

**Math 5913: Introduction to Research in Mathematics Education**  
**Spring 2015**

**Instructor:** Dr. Michael Oehrtman  
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405-744-5790  
MSCS 426

**Office Hours:** MWF 1:30 pm – 2:30 pm  
or by appointment

**Class Times:** TTh 2:00 pm – 3:15 pm

**Location:** MSCS 428

**Website:** <https://oc.okstate.edu> (then log in and find our course)

**Prerequisites:** C or better in MATH 3613 or 4023

**Required Reading:** The bulk of the work in this course will consist of reading, discussing, and critiquing journal articles and book chapters representing the foundations and frontiers of research in mathematics education. I will provide electronic copies of these readings through D2L. You will also be responsible for locating and reading additional articles relevant to your emerging research interests.

**Course Description:** This course will introduce you to the field of research in mathematics education. As such you will gain an appreciation of the problems tackled within the field, the methodologies employed in this pursuit, and familiarity with a broad base of foundational literature. You will develop an understanding of the role of theory in mathematics education research and how it is scientifically developed. You will also gain experience collecting and analyzing interview data to develop insights into the reasoning and learning of students.

**Participation:** In order to gain the most from this course and to contribute to the scholarly atmosphere of the class, you will need to carefully read all assignments well in advance of the class meetings for which they are assigned. Such careful reading is a very time-consuming process, often consisting of reviewing difficult passages multiple times, looking up cited references, comparing to other readings, scrutinizing provided data, evaluating the evidence presented to support claims and the logic behind overall arguments, etc. During class, I expect you to offer insights you gained from the readings, ask questions about aspects that you did not understand, critique the analyses and arguments developed in the readings, and hold each other accountable for scientific discourse.

**Writing:** To guide your analysis of the literature and for your own later reference, you will outline and summarize the theoretical perspectives, methodologies, results, and main ideas advanced in each assigned reading. After the midterm, you will also write short papers synthesizing ideas across the greater body of literature.

**Clinical Interview Project:** You will work in teams of two to conduct clinical interviews with students on a chosen topic. This will consist of preparing and revising interview protocols, conducting the interviews, transcribing the video, analyzing the data, and writing up your results.

**Exams:** We will have two exams in the course, a midterm and a final, aimed at preparing you for the type of interpretation and writing that will be necessary for the qualifying exam, proposal, and dissertation for a PhD in Educational Mathematics. These exams will assess your understandings of the literature we read throughout the course, your ability to synthesize this literature, and your ability to apply the constructs therein. The final exam will be on Thursday, May 7 from 2:00 pm – 3:50 pm.

**Grades:** Course grades will be determined as follows:

	<u>Points</u>	<u>Grade</u>	<u>Points earned</u>
Participation	100	A	900-1000
Writing Assignments	200	B	800-899
Clinical Interview Project	200	C	700-799
Midterm	250	D	600-699
Final	250	F	0-599
<b>Total Possible</b>	<b>1000</b>		

**Syllabus Attachment:** Please read the OSU syllabus attachment, linked on the web at <http://academicaffairs.okstate.edu/images/Patty/FacultyandStaffResources/Syllabus/spring%202015%20syllabus.pdf>. This has a lot of important information, including instructions about disability accommodations. Please contact me privately during the first week of the course if you need accommodations as a result of a disability.