CED 497: Classroom Interactions in Mathematics and Science Education

COURSE SYLLABUS: SPRING 2013

Time: Friday from 9:00 – 10:50 a.m.
Instructor: Mario Eraso, Ph.D., Assistant Professor, Department of Curriculum & Instruction
Office Location: Education South 214
Office Phone: 903.886.5757
Office Fax: 903.886.5581
University Email Address: mario.eraso@tamuc.edu

COURSE INFORMATION

Materials: Course packet available from professor includes several textbook chapters, articles, and supplementary case studies.

Course Description:
CED 497 introduces the concept that teacher and students jointly constitute the reality of the classroom. The course includes the language of classroom systems and classroom culture; focuses on the decomposition of classroom events into teacher actions, student actions, and conditions; and analyzes how each person’s actions cause another person’s reaction. The structure of the course requires that students spend time outside of class observing experienced teachers in action.

Student Learning Outcomes:
1. Understand types of interactions and patterns of interaction in the classroom. Examine factors that influence these interactions.
2. Develop a repertoire of teaching moves (e.g., questioning strategies) that promote learning interactions.
3. Use multiple approaches to teaching (including direct instruction, inquiry teaching, and use of small groups). Examine what students learn under each model and what each model requires of teachers.
4. Incorporate formative assessment into instruction, including evaluating student understanding through verbal questioning and student artifacts.
5. Examine equity and diversity issues in classroom teaching and ways of insuring that all students have an opportunity to learn.
6. Develop the capacity to identify and evaluate best teaching practices as presented in research literature.
COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments
Course grade will be determined by your performance on the following assignments:

1. Attendance and Participation (10%)
2. Case Study Analysis (10%)
3. Presentation and written Report on observations of math/science classrooms (25%)
4. Teaching math/science mini-lessons and Reflection Paper (25%)
5. Midterm Exam (15%)
6. Final Exam (15%)

Grading

A = 90% - 100%
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = 59% and below

Student work will be expected to show evidence of creativity and the use of critical thinking skills. Merely restating someone else’s work is not adequate for college level assignments. If an original work is directly or indirectly quoted, it must be so noted. To do otherwise is plagiarism. Any plagiarism is grounds for an F on the submitted work, and possibly for failing the course or being expelled from the university.

Remember that you are responsible for your learning. I will help you as much as possible, but you must let me know that you are having problems or questions that you cannot answer. As your instructor, I am available to help you in any way possible. Please feel free to call me at the office phone number provided above.

Written Assignments:

• All written assignments are to be typed and are expected to exhibit professional quality. Written assignments should be prepared according to the Publication Manual of the American Psychological Association (APA style).
• You should demonstrate mastery of organizing, structuring, and editing (for all aspects of mechanics) in your writing. Excessive errors in grammar, spelling, and vocabulary will result in the reduction of your score by at most a letter grade.
• Student work is expected to be well-written, logical, and easy to read and follow.
• In all assignments, you should use 12 point size, Arial or Times Roman font, one-inch margins on all four sides of the page, and text should be double spaced.
• Assignments are to be submitted at the beginning of class on the due date. Please include date and title of assignment.
• Late assignments will not be accepted without my prior approval.
TECHNOLOGY REQUIREMENTS

- Hardware--- Both Macintosh and Windows systems are acceptable
- Software ---Word Processor and Calculations Spreadsheet
- Connectivity---Reliable internet access through an established internet service provider is required for online learning activities. Students should choose a DSL or cable-modem service where high speed internet is available.
- Email---Access to a reliable email service through an established internet service provider is critical for assignment submission and communication with instructor.
- Web Browser---Internet Explorer (version 8.0 or greater) or Netscape (version 9.0 or greater) is required. These browsers are available for free in the download areas at:
  - http://www.microsoft.com
  - http://www.netscape.com

ACCESS AND NAVIGATION

This course will not be utilizing eCollege.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement:
The instructor is available before and after class and other posted office hours. The best method of communication is via university email.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:
This is a graduate course of 3 credit hours. Because we will be making presentations and discussing course material in whole class and group formats, attendance to all classes and professional conduct is required.

Attendance:
- According to University policy B19, “Students are expected to be present for all class meetings of any course for which they are enrolled.”
- Attendance at all class meetings is required and essential to your success in this course.
- You are expected to attend all classes; be on time; stay until class is dismissed; and be actively engaged in discussions. Your participation will impact your grade.
- Excessive absences will reduce your grade in the course.
- In the event of an emergency and a missed class, you are responsible for obtaining class materials/ assignments/notes from one of your peers. Please notify me if you anticipate an absence.

Professional Conduct:
- You are expected to demonstrate professional behavior in all that you do. This includes, but is not limited to, refraining from outbursts, communicating appropriately, taking responsibility, and demonstrating initiative. Also be courteous to your classmates as they present their lessons and as they are speaking.
- Thoughtful participation in class discussions is expected. This requires reading the assignments and thinking about them (before class). It also requires coming to class ready to listen to other students as well as the instructor.
University Specific Procedures:

ADA Statement
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu
Student Disability Resources & Services

Student Conduct
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Code of Student Conduct from Student Guide Handbook).

COURSE OUTLINE / CALENDAR

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<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1 Jan 18</td>
<td>Course overview and Introduction to Classroom Interactions</td>
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<tr>
<td>3 Feb 1</td>
<td>Lesson preparation. Variation in lesson structure.</td>
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<td>4 Feb 8</td>
<td>Complexity Theory</td>
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<td>5 Feb 15</td>
<td>Computer Lab Interactions-Spreadsheets</td>
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<td>6 Feb 22</td>
<td>Computer Lab Interactions-Dynamic Geometry</td>
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<td>7 Mar 1</td>
<td>Observations and Debriefs</td>
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<td>8 Mar 8</td>
<td>Midterm Exam</td>
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<td>9 Mar 15</td>
<td>Spring Break</td>
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<td>10 Mar 22</td>
<td>Observations and Debriefs</td>
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<td>11 Mar 29</td>
<td>Constructing Knowledge-Iterative processes in design</td>
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<td>12 Apr 5</td>
<td>Constructing Knowledge-Beam design</td>
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<td>13 Apr 12</td>
<td>Student presentations</td>
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<td>14 Apr 19</td>
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<td>15 Apr 26</td>
<td>Teaching Strategies and English Language Learners</td>
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<td>16 May 3</td>
<td>Final Exam</td>
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