

Syllabus

Topics in Geometry

Prof.	Name	Suyoung Choi	Sub.	Student	Department	Mathematics
	Position	Professor			Major	Mathematics
	Group	Mathematics				

1. Course Description

This lecture studies some topics in geometry based on the analysis on manifolds such as differential manifold, Tangent Space, Vector Bundle, Differential Form, and integral.
In this lecture, we focus on symplectic geometry, and, in particular, topology of symplectic manifolds which admit torus actions.

2. Teaching Methods

This lecture will be given in real-time online lectures via ZOOM.
We do not have any examinations, but, homeworks will be given every other week.
We may invite some experts on this area for better explanations.

3. Evaluation

4. TextBooks

5. Lecture Schedule

Week	Lecture contents	Lesson type	Remark
1	Introduction	Online lectures	
2	Smooth Lie group actions on manifolds	Online lectures	
3	Smooth Lie group actions on manifolds	Online lectures	
4	Smooth Lie group actions on manifolds	Online lectures	
5	Symplectic geometry	Online lectures	
6	Symplectic geometry	Online lectures	
7	Symplectic geometry	Online lectures	
8	Morse theory for hamiltonians	Online lectures	
9	Morse theory for hamiltonians	Online lectures	
10	Morse theory for hamiltonians	Online lectures	
11	About manifolds of this dimension	Online lectures	
12	About manifolds of this dimension	Online lectures	
13	About manifolds of this dimension	Online lectures	
14	Equivariant cohomology and the Duistermaat–Heckman theorems	Online lectures	
15	Equivariant cohomology and the Duistermaat–Heckman theorems	Online lectures	
16	Equivariant cohomology and the Duistermaat–Heckman theorems	Online lectures	

6. Others

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