods. Upon completion of the course it is hoped that participants will feel more at ease with the subject of mathematics, be able to deal confidently with the prescribed curriculum, and be able to plan mathematical lessons to address different learning styles.

Course Syllabus: To be distributed and reviewed on the first day of class.

Grading:

Participation

is mandatory for this course. This will take three forms attendance, group work, and involvement in class discussion. If class is missed for either a foreseeable or unforeseeable reason please contact me and a makeup assignment will be arranged. A large part of every lesson will involve small group work and whole class discussion. Your involvement in both of these is expected. Learning happens through dialogues not monologues. You will get out of this course as much as you put into.

1) Reflective

Journal Assignment (25%) - You will be asked to think about some pedagogical issues regarding the teaching and learning of mathematics. Your thoughts on these issues are to be recorded in a journal. It is important that each new entry into the journal is well marked with date and title. The journal should be handed in twice (after week 6 for formative assessment, and after week 11 for summative assessment).

2) Mathematics

Problem Solving Assignment (20%)- You'll be engaged in problem solving activities in class almost every week and you are expected to reflect on pedagogical issues related to the problem during the discussion following the task. You need to submit a written reflective discussion for two problems selected by the

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instructor.

3) Written

Assignments (15% and 15%): You will be required to produce two written assignments on topics specified. These will be 1000-1500 words in length.

4) Group

Project - Math Play- Diagnosis and Remediation

(25%) - This assignment will be worked on in groups of 2 or 3, but submitted individually. For this assignment you will be given an overview of the beginnings of a fictional mathematical interaction between a student and a teacher. Working in your groups you are to formulate a diagnosis of the source of the error and a plan for remediation. (Format to be specified)

Required Texts:

Elementary and Middle

School Mathematics: Teaching Developmentally by John A. Van de Walle,
Sandra Folk, Karen S. Karp, and Jennifer M. Bay-Williams Fourth Canadian Edition (2014) ISBN:
978-0205-99702-2

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite:

Designs for Learning: Elementary Mathematics

EDUC 401/402

or co-requisite EDUC 403. Students who have credit for EDUC 475 prior to 2001-2 semester cannot take EDUC 475 for further credit.

Notes:

Students in all Faculty of Education courses are encouraged to review policies pertaining to academic integrity available on the Undergraduate Programs website:
http://www.educ.sfu.ca/ugradprogs/student_resources/index.html

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.