

EDUC 355: Math Pedagogy in Grades 9-12
Fall 2013
HAB 115

Instructor	Office	Phone	e-mail address
Matthew Siers	HAB 118	363-5709	matthewsiers@gmail.com

Office Hours: **Wednesday, 5 – 6:30 PM**

Class Hours: **Wednesday, 6:15 – 9:15 PM (this could change)**

Course Description: 355 Pedagogy in Grades 9-12. (4)

Participants learn and apply the principles of effective long and short term planning of developmentally appropriate lessons for students in grades 9-12. In addition, participants develop a variety of authentic assessment strategies for their particular disciplinary area, including aspects of the MN Standards and appropriate National Standards. A field experience is required with this course. Prerequisite: Acceptance in the Education program.

Required Textbooks:

- 1) Teaching Secondary Mathematics, 7th edition by Posamentier & Stepelman
- 2) Every Minute Counts - Making Your Math Class Work, by David R. Johnson
- 3) Making Minutes Count Even More - A Sequel to Every Minute Counts, by David R. Johnson
- 4) Motivation Counts - Teaching Techniques that Work, by David R. Johnson

Other Resources

- 1) Minnesota Academic Standards in Mathematics (2007) available online at:
http://education.state.mn.us/mde/Academic_Excellence/Academic_Standards/Mathematics/index.html
- 2) Principles and Standards for School Mathematics (NCTM, 2000) available online at:
<http://www.nctm.org/standards/default.aspx?id=58>

Course Evaluation

- 1) Assignments:
 - Unit and lesson plans..... 20%
 - Papers, in-class presentations
 - Article reviews and other written papers..... 20%
- 2) Attendance and class participation..... 20%
- 3) Microteaching..... 20%
- 4) Practicum Portfolio..... 20%

Technology is at the heart of instruction now and you will learn many different forms throughout this semester. I will show you different websites that can be used to supplement your classroom (www.edmodo.com, www.pbworks.com), as well as different teaching software (A wireless tablet with Interwrite software and SMART software used w/ a SMART Board.) You will be expected to use these tools as well as using Equation Editor in Microsoft Word for typing quizzes and tests.

General Course Outline (order subject to change)

- 1) Why be a High School Math Teacher? (Ch. 1)
- 2) Classroom setup
- 3) Classroom Management
- 4) Out-of-classroom responsibilities (Ch. 8)
- 5) Theory of Multiple Intelligences
- 6) Yearly/Unit/Lesson Planning
- 7) Methods of Assessment
- 8) Teaching Subject Matter – from Algebra – Algebra 2(Ch. 2, 3, 4)
- 9) Technology in the Classroom (Ch. 5)
- 10) Grading rubrics, correcting (Ch. 6)
- 11) Other

Assignments (subject to change)

- 1) Chapter exercises
- 2) Readings and reflection
- 3) Paper – What do you want your future classroom to “look” like?
Philosophy of Teaching
- 4) Research and Present – Seating arrangements
- 5) Research and Present – Community building in a classroom
- 6) Unit Timeline and Standards Alignment
- 7) 10 Warm-up Activities
- 8) Lesson Plan and teach
- 9) Textbook comparison
- 10) Practicum Portfolio
- 11) Other

Practicum Experience

This will be at least a 10 day experience in a high school classroom. You will be required to observe at least 2 lessons. One observation will be to observe, and record the teacher’s lesson, and the other will be to observe the teacher’s teaching technique and student interaction. You will also be required to teach at least 4 consecutive days. Of the 4 days you will be teaching, you will be required to videotape one lesson for me to observe. The portfolio will consist of your pre-teaching observation summaries, your 4 lesson plans for the days you teach, and an evaluation from your coordinating teacher.