MAE 447 Course Outline Fall 2003

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Office Hours:

MAE 447 is a one credit writing course required for the Undergraduate Mathematics Education Program.

THERE IS NO TIME OR PLACE FOR MEETING LISTED IN THE MATHEMATICS DEPARTMENT COURSE SCHEDULE.

A LIST OF POSSIBLE HOURS APPEARS BELOW. YOU MUST CONTACT ME, BY SEPTEMBER 10, AT THE e-MAIL ADDRESS ABOVE, TELLING ME WHICH OF THESE HOURS ARE POSSIBLE FOR YOU AS CLASS MEETING TIMES.

Monday: 10:40 - 11:35

Monday: 11:45 - 12:40

Monday: 12:50 - 2:10

Monday: 2:20 - 3:15

Tuesday: 11:20 - 12:15

Tuesday: 12:50 - 1:45

Tuesday: 2:20 - 3:15

Basic Requirements.

You are required to chose a topic in a timely fashion.

You are required to hand in one 1-2 page paper telling about the library based research material you have found pertaining to your topic.You must hand in both a first and a final draft.

You are required to hand in one 1-2 page paper telling about the web based research material you have found pertaining to your topic. You must hand in both a first and a final draft.

You are required to hand in a newspaper or magazine clipping relevant to mathematics education.

You are required to hand in both a first and final draft of an 8-10 page research paper on your topic.

You are required to attend class every week; you may miss at most 5 classes.

Grading Structure.

The grading structure for this course is based on 100 points, as follows.

1. Timely choice of topic: 4 points.
2. First draft of library resource paper: 4 points.
3. First draft of web resource paper: 4 points.
4. Final draft of library resource paper: 10 points.
5. Final draft of web resource paper: 10 points.
6. Newspaper or magazine clipping: 4 points.
7. First draft of final paper: 21 points.
8. Final draft of final paper: 36 points.
9. Class Attendance and participation: 7 points.

1. You must have an acceptable topic by 9/19/03; note that your first choice might turn out not to be acceptable: **4 points** if submitted on time; **you lose ½ point for each school day it is late.**
2. The first draft of the library resource paper must be handed in by 09/26/03: **4 points** if handed in on time; **you lose 1/2 point for each school day it is late**.
3. The first draft of the web resource paper must be handed in by 09/26/03: **4 points** if handed in on time; **you lose 1/2 point for each school day it is late**.
4. The final draft of the library resource paper must be handed in by 10/10/03: **1 point** for timeliness; **4 points** for appropriateness of content; **5 points** for language usage, logic, grammar, etc.
5. The final draft of the web resource paper must be handed in by 10/10/03: **1 point** for timeliness; **4 points** for appropriateness of content; **5 points** for language usage, logic, grammar, etc.
6. The newspaper or magazine clipping must be handed in by 10/17/03: **4 points.**
7. The first draft of the final 8-10 page paper must be handed in by 11/28: **21 points** for timeliness; you lose 3 points for each school day it is late.
8. The final draft of the final paper must be handed in by 12/12/03 (*If it is not handed in on time, your final grade will be either incomplete, if you have a legitimate excuse, or F*): **24 points** for overall logical structure, and connections between resource material and conclusions; **10 points** for grammatically correct writing; **2 points** for format.
9. You are required to attend at least 7 classes; you gain 1 point for each class attended, provided you participate in the class.

Course Outline

1. Select a topic, and either send the instructor an e-mail with your suggested topic, or bring it to class.
2. (You can do 3, 4 and 5 in any order) After your topic has been approved, locate at least two web sites concerned with mathematics education, and write a 1- 2 page paper, with references to the websites, describing what information relevant to your topic you have found on these web sites, and what other information and/or misinformation you found. One of these web sites should be the NCTM (National Council of Teachers of Mathematics) website. The first draft of this paper must be submitted electronically, by the above due date, to the above e-mail address.
3. (You can do 3, 4 and 5 in any order) Find at least two books or journal articles in the library that are relevant to your topic, and write a 1 - 2 page article, with references, describing what you found and how you will use it. You might also mention other potentially useful sources of information that you uncovered. The first draft of this paper must be submitted electronically to the above e-mail address by the above due date.
4. (You can do 3, 4 and 5 in any order) Find at least one article in a current newspaper or general news magazine relevant to mathematics education. Clip it, and bring it to your weekly meeting.
5. Write an eight to ten page research paper, using standard margins and double spaced, on your topic. The first draft of this paper can be submitted either in hard copy or electronically. **You must review this first draft with the instructor before you write your final draft.** The final draft must be

submitted by the last day of classes.

Style and References:

Your style and references should conform to one of the two standard styles used in mathematics education; these can be found in the following two references:

Chicago Manual of Style

University of Chicago Press

Chicago, 1993

Publication Manual of the American Psychological Association

Fifth Edition

American Psychological Association, 2001

Your references for the paper can include primary and secondary research. Examples of secondary research would include printed books, educational publications, articles in newspapers or articles from periodicals and recent journals. You must use at least two library sources; that is sources other than the web, TV, newspapers, or non-professional periodicals. You should cite your sources using one of the two styles listed above.

Some Possible Topics

Alternative Education: Helping the low achiever succeed in mathematics.

Assessing mathematics achievement

Managing the mathematics classroom

Maintaining discipline in an unpopular subject

How to teach problem solving

Working in groups; homogeneous vs. heterogeneous groupings

Do uniform exams stifle creativity

Teaching styles vs. learning styles: does everyone learn the same way?

Implementing State Standards in the Math Curriculum

Coping with the low achiever - identifying the problem(s)

Math anxiety

Coping with the high achiever - enrichment

At what point should students be permitted to use calculators?

At what point should students be encouraged to use calculators?

The use and misuse of graphing calculators

Regents exams vs. Math A , B

Student attitudes towards Mathematics and Mathematicians

Study Skills for Mathematics Students

Mathematics Education in other cultures

Women in Mathematics

NOTE: If you have a physical, psychological, medical or learning disability that may impact on your ability to carry out assigned course work, I would urge that you contact the staff in the Disabled Student Services office (DSS), Room 133 Humanities, 632-6748/TDD. DSS will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is confidential. Note that we cannot make special arrangements for students with disabilities except for those determined by DSS.