Columbia University: Arts & Sciences
A&S Fall 2025 Standard Evaluation

Course: MATHUN3386_001_2025_3 - DIFFERENTIAL GEOMETRY: MATHV3386_001_2025_3_218190
Instructor: Elena Giorgi *
TA: Ivan Zelich
Response Rate: 14/19 (73.68 %)

1 - What did you learn - in terms of knowledge, skills, or perspectives - in this course?The answer to this question will generally be available in Vergil.

Response Rate	3/19 (15.79%)

- Old-fashioned differential geometry following Do Carmo ch. 1-5. Regular curves and surfaces in R^3. Diffeomorphisms. The Gauss map. Gaussian curvature. Isometries. Geodesics.
- An introduction to Differential Geometry and even aspects of Modern Geometry.
- Parametrizations to Gauss-Bonnet theorem

2 - What percentage of the work (including reading) assigned for this course did you complete on schedule?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
All or almost all	(1)	10	71.43%		
Most	(2)	4	28.57%		
Some	(3)	0	0.00%		
This question is not applicable	(4)	0	0.00%		

0 25 50 100

Response Rate
14/19 (73.68%)

3 - What is your overall assessment of the course? What are its strengths? In what ways might it be improved? In answering this question, you might address the value of readings and assignments, the structure of the course (including the relationship of sections to lectures), the contribution of the course to your knowledge of the subject matter and to the development of your analytical and reasoning skills, etc. We encourage you to use specific examples where possible.

Response Rate	4/19 (21.05%)

- I think this course is a very good course on classical differential geometry and I enjoyed it! The lectures and homeworks were very effective and I learned a lot. I was surprised by the exams because they felt much easier conceptually than the homework, especially the second midterm. The only improvement I would suggest is to include more conceptual, or proof based questions, on the second midterm.
- Pacing felt a bit slow sometimes, I think we could have squeezed in chapter 6 of the textbook. Also the textbook is quite awful in my opinion. Problems are often badly written, and I am not a fan of Do Carmo's notation. Homework connected well with lecture. I think we followed the book too closely, and the class felt a bit dry as a result. And in general the content felt a bit old fashioned. Limiting to surfaces in R^3 meant we missed out on a lot of fun stuff like TENSORS. No tensors to be seen, or if they were, they were not discussed as such.
- The course was perfect!
- Really really good professor. Explains things simply. Not too fast yet still engaging. Small caveat, wish the homework weren't so hard. But, I love that all of them are from the textbook. Class easier to follow.

4 - What is your overall assessment of the course?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	10	71.43%		4.57
Very Good	(4)	2	14.29%		
Good	(3)	2	14.29%		
Fair	(2)	0	0.00%		
Poor	(1)	0	0.00%		

0 25 50 100 Question

Response Rate	Mean	STD	Median
14/19 (73.68%)	4.57	0.76	5.00

5 - Would you recommend this course to another student?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Definitely recommend	(1)	10	71.43%		
Probably recommend	(2)	4	28.57%		
I'm not sure I'd recommend	(3)	0	0.00%		
Probably not recommend	(4)	0	0.00%		
Definitely not recommend	(5)	0	0.00%		

0 25 50 100

Response Rate
14/19 (73.68%)

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6 - Please qualify your recommendations if you wish:The answer to this question will generally be available in Vergil.

Response Rate	6/19 (31.58%)

- If you are interested in differential geometry this class does a good job at teaching from the ground up. Good mix of computational and theoretical
- Differential geometry is the most beautiful math you'll ever learn (the only other competitor being Topology). Take this class :)
- This is a great upper-level elective to take for the math major/minor. It is on the easier side for a 3000 level course and the topic is very interesting and engaging.
- Take GR with the physics department instead for a more interesting experience.
- Please include the clear and rigorous definition of a manifold in the next iteration of the course.
- Easy to follow, and you learn a lot.

