

## Course Syllabus:UFTeach- Step 2: Inquiry-Based Lesson Design in Mathematics

University of Florida Spring 2009

<b>Date/Time: Wednesday/ Periods 8-9</b>		<b>Course/Section: EDG 4930 (Section 0207)</b>	
		<b>Class Location: Norman Hall 2337</b>	
<b>Instructor: Gloria Weber</b>			
Instructor: Weber Location: NRN 175 Office Phone: 352-392-0726 ext. 290 Cell Phone: 352-870-8004 Office Hours: Thurs. 2:00-4:00 E-mail: gweber@coe.ufl.edu		Teaching Assistant: Short Location: NRN 176 Office Hours: Mon., Fri. 9:30-12:00 E-mail: shortk@ufl.edu Cell Phone: 904-728-4137	

### Course Prerequisite(s)

- Successful completion of Step 1
- An interest in exploring teaching

### UF E-Learning Website

<https://lss.at.ufl.edu/>

#### Course Requirements

Students must be able to:

- Create Microsoft® Word documents
- Check e-mail daily
- Attach Microsoft® Word documents to e-mail messages
- Check the UF E-Learning course Web site daily and submit lessons to E-Learning
- Travel off campus during school day to observe and teach lessons

If assistance is needed to meet these requirements, please see your instructor. Help is available upon request.

### Course Schedule

Class	Topic
Week 1:	Course Orientation & Mathematical Inquiry
Week 2:	Technology and Inquiry
Week 3:	Questioning Strategies
Week 4:	Understanding Adolescents
Week 5:	Writing Clear Directions
Week 6:	Preparing to Teach Lesson 1
Week 7:	Pre- and Post-assessments
Week 8:	Preparing to Teach Lesson 2
Week 9:	Introduction to Final Project
Week 10:	Creating Professional Teaching Materials
Week 11:	Preparing to Teach Lesson 3
Week 12:	Using Data for Lesson Revision
Week 13:	Essential Features of Classroom Inquiry
Week 14:	Preparation for Final Project
Week 15:	Final Project Presentations

## Course Overview

This course will provide students with...

- an opportunity to explore mathematics teaching as a career,
- early field experiences in teaching at the middle school level, and
- an introduction to inquiry-based instructional techniques.

Students who want to explore teaching careers become familiar with the middle school environment by observing and discussing middle school culture and by teaching several lessons to a middle school class. They build upon and practice inquiry-based lesson design skills that were developed in Step 1 and also become familiar with exemplary mathematics curricula for the middle school setting. As a result of the Step 2 experiences, students generally are able to make a decision as to whether they want to pursue a pathway to teacher certification through the UFTeach program.

To obtain first-hand experience with planning and implementing inquiry-based curriculum, students teach math lessons in middle school classrooms in the local school district. Students attend one and a half (1.5) hours of class on campus each week, where they learn to design and deliver excellent inquiry-based lessons. The students present three lessons in a sixth, seventh, or eighth grade classroom during the semester. These classrooms are selected both for the diversity of the student body and for the quality of the classroom teacher. Each team of students has a district classroom teacher and a UFTeach professor who will work with them to improve their teaching abilities as the semester progresses. The classroom teacher remains in the classroom at all times and provides immediate feedback on the quality of the instruction. The UFTeach professor observes and provides feedback on the quality of instruction for a minimum of two lessons.

The class sessions provide students the opportunity to work with instructors and teaching assistance in preparing to use equipment to teach lessons, organizing teaching materials, and practicing instruction.

