Basic Course Information

Semester	**Fall 2014**	Instructor's Name	**Jill Kitzmiller**
Course Title & #	**Math 114 Children's Mathematical Thinking**	Instructor's Email	**jill.kitzmiller@imperial.edu**
CRN #	**10422**	Webpage (optional)	
Room	**404**	Office	**2768**
Class Dates	**8/18/14 – 10/8/14**	Office Hours	**8-8:30 am M – TH** **10 – 11:30 M W**
Class Days	**MW**	Office Phone #	**760 – 355 - 6296**
Class Times Units	**1:30 – 3:35 am** **1 units**	Who students should contact if emergency	**Ofelia Duarte – Staff Sec II** **760 – 355 - 6155**

Course Description

Explore children's mathematical thinking with in-depth analysis of their understanding of operations, place value, algorithms, and multiple representations of problems. Examine interviews of children to assess understanding of mathematics topics, then plan tutoring sessions on basis of interviews.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:
Analyze an elementary child's thinking by personal interview using pre-defined problem types.

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Demonstrate skill in recognizing representations of mathematical problems and their connections to children's understanding.
2. Demonstrate an understanding of problem types and solution strategies for addition and subtraction.
3. Demonstrate an understanding of problem types and solution strategies for multiplication and division.
4. Demonstrate alternative algorithms and a connection to complex elements of counting.
5. Demonstrate an understanding of place value concepts.

Textbooks & Other Resources or Links

COURSE MATERIALS

- IMAP Select CD of Children's Reasoning
  Bookstore – ask at counter - about $25 (new or used OK or it can be rented)
  Find online
  From previous student
  Use copy at Math Lab
  *If you are having difficulty playing the videos on your computer, I have had luck with VLC media player which is free at www.videolan.org/vlc/index.html
- Syllabus and Course Readings
- Counters you can use for your interviews
- Paper and writing tools for your interviews

Course Requirements and Instructional Methods

Recommended preparation: Concurrent enrollment of completion of MATH 110 with a grade of "C" or better.

Classroom instruction will consist of a combination of watching videos and discussion designed for student led learning. You will be required to participate in class discussions, group work and presenting work to the class. Failure to participate in class activities/discussions can result in lowering of your grade.

There will be 3 written homework assignments worth 25 points each. These assignments are described later in the syllabus. Homework will be graded on the completeness of your answer. You do not have to be "wordy," but fully answer the questions, using examples from the selected video when necessary. If it asks for your opinion, explain yourself. This is college and short sentence answer is not appropriate for an intelligent opinion in a discussion class.

There will be two (2) interviews of elementary age school children that are fully explained separately. The first interview is worth 50 points, the second is worth 100 points.

There will be a final exam worth 25 points. This is the only in class exam.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Homework Assignments

HW 1 – Learning Style Survey (25pt):

- Go online and search for 'Learning Style Survey.' Choose two sites and take the two different surveys of learning styles. You may want to try more than two, but only turn in two. (10 pts) [Note: One recommended site is from North Carolina State found at engr.ncsu.edu. There are MANY sites, but some of them want you to download something or join their site and, personally, I won't do that.]
- Print your results **and** the explanations (usually explained on another page of the site). Answer the following:
  1. Explain why you agree or disagree with the findings. (5pts)
  2. Explain why you think the explanations and study tips can be useful to persons wanting to become teachers (5pts)
  3. Compare the two sites (and your results) and tell me which one you think is more accurate and/or useful. (5pts)

HW 2 - Watch Video Clip #24, Richard (25pt). Answer **Reflection** Questions:

#1 (5 pts), **#2** (5 pts), **#3** (5 pts), and **#6** (10pts).

HW 3 - Watch Video Clip #17 and #18 (25pt). For #17 Answer **reflection** questions: **# 1** (5pts), **#2** (5pts), **#3** (5pts). For #18 answer reflection questions: **#1** (5pt) and **#4** (5pt).

First Interview Write-Up

Interview a younger elementary-age child (1st – 2nd grade). You must use questions and problems from the interview documents included in the 'Resource' folder on your CD – **Early-Number Interview** and some from **Equal Sharing**. You do not have to use all of the questions. Choose a variety (minimum of 20) that will be suitable for the age of the child you choose. Be sensitive to the attention-span of the child.

