Education 475

Designs for Learning: Elementary Mathematics

|  |
| --- |
| **Prof:** Peter Liljedahl **Telephone:** 604-764-6764 **Office:** EDB 8660 **Email:** liljedahl@sfu.ca |
| **Dates and Times** |
| Jan 6 5:00pm – 8:40pmJan 13 5:00pm – 8:40pmJan 20 5:00pm – 8:40pmJan 27 5:00pm – 8:40pmFeb 3 5:00pm – 8:40pm Feb 10 5:00pm – 8:40pm Feb 17 Family Day | Feb 24 5:00pm – 8:40pmMar 2 5:00pm – 8:40pmMar 9 5:00pm – 8:40pmMar 16 5:00pm – 8:40pmMar 23 5:00pm – 8:40pmMar 30 TBA |
| **Text** Van de Walle, Karp, K., Bay-Williams, J., & McGarvey, L. (2017) Elementary and Middle School Mathematics: Teaching Developmentally, Fifth Canadian Edition. Pearson Education Canada (ISBN-13: 978-0134095912) **Website** <http://www.peterliljedahl.com/courses/educ475>  |
| **Course Requirements** 1. Problem Solving Homework (20%) Throughout the course you will be given several homework problems to work on. On March 9th(ish) you will hand in two of these problems for marking (format to be specified on Feb 4th). One of these problems must come from the first three homework assignment and the second must come from the next three homework assignments. Class time will be given to solving the problems. 2. Group Problem Solving Assignment (25%) This is similar to the problem solving assignment except that you will work on the task in groups of 2-4 and you must submit your work in the form of a poster (details to be specified on Feb 4th). It will be due on March 16th(ish). Class time will be given to solving the problem.  3. Reflective Journal Assignment (25%) You will also 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. In addition, you will be asked to respond to readings from the text or supplemental material. It is important that each new entry into the journal is well marked with date and title. Your journal will be handed in on March 23rd. You may also hand in any portion to me, at any time during the course, for feedback. 4. Math Play I – Diagnosis and Remediation (0%-5%) This assignment will be worked on in groups of 2 or 3 and submitted as a group. For this assignment you will be given an overview of the beginnings of a fictional mathematical interaction between a student and a teacher. The interaction may be in the form of a conversation, an in-class lesson, an in-class question and answer session, a teacher reading a students work (homework, project, or test) and it will present to you a situation in which a student has made an error in their work. Working in your groups you are to formulate a diagnosis of the source of the error and a plan for remediation. Individually, you are to write a 1 paragraph diagnose the source of the error, a 1 paragraph of the classroom setting, and a 2 page (double spaced) play as to how the interaction is played out and eventually resolved. If you are submitting this for marks, it will be due on February 3rd. If you wish to submit it for feedback it is due any time before March 16th. If you choose not to do it at all then the due date is Feb 29th, 2021. 5. Math Play II – Diagnosis and Remediation (25%-30%) This assignment will also be worked on in groups of 2-4. This assignment will be identical to Math Play I only larger in scale and scope. You will be required to produce a more detailed and comprehensive diagnosis, and a lengthier and more detailed play. This is due on March 30th.6. Participation (0%) 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 see 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. |
| **Deadlines** |
| Feb 3rd  | Math Play I – for marks |
| Mar 9th  | Problem Solving Assignment |
| Mar 16th  | Group Problem Assignment |
| Mar 16th  | Math Play I – for feedback |
| Mar 23rd | Reflective Journal |
| Mar 30th  | Math Play II |
| **Grading Structure** |
| **Grade** | **A+** | **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D** | **F** |
| **Mark** | 96-100 | 91-95 | 86-90 | 81-85 | 76-80 | 71-75 | 66-70 | 61-65 | 56-60 | 46-55 | 0-45 |