Course Objectives and Expectations

<b>Course Objectives and Evidence of Student Learning</b>	
<b><i>Students will be able to...</i></b>	<b><i>Evidence of Student Learning:</i></b>
utilize mathematics content knowledge to design and teach middle school lessons aligned with district curriculum.	<ul style="list-style-type: none"><li>• one paragraph in each of three lesson plans that provides background information on the concepts presented</li><li>• content accuracy throughout each lesson plan</li><li>• content knowledge observed by the mentor teacher and the master teacher</li></ul>
utilize exemplary sources of inquiry-based mathematics lessons.	<ul style="list-style-type: none"><li>• participation in model lesson demonstrations presented in class</li><li>• approved sources cited in each lesson plan</li></ul>
identify the unique attributes of adolescent students and implement teaching strategies that are effective in the middle school environment.	<ul style="list-style-type: none"><li>• participation in a class session that addresses the unique attributes of adolescents</li><li>• one paragraph in each of three lesson plan that indicates why the instructional strategies are effective for adolescents</li><li>• effective instructional strategies observed by the mentor teachers and master teacher</li></ul>
design and teach inquiry-based lesson plans using safe practices and the 5E Instructional Model.	<ul style="list-style-type: none"><li>• three inquiry-based lesson plans using the the 5E template that include safety recommendations</li><li>• written feedback by the mentor teacher for three inquiry-based lessons taught in a middle school</li><li>• written feedback by the master teacher for at least one inquiry-based lesson taught in a middle school</li></ul>
discuss strategies for achieving instructional equity.	<ul style="list-style-type: none"><li>• participation in class discussions</li></ul>

## Course Objectives and Evidence of Student Learning

<i>Students will be able to...</i>	<i>Evidence of Student Learning:</i>
design and teach lessons that incorporate the use of technology.	<ul style="list-style-type: none"> <li>• participation in technology activities during class</li> <li>• a minimum of one lesson plan that incorporates the use of technology</li> <li>• written feedback from the mentor teacher indicating that a minimum of one lesson incorporated the use of technology</li> </ul>
use probing questions to elicit feedback on students' acquisition of knowledge.	<ul style="list-style-type: none"> <li>• participation in class discussions on questioning strategies</li> <li>• extensive examples of possible questions and expected responses listed in each lesson plan</li> <li>• written feedback for every lesson from the mentor teacher, indicating the effective use of questioning strategies</li> </ul>
use pre- and post-assessments to evaluate student learning, to provide instructive feedback to middle school students, and as a basis for revising lesson plans.	<ul style="list-style-type: none"> <li>• analysis of the use of pre- and post-assessments to evaluate student learning</li> <li>• pre- and post-assessments with written comments for instructive feedback for lesson plans</li> <li>• use of pre- and post-assessments to revise one lesson plan</li> </ul>
provide instructive feedback to peers.	<ul style="list-style-type: none"> <li>• written feedback provided to peers who present their lessons during class</li> </ul>
reflect on teaching experiences to revise lesson plans.	<ul style="list-style-type: none"> <li>• student reflections produced after observation and teaching experiences</li> <li>• one revised lesson plan submitted as a final project</li> <li>• essay providing rationale for revisions to the lesson plan</li> </ul>
assess commitment to pursue teaching as a career path.	<ul style="list-style-type: none"> <li>• survey indicating intention to pursue teaching as a career path</li> </ul>

### **Expectations**

1. **25 percent of your grade is based on attendance and active participation** in all class sessions. In class you will 1) plan and practice your lessons with your partner; 2) get feedback from the instructor and other members of the class regarding your lesson; and 3) observe and learn from demonstration lessons, readings and other resources.
  - a. Because the course meets only once per week and there are no texts, most topics and activities are covered in only one class session. Missing class means you will miss required information and experiences. Furthermore, most of you will be working with a partner. If you are not there, you punish your partner because you are forcing your partner to work with you outside of class. The workload for each lesson should be shared equally. Credit for attendance requires coming on time and staying until class is over.
  - b. You will be given 25 points for attendance. **Five** points will be deducted for each absence. If you contact your instructor and also your partner **before** the class begins, only **three** points will be deducted. It is your responsibility to communicate with your partner about how to coordinate the next lesson. Don't leave your partner guessing about why you are not in class, and how and when you will get together. **One** point will be deducted for each tardy.
2. Use e-mail for communication with the instructor and with mentor teachers who work with you in your middle school field experiences.
3. Check the course Web site daily for class information and updates.

