June 13, 2023
Kotaro Yamada
kotaro@math.titech.ac.jp

Info. Sheet 1; Advanced Topics in Geometry F1 (MTH.B506)

Course Syllabus

Important Pointers:

- `http://www.math.titech.ac.jp/~kotaro/class/2023/geom-f1` (official web)
- `http://www.official.kotaroy.com/class/2023/geom-f1` (a mirror)
- `https://t2schola.titech.ac.jp/` (T2SCHOLA)

Lecture: Tuesdays 10:45–12:25, Lecture hall M-143B

Lecturer: Kotaro Yamada (Dept. Math.); kotaro@math.titech.ac.jp

Course Description: Definition and meanings of the "curvature" of Riemannian manifolds, especially those obtained as submanifolds of (pseudo) Euclidean space, are introduced.

Student learning outcomes: Students are expected to know the integrability condition of linear system of partial differential equations, the sectional curvature of a Riemannian manifolds, the curvature as an integrability condition, and the local uniqueness of Riemannian manifolds of constant sectional curvature.

Textbooks: No textbook is set. Lecture note will be uploaded on T2SCHOLA within the previous day of each class.

Grading Policy:

- Graded by weekly homeworks.
- Each homework consists of (1) a problem on the topics in the lecture (up to 2 points), and (2) to present a question on the contents of the lecture, or to point out error(s) in the lecture note/the lecture (up to 3 points).
- Each homework should be submitted to T2SCHOLA by 10:00 on the following Thursday of the lecture, as an pdf file in the format of the **homework sheet** (which can be downloaded from the folder "Homework Sheet" on T2SCHOLA). **Japanese is acceptable**.
- Questions, requests and comments (and the answers, lecturer's comments) will be disclosed on the following class.