7 - How does the workload in this course compare to Columbia courses with a similar structure (e.g. a lecture, seminar, laboratory, or language course)?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Much heavier workload	(1)	0	0.00%		
Heavier workload	(2)	3	21.43%		
Similar workload	(3)	11	78.57%		
Lighter workload	(4)	0	0.00%		
Much lighter workload	(5)	0	0.00%		
No basis for comparison	(6)	0	0.00%		
				0 25 50 100	

Response Rate
14/19 (73.68%)

8 - How many hours a week did you devote to this course? (Note: Please include all time spent on this class including class time, discussion sections, readings, assignments, studying, etc.)The answer to this question will generally be available in Vergil.

Response Rate	5/19 (26.32%)

- 10
- 6-10 hrs
- about 10
- About 8-9 hours a week.
- Class: 3.5hr Reading: 2hr Problems: 10-15 hr, varies Studying: ~5hr

9 - Please evaluate Elena Giorgi. What are Elena Giorgi's strengths? In what ways might their teaching be improved? In answering this question, you might address the clarity of the lectures or presentations and their relationship to the other elements of the course, the ability of Elena Giorgi to generate enthusiasm and facilitate discussion, the quality of feedback, availability, the timeliness of the return assignment, etc. -

Response Rate	7/19 (36.84%)

- Professor Giorgi's an excellent lecturer and has amazing explanations. She gave a lot of intuition behind the geometric objects we studied in this course.
- Prof Giorgi is a very strong lecturer. I actually enrolled in this class specifically because she was teaching it. She is a very effective communicator and she made difficult concepts turn into simple ideas through her explanations and drawings on the board. Her lectures are engaging and I also really love how she uses the chalkboard (very linear style and never gets messy unlike other math profs). She is also very organized in the structure of the course and outlines exactly what each day will cover to align with the homework which I greatly appreciate. Lastly, she is very approachable and effective in answering questions during lectures and even more so during office hours. I've learned a lot from her and am grateful to take a class with her!
- Very organized, knowledgeable, approachable, if a bit unenthusiastic sometimes. I blame the course being boring more on the textbook than on her specifically. Great at answering questions. Very understandable/clear lecturing, even for the confusing ideas.
- She was a fantastic teacher. Taught the material in a way that was very easier to understand and provided plenty of examples to elaborate on concepts and theorems. Additionally, she was available for extra help if needed.
- Prof. Giorgi is among the finest professors at Columbia and is able to explain complicated ideas in a lucid manner and is also a very kind hearted person who makes herself available for non standard office hours when requested.
- On time. Explains things clearly. Ends class on time, usually. Gets back to e-mails same day. Really there for you. Answers your questions.
- Professor Giorgi is fantastic. She cares deeply about her students and is extremely responsive and helpful during office hours. She takes questions seriously and finds new ways to demonstrate and explain concepts if the first explanation does not resonate. I feel comfortable asking her follow-up and clarification questions because she approaches teaching from a teamwork-based lens.

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10 - What is the overall teaching effectiveness of Elena Giorgi? -

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	11	78.57%		4.79
Very Good	(4)	3	21.43%		
Good	(3)	0	0.00%		
Fair	(2)	0	0.00%		
Poor	(1)	0	0.00%		
				0 25 50 100	Question

Response Rate	Mean	STD	Median
14/19 (73.68%)	4.79	0.43	5.00

11 - What are the strengths and weaknesses of Ivan Zelich (discussion section leader, lab section leader, grader) as an instructor, and how might Ivan Zelich's teaching be improved?

Response Rate	4/19 (21.05%)

- He did not grade assignments on time.
- I didn't go to office hours so I don't know really. He graded infuriatingly slowly. In a fairly small class with not terribly long problem sets, that didn't make much sense. I hear his office hours were pretty good though.
- More on time grading would be better.
- Generous with extensions. In the beginning, the grading was unfair (answer right but marked wrong), but got better after re-grade request.

12 - What is the overall teaching effectiveness of Ivan Zelich?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	2	20.00%		3.50
Very Good	(4)	2	20.00%		
Good	(3)	5	50.00%		
Fair	(2)	1	10.00%		
Poor	(1)	0	0.00%		
				0 25 50 100	Question

Response Rate	Mean	STD	Median
10/19 (52.63%)	3.50	0.97	3.00