

Math 490 Spring 2013, Presentation

Your assignment is to design and lead, with a classmate, one Math 490 class. Your lesson should be on a topic which has been approved by Professor Evans and it should include: a hands-on activity (or interactive teaching style; the point is for your audience to be *engaged* and *involved* in your class!), problem solving and proofs. You might also want to include: a standard from the Common Core and/or the history of your topic. Your goals should be for your classmates to understand what you are explaining, to learn from you, and to be interested in what you (and they) are doing. You must give your audience a homework assignment consisting of 4 problems (and you must provide detailed solutions to the homework problems). The level of your presentation should be “secondary mathematics from an *advanced* viewpoint.” You may include an activity designed for secondary students, but proofs and other aspects of your presentation should be geared toward your classmates. You must select a topic that pushes YOU to learn from the experience of preparing and presenting.

Required elements:

- Math 490 class (design and lead it)
- Write up of homework assignment you’re giving (and copies for all classmates)
- Solutions to all homework problems
- References (cite all sources used, including websites, textbooks, etc.)

Due dates:

- March 28 – Turn in a description of your presentation topic, a rough draft that outlines what you will present, and references selected thus far. Also select the date for your presentation from April 30, May 2 or May 7 (list the dates in order of preference).
- April 4 – Turn in a revised outline of your 490 class and at least 2 problems from your homework assignment. The outline must include details about which aspects of the topic you will emphasize during class and references you will use.
- April 18 – Turn in a final outline of your 490 class, including which aspects of the topic you will emphasize during class and references you will use. Also submit all 4 homework problems with solutions.

Rubric for Grading Presentation (up to 100 points total)

“Hook”/Hands-on activity/Interaction with Class (each presenter graded separately)

7-8. Presenter implemented “hook”/hands-on activity in an engaging way; presenter encourages classmates to think for themselves and participate during class.

5-6. Presenter implemented “hook”/hands-on activity in a somewhat engaging way; presenter sometimes encourages classmates to think for themselves and participate during class.

3-4. Presenter shows no concern for classmates' understanding of the material nor does he/she make an effort to "hook" or engage classmates in the material.

Computations and Statements of Results

6-7 points. Computations are correctly done and results are clearly explained.

4-5 points. Some correct, some incorrect computations and/or some incoherence in explanation of results.

2-3 points. Errors in computations lead to answers that are unreasonable, or a formula is used incorrectly and/or results are not explained.

Proofs/Explanations of Topics

6-7. Proofs and explanations are clearly explained and easy to follow/understand and they indicate that the theorems, ideas and lines of reasoning are complete and correct.

4-5. Proofs and/or explanations are somewhat clear but sometimes difficult to follow. There may be some errors, but details are mostly correct.

2-3. Proofs and/or explanations are difficult to follow and/or are incorrect.

Examples

6-7. A sufficient number and variety of examples are provided. The examples are helpful and aid comprehension.

4-5. Not enough or variety of examples are provided. Some examples are useful whereas others are inappropriate or unhelpful (or incorrect).

2-3. Examples are not provided or do not aid comprehension (and/or they are inappropriate, unhelpful, or incorrect).

Visual Representation (if appropriate)

6-7. Illustrations, tables, graphs, and/or board work are easy to read, correctly constructed, labeled, and presented.

4-5. Illustrations, tables, graphs, and/or board work are sometimes difficult to read and/or have some errors but are mostly correct.

2-3. There are many errors in illustrations, tables, graphs, and/or board work and/or labeling tables and/or graphs.

Communication (part 1) (each presenter graded separately)

6-7. Presenter uses language and symbols correctly, communicates ideas clearly, is organized and knows the material.

4-5. Presenter uses language and symbols correctly most of the time (only a few mistakes) and communicates ideas relatively clearly; organization is sometimes lacking and/or presenter struggles with some of the material.

2-3. Presenter uses language and symbols correctly some of the time (many mistakes), communication of ideas is vague, organization is lacking and/or presenter struggles with material.

Communication (B) (part 2) (each presenter graded separately)

6-7. Explanations and examples are clear, easy to follow and understandable; material is presented in an engaging and interesting way.

4-5. Explanations and examples are sometimes clear, sometimes easy to follow and understandable and they are sometimes unclear, difficult to follow and hard to understand; material is sometimes presented in a way that is not engaging or interesting.

2-3. Explanations and examples are unclear, difficult to follow and hard to understand and/or material is presented as if the audience were not present.

Responses to Questions (each presenter graded separately)

6-7. Presenter encourages questions, takes time to understand them, and answers them satisfactorily.

4-5. Presenter sometimes encourages questions and answers some questions satisfactorily, some unsatisfactorily; presenter sometimes does not understand what the audience is asking.

2-3. Presenter does not encourage questions and/or does not answer questions satisfactorily and/or does not understand what the audience is asking.

Use of Class Time

6-7. Class time is used wisely. Presenters cover what they planned, do not have to rush, and do not end well before their time is up.

4-5. Class time is sometimes used wisely. However, presenters have to rush to finish OR finish before their time is up.

2-3. Class time is not used wisely. Presenters do not cover what they planned OR finish well before their time is up

Homework Problems

6-7. Problems are carefully designed so that students learn something from doing them.

4-5. Some problems are carefully designed, but others are not.

2-3. Problems are not carefully thought out and students gain little from doing them.

Homework Solutions and References

6-7. Solutions are correctly given, clearly explained, and thorough. References are provided and given in an appropriate format.

4-5. Some correct and some incorrect solutions are given and/or there is some incoherence in explanations and/or solutions are not thorough. References are incomplete or some are inappropriately formatted.

2-3. There are many errors in solutions and/or solutions are not explained or are incomplete. References are not provided or inappropriately formatted.

Outcome/Scope of Presentation

6-7. Presenters clearly learned something from the project and pushed themselves to go beyond current knowledge.

4-5. Presenters may have learned a bit from the project, but there is no evidence that they pushed themselves to go beyond current knowledge.

2-3. It is unclear what (if anything) presenters learned from the project.

Overall Impression

6-7. All due dates were met and presentation gives a strong overall impression to the instructor (presenters are organized, prepared, and knowledgeable about topic).

4-5. Some due dates were missed; presentation gives a mediocre overall impression to the instructor.

2-3. Due dates were missed and presentation seems put together at the last minute.

Classmates' Overall Impression

7-8. The presentation and homework assignment were understood by classmates. Classmates were interested and engaged in the presentation. They were also pushed to go beyond their current knowledge and presenters made them think.

5-6. Classmates learned something from the presentation and the homework assignment, but they were not sufficiently engaged or challenged.

3-4. It is unclear what (if anything) classmates learned from the presentation and homework assignment.