

GEOMETRIC STRUCTURES
MATH 3403, CID 62597
Fall 2017

Instructor: Karen Strande
Office: Math Science 435
Phone: Math Department Office: 405-744-5688
Office Hours: Tuesdays and Thursdays 1pm-2pm, or by appointment
e-mail: karen.strande@okstate.edu (the BEST way to reach me)
Online Classroom (D2L) Site: <https://oc.okstate.edu> (then log in and find our course)
Syllabus Attachment: OSU has compiled useful information that applies to all classes at <https://academicaffairs.okstate.edu>

This website includes add/drop/withdrawal dates, university holidays, accommodations for students with disabilities, academic resources, and much more. You are responsible for reading this information and having any questions answered.

Please contact me privately during the first week of the course if you need accommodations as the result of a disability.

Important Note to Students. This course is no longer an A-designated General Education course; it will NOT satisfy the General Education Analytic and Quantitative Thought (A) upper division requirement.

Course Description.

From OSU catalog:

Prerequisite(s): 1483, 1493 or 1513. Foundations of geometry for prospective early childhood and elementary educators. Linear and angular measure, polygons and polyhedra, similarity and congruence, geometric constructions, motion and transformations. Class format emphasizes student investigation and discovery, discussion and presentation, and working with mathematical tools. This course, together with MATH 3603, prepares students for CIED 3153 and 4153 and/or HDFS 3223.

From the instructor:

The content and instructional delivery of this course models the current professional thinking and standards endorsed by the National Council of Teachers of Mathematics (NCTM). Please be aware that:

1. MATH 3403 is specifically designed for prospective elementary/early childhood/middle level teachers; if you are pursuing a major different from one of these, your advisor will work with you to select a course more appropriate and valuable to your studies.
2. MATH 3403 is a content mathematics class much like other MATH-prefixed courses you have taken; the pedagogical issues related teaching this content in the school setting is addressed in detail in one of the methods courses that you will be taking as part of your program.
3. The value of this course will depend mostly on you, i.e., your involvement, effort, and creativity.
4. This course uses a nontraditional approach to learning, which may cause some discomfort on the student's part – at least initially. Unlike a traditionally taught course, where a geometric concept or formula would be presented during a lecture and the student is expected to simply learn it, you will have the opportunity to “discover” geometric concepts for yourself. The hope is that this approach will help solidify the ideas for the long-term. This can actually be “fun”, even for the reluctant math student. **It is my hope that through this course you will gain confidence in your mathematical abilities, and gain a passion and desire to impart this to your prospective elementary students in the future.** I also hope that you will consider using some of these same strategies for teaching geometric concepts with your own students, so that they may make their own discoveries as well.

This format will not work for you without your participation and willingness to try. The value of the content, but more importantly, the value of the way you learn the content, depends on your effort, having an open mind, and working well with others.

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Required Book and Materials.

•*Geometric Structures – An Inquiry-based Textbook for Prospective Elementary Teachers* by Douglas B. Aichele and John Wolfe. **Note: You may not buy a used textbook nor may you rent a textbook.**

•Scissors, compass, protractor, ruler, mira, composition book for journal, and scientific (non-graphing) calculator are required. Other helpful supplies are tracing paper and colored pencils. You may need other materials for special projects, and those will be announced in class as needed. You should bring paper, pencil, textbook, and materials to **every** class.

Course Evaluation. Course grades will be determined according to the following distribution.

Daily work (assignments and quizzes)	20%
Projects	20%
Journal	10%
Unit Exams (3 in total)	30%
Final Exam	20%

Your grades will be kept up to date on the online gradebook. The semester grade will be determined by the final accumulated percentages as follows:

- 90-100% A
- 80-89% B
- 70-79% C
- 60-69% D

Daily Work. Daily Work consists of Assignments, Quizzes, and participation in class. Your Assignments can be done with a Study Team, but all work must be your own. **Students must be present for the entire class period to receive credit for any daily grade – absolutely no exceptions will be made.**

Study Team Information. Learning from your classmates is a proven ingredient for success. We believe in this and have arranged the course delivery accordingly. The first couple of classes will be used for you to grow to know each other better. At the beginning of the third class, you will pick your own teams of approximately four based upon whom you feel you can work and learn the best with. These teams will be changing throughout the semester.

