Math 306 Structure of Math IV: Development of Geometry

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MW 221  
Office Hours at CCSU  
W:12:00 – 5:00

Class:  
Mon – Wed  1:40 – 2:55  
EDB 124  

860-832-2847 Office—I rarely use this phone  
860-833-6393 Cellular—this is the best phone in order to reach me  
413-525-7888 Home  
Halloranp@ccsu.edu  
Halloranp@charter.net  
This is the better e-mail address

READ THIS SYLLABUS CAREFULLY. YOU ARE RESPONSIBLE FOR KNOWING THIS INFORMATION! THIS SYLLABUS MODELS THE REQUIREMENTS OF THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION.

REQUIRED PRE-REQUISITES: MATH 213 and MATH 115, 119, or 124

This course is intended for students planning to be certified in Elementary Education.

Topics which may be considered, include hyperspace, congruence, similarity, transformations, and tessellations. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood, or middle level certification.

PURPOSE OF COURSE:
This course will provide you with the experience of exploring the above topics through a problem solving context. You will be able to see what NCTM calls connections. You will connect the mathematics that you learn to arithmetic, algebra, geometry. This will allow you to see the various “courses” in mathematics as a unified whole.

ATTENDANCE:

You are expected to attend ALL class meetings and to participate in all class discussions. All assignments MUST be completed prior to the appropriate class. Please bring your textbooks to class. In the unlikely event that you are unable to attend a
class session, please call my cellular phone, (860) 833-6393, and leave a message explaining your absence. It is your responsibility to obtain notes and journal assignments in the event of an absence.

ASSESSMENT:

1. Over the past several years, I have been experimenting with various forms of assessment for students. I now believe that I have found the most comprehensive, authentic, and valuable—for the student—form of assessment. This form of assessment helps you begin to develop well thought out and complete lessons for others to learn from. The assessment is in the form of a well developed textbook—authored by you. The textbook must reflect what you learned in class that day, but not just a formal writing up of your class notes. You need to reflect—that is, you need to be able to use what you have learned in class to develop examples that you will have in your textbook. You are preparing to either be a teacher, or be a better teacher. The writing of your “textbook” reflects your best ability to develop the meaning of the mathematics for your students. Write it such that you could not do any better. This is how you come to develop the best possible lesson plans—even though the “textbook” is not an actual lesson plan. I have attached a copy of what I consider a good textbook entry. Don’t simply copy this student’s style, develop a style of your own. You’ll be happier for it.

Each day add to your textbook, don’t write separate documents. In this way, your textbook expands, and both you and I get to see it as a work in progress—ever growing and expanding. You can change, modify, and improve your entries as often as you wish. There is a purchased textbook for this class. I am better than the textbook, but the textbook gives you another perspective to whatever it is that we are investigating in class. So, in the textbook you are writing I want you to reference what your purchased textbook says about the topic under consideration—except for the Fibonacci book. Don’t even look inside this book until the end of the summer session when I tell you to look at the book. In this way, you get a broader perspective than you could get from me alone. My goal for you is for you to be able to leave the class on the last day knowing EVERYTHING that we have discussed. Would you want to be taught by a teacher who had received a “C” in the course, or by one who had received an “A+” in the class? I know the answer—it had better be the one with the “A+”.

E-mail me your ever growing and expanding textbook each week—say on Sunday—I will react to your document. Send your entry EVERY WEEK, even if I didn’t react to it during the past week. Don’t put off writing your journal/textbook entry. Things go cold very fast. If you wait until the day before the next class, you will almost certainly leave
out some very important things. How do I know this? I’m old! I have been doing this for a number of years and I have NEVER seen a student who has put off the writing of the journal/textbook entry do a good job. They are always weak. Conversely, more often than not, students who write the journal/textbook entry the very next day seem to have a fully developed, accurate, and beautiful entry. So, in this sense, you can determine your own grade. In my grading, I use the mantra, “You don’t earn an A, you learn an A. If your journal shows me that you learned an A, then your grade will be an A.

2. Now, here’s how I grade it. I hate grading! It puts the professor in a very powerful position in your life. The grade you receive in any class will follow you all of your life. My grading is based upon six level rubric that is part of this syllabus. While it is subjective, I hope you will see that it is well thought out and fair. Please consider this rubric each time you write your entry. If you feel that you meet level 6 of this rubric, then you should be in pretty good shape for an A. This summer I’m trying something new with the assessment. I’m going to let you modify it. Once the class agrees to the rubric, then that will be the rubric that I will use.

Rubric for Scoring Journal/Textbook Entry

1. Shows little understanding of what mathematics was developed in class. There are no, or very few, examples from the class. There are no outside citations concerning the mathematics learned in the class.

2. Shows some understanding of the mathematics developed in this class, but the entry is very superficial; there are no, or very few, examples from the class. There are no outside citations concerning the mathematics learned in the class.

3. Shows understanding of the mathematics developed in the class, but the entry is superficial; there are no, or very few, examples from the class. There are no outside citations concerning the mathematics learned in the class.

4. Shows good understanding of the mathematics in the class, the entry is complete, and there are examples from the class. There are no outside citations concerning the mathematics.
5. Shows good understanding of the mathematics in the class, the entry is complete, and in addition to classroom examples, the student has developed additional examples. There are no outside citations concerning the mathematics.

6. Shows good understanding of the mathematics in the class, the entry is complete, and in addition to classroom examples, the student has developed additional examples. There are outside citations concerning the mathematics.

The first time you turn your “textbook” in to me please tell me what word processor software you are using, and whether you are working with a Macintosh or a PC. With this information, I will be sure to respond to you in a format that your computer can read. **Also, include the following information on the attachment:** Your name, Course Number, Date, and the e-mail address which you generally use. **If any of those are missing it will cause a slow down in getting your work back to you.** The Subject Line should look like the following:

**SUBJECT LINE:** MATH 306 mm/dd/yyyy ABC

If you use an e-mail address such as bigdog, or buffy, my spam filter may very well grab hold of it and place it in my spam folder. The SUBJECT line has math 306 so that I know which course you are in. The date lets me know the order in which you have sent things to me, and the ABC are your initials. **NOTE:** As a CCSU student you have been given an e-mail address. It often is your last name and your first initial. If you have a real common name, like Jim Smith, it will be different. If you wish to use another e-mail address, set up your CCSU e-mail address to automatically forward any e-mail that is sent there to your preferred e-mail address. In that way, I can send to the class on the CCSU site, and you will all receive it.

Now you can see why it is essential that your attendance be virtually perfect. How could one possibly write this journal/textbook if the attendance was not perfect? And, I have seen this often. A student is absent, and then they have a very hard time writing the textbook because they were not here to gain all that goes on in class.

We will work in groups most of the time. And, I will change the groups at random intervals. The purpose of working in groups is so that you will have someone who can help you in your thinking—that is, help provide intellectual stimulus. I look for explanations that show deep thought, that can be shown in a pictorial format, and/or that can be shown using appropriate manipulatives, patterns, or algorithms. By the way, I feel
that, more often than not, the best manipulative that anyone can use is a piece of paper. It can be folded, cut, and shaped.

I hope you like this class and that you will find my methods exciting…and you, yourself, will use them as you enter this wonderful profession known as teaching.

University Policies:

1. You must take the final examination at the time specified in the course selection book

2. If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My telephone numbers and office hours are given above.

3. In the event of a weather emergency which requires curtailment or cancellation of classes, listen to WTIC (1080 AM) or call (860) 832-3333 for the “general snow message.”

Resources Available:

1. If you need help, take advantage of my office hours, or call me up.

Good luck,

Dr. H