4. Use a structured approach to record observations of your middle school classroom.
5. Complete and submit (3) lessons plans, and practice them in class according to the announced schedule.
  - a. Lesson plans (rough draft and final version) will be posted to E-Learning. You will also e-mail a final version of each lesson plan to your Mentor Teacher **two days** before your scheduled teaching day. Your UFTeach professor must give final approval for each lesson no less than two days before you teach it. Otherwise, the lesson must be rescheduled for a later date and points will be deducted (see grading policy).
6. If an assignment is turned in late, points will be reduced by 10% or the equivalent of one letter grade for each day late.
7. Collect samples of student work and provide instructive feedback as evidence that they meet the stated objectives of a lesson.
8. Submit Reflection Assignments on E-Learning that respond to specific questions for reflection on the observation and teaching experiences no later than one week after you observe or teach a lesson.
9. As a final product, revise a lesson to improve it, basing changes on personal reflection, analysis of students' work, and feedback from mentor teacher and UFTeach instructors.
10. Thank you in advance for turning off or silencing cell phones and other devices BEFORE class begins. Texting during class is not appropriate and will result in deduction of participation points.

### **Field Experience Expectations**

You will be assigned to a 6<sup>th</sup>, 7<sup>th</sup> or 8<sup>th</sup> grade mathematics class at a local middle school. You will be expected to:

1. Attend a scheduled meeting to meet your mentor teacher, set your observation and three teaching dates, and plan the topics for teaching.
2. You will observe your mentor teacher's class once during the semester. With you mentor teacher's approval; you are welcome to observe additional times.
3. Report any problems you have immediately to the Step 2 instructor. Almost all problems can be solved. Don't let them fester.
4. Be well prepared and arrive 30 minutes before your scheduled teaching time. Arrive one hour before a technology lesson to troubleshoot and set up technology equipment.
5. Learn and use the name of your students. Use nametags or name plates so that you can call students by their names throughout your lesson.
6. Observe all school district rules, policies, and procedures. Sign in at the front office of the school each time you visit. Dress professionally. Check district guidelines for teachers' dress code.
7. If you experience a serious emergency and you must miss your scheduled teaching day, notify your partner, your mentor teacher, and your UFTeach professor as soon as possible. Your partner will teach the lesson alone if necessary. Do not miss your teaching assignment due to a transportation problem. Seek help by calling a cab, taking a bus, or calling your professor.

### **Special Notes:**

- If the instructor or your mentor teacher determines that you are not prepared to teach as scheduled, you will be required to reschedule the lesson.
- If you fail to show up to teach a planned lesson, you may lose up to half of the assigned points, and you must reschedule the lesson.

## Assignments/Point Values

Assignments	Percentage
<b>Attendance and Participation</b>	25
<b>Lesson Plans</b> (3 rough drafts and 3 final versions), submitted and approved according to the Course Calendar deadline dates.	30
<b>Field Experiences Reflections</b> on the observation and two lessons submitted to the instructor no later than one week after observing or teaching the lesson. See Course Calendar for final deadline dates.	21
<b>Final Project</b> The final project will include a revised version of one lesson plan taught this semester, examples of student work produced during that lesson, an analysis of the students' work, and an essay explaining your rationale for revising the lesson. <b>More specific requirements will be outlined in class.</b>	24
<b>TOTAL</b>	<b>100</b>

### Grading Scale

90 --100 = A  
80 --89 = B  
70 --79 = C  
60 --69 = D  
Below 60 = F

**Note:** *If an assignment is turned in late, points will be reduced by 10% for each day late up to a reduction of 50%. After 5 days (50% off), work turned in can receive only a maximum of half credit.*

### UF Policy on Scholastic Dishonesty

Students who violate university rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.