- Study Teams are encouraged to meet a minimum of twice each week for a minimum of 30 minutes per meeting.
- Once formed, the Study Team should consider such issues as: (1) its goals and objectives (what each of you want from the Study Team); (2) how the Study Team will function (when do you meet outside of class, what you will do at Study Team meetings, and how you will help each other). As you contemplate these issues, others will arise; they are supposed to!
- Each Study Team must choose a team name. Be creative! You must report the team name to me by the end of the fourth class period.

Assignments. Generally 4 to 5 activity sets will be given each class. Any chosen assignments will be due at the beginning of the following class period. You will be working in groups during class, and activities not done in class are homework. Groups are encouraged to get together often outside of class to work on homework. Come to class with homework completed.

Quizzes. Sometimes I will give a quiz over an assignment or concept. Quizzes may be announced or unannounced. Quizzes must be completed individually unless otherwise instructed.

Daily work may not be made up. You must be present for the entire class period in order to turn it in. If a student does not do the required number of presentations, a 0 will be recorded for each one not done.

GEOMETRIC STRUCTURES
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Fall 2017

Projects. There will be a few projects due during the semester. They will be discussed when they are assigned. Projects will not be accepted late.

Journals. You will need to keep a journal. Generally we will discuss and synthesize information at the close of each class period. These conclusions and other directed reflective writing will be assigned in class. The journal will be collected and graded for completion on the day assigned for unit exams (3 times).

Attendance. For this course in particular, attendance is very important since much of the learning takes place in group activities during class. As a future teacher, you are expected to conduct yourself professionally. You are expected to attend all classes and participate fully. Even though I believe that your active participation in this class is important to your success in it, there is no course attendance requirement. You will have an opportunity to earn course credit, however, through regular active participation in the class meetings that can contribute to improving your final course grade.

Here's how it works. You will be assigned an Attendance/Participation Score at the end of the semester. Attendance will be recorded during each class session. Your attendance/participation score is based on 100 points maximum and will be determined by your total days absent from class. As a prospective teacher, professionalism is expected; therefore, attendance/participation in this course is important. You must be fully participating in class to be considered present and determining "full participation" will be left to the discretion of the instructor. Here are some helpful things to remember about the attendance/participation score.

1. You must be present for the **entire** class session in order to be counted as present.
2. Because there is no class attendance requirement, **there are no "excused" absences for any reason**, including university-sponsored activities and illness.
3. The instructor has complete discretion in awarding attendance points. If you are sleeping during class, or are otherwise not participating in class (including texting, working on the computer, etc.), **you will be counted as absent**.
4. The attendance score/participation score is optional and is meant to reward students for good attendance. A low class attendance score (due to excessive absences) will not lower your overall grade.
5. You will be given 100 attendance/participation points at the beginning of the semester. You will receive two "free" absences, with no points deducted. For each absence after that, you will have 5 points deducted from your attendance/participation score.

Replacing an Exam. At the end of the semester, you may replace the lowest of the first three exam scores, provided it improves your letter grade, with points awarded to you as follows. The attendance grade will average with the lowest exam grade and then replace the lowest exam grade. For example, if you scored a 60% on an exam and a 90% on attendance, then during dead week I will replace the 60% with 75% (the average of 60 and 90).

Exams: There will be three (3) 75-minute in-class examinations with a maximum possible score of 100 points each and a 200-point comprehensive Final Examination during Final's Week. The time for the Final is not negotiable (except when the OSU Final Exam Overload Policy applies). These exams will test not only your content knowledge but also your ability to explain your thought process. The dates for the exams are as follows and will not change. Put them on your calendar now and plan ahead.

