Math 321: College Geometry

Spring 2024 3 credits Instructor: Dr. Dibbs

Instructor: Rebecca Dibbs, PhD
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Office: 318 Binnion
Office Hours: TBD
Class Meets: MW 12:30-1:45
Fax: 903.886.5945

Texts: The readings for this course will come from photocopied handouts. They will come mainly from *Experiencing Geometry In Euclidean, Spherical, and Hyperbolic Spaces* by David W. Henderson and from Euclid's *Elements*.

Course Materials: You will need a folder or binder in which to keep your written work and a flash drive on which to keep your work done on the computers. You will also want to have a sphere of some kind to look at when we study spherical geometry. Tennis balls work well, as do the plastic spheres often available at craft shops.

Course Description: Advanced treatment of standard topics in Euclidean geometry for teachers and others using informal and axiomatic approaches. Includes proof-making techniques, traditional and transformational geometry, finite geometries, and a brief introduction to other geometries. Prerequisites: MATH 332 with a minimum grade of C or MATH 2305 with a minimum grade of C.

Writing Assignments: Over the course of the semester, I will be assigning a series of problems for you to write about. Some of these will be informal writing assignments that will be graded only on how complete they are; others will be formal writing assignments, for which you will be expected to turn in a typewritten paper that will be graded not only on the completeness and correctness of your answer, but also on the clarity of your explanations. All of these problems will go through a process of revision: I will make comments on them, and then you will have an opportunity to revise them. You should explore each question and write out your thinking in a way that can be shared with others. Focus on your own ideas and understandings, and turn in whatever your thinking is on a question, even if only to say, "I do not understand such and such" or "I am stuck here." Be as specific as possible. Conjecture. Use pictures. Respond to my comments and questions. Only the final draft of the formal writing assignments will be graded. There will also be at least one major group project assigned during the semester that will make up a significant part of your final grade. There will also be a take home midterm and a final project that will be presented during our scheduled ***final exam meeting time, which is at***

____WEDNESDAY 1:15-3:15_____

At the end of the semester, I will ask you to turn in your portfolio containing all the work that you have done for this class, including all drafts of all papers, so please save everything. On average, you should expect to spend at least nine hours per week outside of class on this course. If you are concerned about the time that you are spending on this class, come see me.

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Grades: Your final grade will be computed from your final formal and informal assignment averages. The informal assignment average will be weighted to be 39% of your final grade, and the formal average will be 59% of your final grade. Your final portfolio is 2% of your final grade. Letter grades will be given following a traditional grade breakdown. Note: I round UP to the nearest whole percentage and then assign grades. For example, 89.1 rounds to a 90 and is an A. An 88.9 is an 89 and is a B.

Due dates: All assignments will have assigned initial due dates. Revisions of formal writing assignments will be due 7 days after the previous draft, and only the final draft will be graded. Informal assignments can be revised as many times as you like; however, you should try to complete the revisions within 2-3 weeks of the original due date.

Submissions: Initial submissions may be made in D2L or on paper. ALL REVISIONS MUST BE TURNED IN ON PAPER using the assignment sheet cover sheet. Group papers must be on paper with everyone's name on it. Overall, given the choice, I prefer paper, but there is no penalty for initial submissions on D2L.

Hints for Success: The best approach is to strive for a solid understanding of the course topics and to accept at the start that this necessarily entails some struggling with ideas and feelings of frustration. The course problems take time, especially time to explore and think about the ideas. Often your will need to walk away for a while or for a day, and return to a problem for a second or third look before writing up your response. Expect this. However, do not get behind on the problems. Try to cultivate an approach that is a nice balance between "just getting it done" and avoiding it altogether. Stay connected, and come see me if you are having difficulties.

Group Work: We will often work in groups in this course. Whenever a group hands in a written assignment, they are required to put on the paper the names of those who participated fully, and only those names. Each person must sign the final copy. Your signature certifies that you participated equally in the project. It is dishonest to turn in work that is not solely and equitably the creation of the team members. You are not required to include on the report the name of someone who started but did not finish, or who did not contribute their share. Also, as the instructor I reserve the right to assign group members different grades if it doesn't appear that every contributed equally.

