MA 350  Methods and Materials for Teaching Senior High School Mathematics  
Fall Semester 2013  
M-W-F 11:00 – 11:50  
WS 3616

Instructor:  Dr. Peggy House  
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Office Hours:  M and W 1:00 – 3:00; F 12:30 – 1:30; other times by appointment.

Prerequisites:  Admission to the methods phase of teacher education. Concurrent (or prior) enrollment in 
ED 349, MA 312, and MA 331, or consent of instructor. You are to take this class now only if 
you will do student teaching in Winter or Fall 2013. (See me if you do not fit this description.)

Required Materials:

1. Johnson, David R.  *Every Minute Counts: Making Your Math Class Work.* (Purchase at bookstore)
2. Johnson, David R.  *Motivation Counts: Teaching Techniques that Work.* (Purchase at bookstore)
3. Student membership in the National Council of Teachers of Mathematics (NCTM). (Membership application distributed in class.) Many “text materials” are accessed through your membership.

   On-line at [http://www.nctm.org/membership/content.aspx?id=7618](http://www.nctm.org/membership/content.aspx?id=7618) or call the NCTM Customer Service Department at (800) 235-7566. Student membership is $42/year and includes a subscription to one on-line journal.  
   *(You should select the Mathematics Teacher as your journal.)* You will be asked for my name and information (see the application form).  
   [The NCTM home page is [http://www.nctm.org/](http://www.nctm.org/). Start there for more information about the organization.]

   ★  You must provide me with proof of membership no later than Wednesday of the second week of the semester (September 4) (either e-mail a copy of the membership confirmation that you receive from NCTM or print it out and give it to me). Join immediately so you can start to access the on-line resources. Starting next week, assignments will be given that require readings available on the “member’s only” portion of the NCTM Web site.

4. *Principles and Standards for School Mathematics* (NCTM 2000), the *Mathematics Teacher* (journal), and selected other materials that you will access on-line as part of your NCTM membership.

Course Overview:

MA 350 helps to prepare you for student teaching and for your future career as a mathematics teacher. It is designed to acquaint you with the contemporary mathematics curriculum and instructional resources, and to help you develop methods and strategies for teaching high-school mathematics. During the semester you will have opportunities to plan and present lessons to your peers, and the required field experiences will provide opportunities for you to interact with high-school students and teachers. These experiences, together with class activities, discussions, and assignments, will help you to formulate your own teaching philosophy and instructional style.

Course Requirements:

- Attend all classes and participate actively in class discussions and activities. (Attendance is taken daily; absence, tardiness, or failure to participate actively have a negative impact on your grade.)
- Complete assignments on time. All written assignments are to be done with a word processor and submitted in hard copy.
- Field experiences in schools: at least 20 hours during the course of the semester. Written reports of your field experiences will also be required.
- Develop, present and evaluate mini-lessons as assigned, both in this class and in your field placement.
- Solve assigned problems and discuss mathematical concepts and processes from a pedagogical perspective—with emphasis on reasoning and sense making.
Course Objectives: During MA 350, students are expected to:

- Develop a philosophy of mathematics teaching.
- Discuss recommendations, goals, and issues in school mathematics.
- Develop an understanding of the curriculum and expected outcomes of school mathematics.
- Develop a variety of teaching strategies employing appropriate instructional materials and technologies.
- Demonstrate ability to plan, present, and evaluate mathematics lessons.
- Demonstrate knowledge of the content of secondary mathematics curricula.

Course Content:

- Goals of school mathematics: Overview of K-12 content and recommendations; goals, objectives, and content of 9-12 mathematics (with emphasis on algebra and geometry components); teaching methods, materials, and technology; national and state standards and frameworks.
- Classroom interaction: Strategies for teaching concepts, generalizations, skills; questioning techniques; small- and large-group interaction; classroom management.
- Planning for instruction: Specifying goals and objectives; developing lesson and unit plans.
- Evaluation: Evaluation vs. testing; methods of evaluation; grading; state and national assessments.
- Professional development for mathematics teachers: Reflective teaching; opportunities for professional growth; professional literature and resources; evaluating teaching effectiveness.

Grading:

- Points will be assigned for class participation, projects, presentations, assignments, and tests. Your grade will be determined by the percentage of the total possible points that you earn, as follows:
  
  A = 93–100%;  A- = 90–92%;  B+ = 87–89%;  B = 83–86%;  B- = 80–82%;  etc.

- As teachers, you will be expected to communicate with students, parents, administrators, and others in correct and proper English. Therefore, such things as grammar, spelling, punctuation, and syntax will be considered in the evaluation of your written work.

- Late assignments will have points deducted unless prior arrangements have been made for good and valid reasons.

- Class participation means attending class every day, arriving on time, always being prepared for class, actively contributing to class discussions, asking as well as answering questions, and engaging in discourse with other members of the class as well as with the professor.

Final Exam and Other Tests:

- Tests will be announced in class in a timely fashion.
- Quizzes can happen at any time and will be unannounced.
- The final exam for this class is scheduled for Monday, December 9, 10:00 – 11:50 a.m.

If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock (227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and university guidelines.