Answer the following questions either typed or hand-written. (7pts each)

1. The age and grade of the student you interviewed and pertinent information about the child, such as: documented disabilities, gifted, home-schooled, private school, second language, repeated grade, etc. Do not include last name of the child or information that would identify the child specifically to an outside reader.
2. What did you learn about the child's learning style(s)? Give examples of what the child did or said that leads you to think this is their learning style. Ex: did they use fingers? Blocks? Look up to the right or left? Stare into space when they concentrate? Other?
3. How does this knowledge about the child's learning style relate to your own style or experiences you had a s a child? Give examples.
4. Did you provide manipulatives? What types? Did the child use them on their own or did you encourage them to use them? If you did not use them, what was your rationale for not doing so?
5. Give examples of a few problems and how the child showed you the solution. Example: used fingers, used blocks, drew a picture, wrote down the problem in numbers… EXPLAIN HOW THE CHILD SOLVED THE PROBLEM – SPECIFICALLY.
6. What did you think went well and what did not go so well? What would you improve or do differently? Did anything surprise you?
7. Summarize how your opinion of the child changed after you had interviewed them? Did the interview change your opinion of children in general?

To turn in:

- Your responses to these questions
- A copy of the problems you asked the child
- The child's papers or drawings if they used any

Course Grading Based on Course Objectives

Points earned in the course will be based on the following items. Points are approximate and may be modified according to extra or deleted assignments.

Homework:	75 points
1st interview	50 points
2nd Interview	100 points
Final exam	25 points
Total points	250 points

Your grade will be based on the following points and percentages:
225 or more points (90 – 100%) = A
200 – 224 points (80 – 89%) = B
175 – 199 points (70 – 79%) = C
150 – 174 points (60 – 69%) = D
Below 150 points = F
Class participation, attendance and a subjective instructor's interpretation of work may be used in assigning a final grade to borderline cases.

Incomplete Grade

To receive a final grade of incomplete, you must be passing the class and be unable to take the final exam.

Attendance

- Attendance and participation are essential in this class, not only for you to learn but also so that others may benefit from your input. This class only meets one day per week. I will drop you if you have more than one (1) unexcused absence.
- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class unless approved for appropriate math purposes. Cell phones or other electronic transmitting devises may not be used on any exam, even if you forget a calculator. You must have a non-transmitting calculator for exams when allowed. **Do not text or use your phone on line during class. Texting is disruptive to your learning and those around you and may be grounds for dismissal from class.**
- Food and Drink are prohibited in all classrooms. Water bottles or containers with lids/caps are the only exception.
- Disruptive Students: Any student who disrupts or interferes with another student's ability to learn or with instruction may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Examples include, but are not limited to, talking with other students during lecture, making disparaging remarks about another student's work or disrupting a contribution to discussions, answering phones or texting during class, reading non-math related materials such as magazines, watching or playing videos or games on an electronic devise. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.
- Please be courteous of others: Try to be on time to class, listen to others without interrupting, encourage other students to participate and share their work.

Academic Honesty

- Plagiarism is to take and present as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to correctly 'cite a source', you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment or using or attempting to use materials, or assisting others in using materials, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.

  Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report

the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment ;(c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment, (e) use of a commercial term paper service

Additional Help – Discretionary Section and Language

The instructor can add the information pertinent to his or her class here. Some suggested language:

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Learning Services (library). Please speak to the instructor about labs unique to your specific program
- Library Services: There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Required Language: Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. If you feel you need to be evaluated for educational accommodations, the DSP&S office is located in Building 2100, telephone 760-355-6313.

Student Counseling and Health Services

Required Language: Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see http://www.imperial.edu/students/student-health-center/. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Required Language: Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Required Language: Imperial Valley College is dedicated to help students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

Anticipated Class Schedule / Calendar

Tentative Schedule – Math 114 – Fall 2014

Date	Week	In Class	Homework
8/20	1	Introduction, Syllabus, IMAP disk View 21 – reflection questions View 20 – reflection questions View 22 – reflection questions	
8/27	2	View 1 View2 View 3 - read Gretchen story View 4Q and 4 – Invented strategy View 5Q and 5 – tens (how many in 100)	HW 1 Due
9/3	3	View 6 – number sense View 7 – confusion with hundreds (watch interviewers) View 8 – decimal sense View 9 View 10	Interview 1 Due
9/10	4	View 11 View 12 View 24 – wait time View 13 – procedure vs. concept View 14 – what is the “whole”?	HW 2 Due
9/17	5	Pattern blocks	Interview 2 Due
9/24	6	View 15 View 16 View 19 View 23 View 25	
10/1	7	Student presentations	HW 3 Due
10/8	8	Student presentations Final Exam	