Outside Sources: A central aim of this course is to help you learn to develop your own ideas about mathematical questions. You therefore should **NEVER** consult any reference materials outside of the course texts in answering questions for this course. This includes materials found on the internet***, INCLUDING GOOGLE IMAGES***. *The ideas that you present should be your own.*

Office Hours: My office hours are listed above, and will be held in 318 Binnion Hall or on Zoom. Please come see me! The best way to make an appointment or to get in touch with me for any other reason is to send me an email.

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Attendance: It is absolutely vital for an interactive class like this that you come to class and participate. Your attendance will count as part of your class participation grade, and excessive late arrivals will count as an absence.

Licensure: This course provides content necessary to enable secondary licensure standards to address the K-12 Texas TKEs.

TECHNOLOGY REQUIREMENTS

Use of a graphing calculator having at least the capabilities of the TI-83 will be helpful throughout the course. TI-89 is highly recommended. We will also occasionally use free software like Geogebra and NonEuclid. You will also need a way to take and upload documents and photos, and make PDFs for submission into D2L if you choose to do so. I recommend CamScanner if you don't already have an app. You will also need access to a word processing software. Either Word or Google Docs are fine.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

My primary form of communication with the class will be through Email and Announcements. Any changes to the syllabus or other important information critical to the class will be disseminated to students in this way via your official University Email address available to me through MyLeo and in Announcements. It will be your responsibility to check your University Email and Announcements regularly.

Students who Email me outside of regular office hours can expect a reply within 24 hours M-F. Students who Email me during holidays or over the weekend should expect a reply by the end of the next regularly scheduled business day.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at https://leo.tamuc.edu.

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COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Academic Honesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In **ALL** instances, incidents of academic dishonesty will be reported to the Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

Cheating is defined as:

- Copying another's test of assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

Plagiarism is defined as:

- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

Collusion is defined as:

- Collaborating with another, without authorization, when preparing an assignment

If you have any questions regarding academic dishonesty, ask. Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

University Specific Procedures

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

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Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel.

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors 'guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

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Tentative Due Dates

Note 1: All dates are subject to change!
Note 2: A number indicates an informal assignment. A number preceded by an F is a formal assignment
Note 3: Formal assignments with the exception of F3 will be graded for comments only on first submission. You must revise and resubmit to receive a grade
Note 4: F3 will be graded on both submissions. Your grade on F3 is the average of your two submissions
Note 5: All revisions, F5, and Portfolio are due May 7th at the start of the final exam period

Week of…	Monday	Wednesday
1/13	Syllabus; Start 1 5 Assigned	Finish 1; 2
1/20	[redacted]	F1 1 due for Peer Review; Do F1 Reading
1/27	F1 1 Due	3 2 Due
2/3	4 F1 due for Peer Review	Finish 4; 6 3 Due
2/10	6 F1 due	6 4 Due
2/17	Finish 6; 7 5 Due & F1 Revisions Due	7
2/24	Finish 7; Start F2 6a & 6b due	F2
3/3	8 7 Due	Finish 8; F3 Assigned; 9 pre-assignment assigned F2 Due
3/10	SPRING	BREAK
3/17	9 9 pre-assignment due	9 F3 Due
3/24	F3 Discussion 8 Due	11; 10 Assigned 9 Due & F2 Revisions Due
3/31	11 F3 Revisions Due	F4 10 Due

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4/7	F4 11 Due	12
4/14	F5 F4 Due	F5 12 Due
4/21	F5 F4 Revisions Due	F5; Portfolio Assignment Discussion
4/28	F5 F5 Draft Due (optional)	F5
5/5	[redacted]	Note: Class meets 1:15-3:15 in the usual room due to Finals week Final F5 Group Presentations Portfolio Due All Revisions Due