Exam 1: September 21

Exam 2: October 26

Exam 3: November 30

Final Exam: Tuesday, Dec. 12th, 2pm—3:50 pm.

Make-Up Exams will be considered only if the request is made at least 72 hours (3 days) in **advance** for known conflicts that are **documented, valid and unavoidable**; or your request must be made within 24 hours (1 day) when last minute extenuating circumstances arise (**documentation required**). If this condition is not satisfied, it is understood that the opportunity to receive a make-up exam is voided. In the instance that a make-up exam is appropriate, I will schedule and administer the make-up exam in a timely manner. With rare exceptions all make-up midterm exams must be completed 1 week from the time of the scheduled exam. Bring your student ID to each examination.

GEOMETRIC STRUCTURES
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Fall 2017

Note: Using a false excuse is a violation of academic integrity, and will be dealt with accordingly. As a future teacher, your academic integrity standards should be very high.

Classroom Etiquette:

- Arrive on time. If you need to leave early for any reason, please let me know ahead of time. Sit on the outside of the row so that you will not disturb those around you – otherwise, you are to be present for the duration of the class. Remember that arriving late or leaving early **will** cost you your attendance points for the day.
- No loud or odorous food.
- No laptops, iPads, tablets, etc. Cell phones need to be **on silent** or turned off AND **put away**. If there is a serious need to leave your cell phone on or out, such as a family emergency, please notify me before class.

Drop and Withdrawal Policy. "Dropping" means you are withdrawing from a specific course but you are still enrolled in at least one other OSU course; the last day to drop a course with an automatic grade of "W" is **November 10, 2017**.

"Withdrawal" means you are dropping *all courses* and you are no longer enrolled for the current semester; the last day to withdraw completely from OSU classes with an assigned grade of "W" or "F" is **December 1, 2017**. Additional information about "dropping" and "withdrawing" is available on the Fall 2017 Syllabus Attachment. **IT IS YOUR RESPONSIBILITY TO KNOW AND COMPLY WITH ALL DEADLINES.**

Incomplete Grade. The grade of "I" is given to students who satisfactorily completed the majority of the course work and whose work averages "D" or better, but who have been **unavoidably** prevented from completing the remaining work of the course.

Academic Dishonesty/Misconduct. The university has explicit rules governing academic dishonesty and academic misconduct. The policies are detailed in the document "Student Rights and Responsibilities Governing Student Behavior." It is available from the Deans' Offices, the Provost's Office, and various other places around campus. The university policies will be followed in this class. The minimum penalty for an act of academic dishonesty will be the assignment of a grade of 0 on the examination or homework assignment. Working with another person or in study groups on problems can be helpful in learning the material. I encourage you to work together in your groups. However, **all written work submitted must be your own.**

Copying someone else's problem solution or showing your written solution to someone else is prohibited. In order to be successful in learning the material and doing well on the examinations you must think very hard about the problems themselves **before** discussing them with anyone else.

Special Accommodations for Students. If any member of this class feels that he/she has a disability and needs special accommodations of any nature whatsoever, he/she should notify the instructor and request verification of eligibility for accommodations from the Office of Student Disability Services, North Hall 204. Please advise the instructor of such disability as soon as possible, and contact Student Disability Services, to insure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations.

Final notes.

- I want every single one of you to come out of this class feeling better about mathematics than when you came in. I am more than willing to help you in any way that I can, and I genuinely care about your success and general welfare. Please do not hesitate to ask any questions, or voice any concerns.
- This is a geometry course, but this course is much more than a typical content course. In addition to content, I want you to experience how it feels to be creative in mathematics. I want you to gain practice at expressing and communicating mathematics, and in doing so, learn to take the chance of being wrong. There is much value in following your own path to discover mathematics. Give yourself the chance to explore the concepts in this course, and try to take the focus off of being "right" or "wrong".

Any changes in this syllabus will be communicated to you in class by the instructor.