

TED 664
Teaching Problem Solving

Instructor: Dr. Kerri Richardson
Office: 311-A Curry Building
Phone: 334-4669
E-mail: kerri_richardson@uncg.edu (*this is the best way to reach me*)
Assignments & Schedule: **blackboard.uncg.edu**

Goals: This class will focus on a problem solving as a means for learning mathematics. It is intended to meet the needs of those involved in mathematics teaching and learning at any level. The class is designed so that participants engage in non-routine problem solving and is not a methods class. However, participants may likely find their work in the course to inform their own teaching.

Objectives:

- To engage in non-routine problem solving as a means towards reflecting on mathematics and mathematics learning.
- To explore mathematical activity as one of constructing patterns and relationships.
- To engage in collaborative activity in the classroom setting.
- To examine the relationship of discourse and mathematics learning.

Required Readings:

Brown, S. & Walter, M. (2005). *The art of problem posing* (3rd ed). New Jersey: Lawrence Erlbaum Associates, Inc.

Student and instructor selected articles from journals that appeal to your specific area of interest will also be part of your required readings.

Course requirements and grading:

Class participation/ attendance	10%
Weekly Journal	30%
Weekly Problem	30%
Final Presentation	10%
Final Paper	20%

Class participation/attendance: Class participation is a qualitative judgment of student participation, intellectual curiosity and articulation of ideas as well as a quantitative assessment of class attendance.

Weekly Journal: The purpose of the journal is to help make sense of your experiences in the class and write about assigned readings. Each week, writing prompt(s) will be included on Blackboard under *Assignments*. Depending on the weekly problems, ideas discussed, and readings assigned, things you write about *may* include:

- Significant mathematics ideas you have developed during the class period
- Significant ideas you have developed as a result of the assigned readings
- The environment in which you are engaged in mathematics thinking
- Any other thoughts or questions you have about mathematics learning as a result of this experience

Journal entries should be approximately ½ to 1 page in length, double spaced, size 12 font, Times New Roman, and the heading should have your name, date, and journal entry number all on the same line, separated by commas. (i.e., Kerri Richardson, 8/23/09, Journal #1)

Weekly Problem: Each week you will be expected to choose a problem of significance for which you have developed a solution. This problem can be selected from your own resources or from a

bank of problems provided in class. Write up the solution formally as evidence of your mathematical activity, thinking, and learning. You may either type or hand-write your solution.

The weekly journal and weekly problem should be kept in the same notebook and I will walk around each week to check off your work. Please keep your work in a 3-ring binder with separate sections for your journal entries and problems. There will be certain times during the semester where I collect notebooks at the beginning of class and return them at the end of class. All notebooks will also be collected toward the end of the semester for a final grade.

Final Presentation: As part of your journaling, we will be working on an on-going problem in class in which you and 2 or 3 other peers present your solution the final night of class. I will discuss this in greater detail during class.

Final Paper: The final paper will consist of a topic of your choice related to problem solving. I will also provide you with a list of possible topics to help get you started. It is due the final day of class and I must approve your topic prior to beginning the paper. The paper must be 5-6 pages, size 12 font, Times New Roman, APA style, and must include at least 4 references from our readings (both textbook and/or articles) and at least 3 references from outside readings.

Grading criteria:

Rubrics will be used for grading and I will provide them as attachments on Blackboard so you will know the kinds of things I'm looking for in your work.

UNCG Cares Statement:

UNCG cares about your success as a student. We recognize students often balance many challenging personal issues and demands. Please take advantage of the University resources designed to help. For assistance accessing these resources contact the Dean of Students Office at 334-5514 or Student Academic Services at 334-5730. The Counseling and Testing Center is available for mental health assistance, 334-5874. You may also visit me during my office hours.

Inclement Weather:

If the university is closed, class will be cancelled. In case you are unsure, check your e-mail and Blackboard – I will e-mail everyone to confirm class cancellations.