Linear Algebra II & Tutorial 2b

(G30 Program, Nagoya University, Spring 2021)

This page will contain all necessary information for this course. Please always feel free to contact me if you have any questions on this course. Spoiler: Linear Algebra II is cool and you should register for it!

To be prepared for the course you should recall the content of Linear Algebra I. But before you do this you should enjoy your spring break.

Please feel free to join the Facebook group for this course.

Materials

- Lecture notes: Coming soon
- Homework: Enjoy spring break until the new semester starts
- Videos: G30 Linear Algebra II (Spring 2020)

How, Where, When?

Due to the current situation it is not fully decided yet how we will conduct this course. But here is the current plan:

- The lectures are already recorded and available from last year (G30 Linear Algebra II). Instead of recording them again I decided to do more interactive lectures where we do more exercises together. I will ask the students to watch the video lecture from last year before the lectures, but I will also recall the definitions and theorems in the lecture (which will be either done by Zoom or face-to-face).
  Lecture time: Tuesday 2nd Period (10:30 - 12:00)
  First lecture: 13th April 2021
- The Tutorial will be held either face-to-face or online. It will be done similar to the Calculus II Tutorial, so no student will have problems to join both Tutorials 2a/2b.
  Tutorial time: Thursday 4th Period (14:45 - 15:30)
  First Tutorial: 15th April 2021

If the lectures and/or the Tutorials are face-to-face then the rooms will get announced here in advance.

Grading & Homework submission:

As in Linear Algebra I, there will be just one grade for both the lecture Linear Algebra II and the Math. Tutorial 2b. It will be based on the midterm exam, final exam and homework & quizzes. Details will follow.

Course schedule:

The following gives a tentative overview of the topics we will cover each week.

Week 01 (04/12-04/18): Vector spaces

Week 02 (04/19-04/25): Linear maps

Week 03 (04/26-05/02): The matrix of a linear map

Week 3.5 (05/03-05/09): Golden week: Just Tutorial (No lecture)

Week 04 (05/10-05/16): Determinants & Mathematical induction

Week 05 (05/17-05/23): Properties of the determinant I

Week 06 (05/24-05/30): Properties of the determinant II

Week 07 **(05/31-06/06):** **Midterm exam: 1st June**

Week 08 (06/07-06/13): Eigenvalues and eigenvectors I

Week 09 (06/14-06/20): Eigenvalues and eigenvectors II

Week 10 (06/21-06/27): Eigenvalues and eigenvectors III

Week 11 (06/28-07/04): Applications

Week 12 (07/05-07/11): Continuous dynamical systems

Week 13 (07/12-07/18): Linear differential equations I

Week 14 (07/19-07/25): Linear differential equations II

Week 15 (07/26 - 08/01): Final Exam: 27th July

Address:
Math Building, Room 457
Graduate School of Mathematics, Nagoya University
Chikusa-ku, Nagoya, 464-8602
Japan

Email: henrik.bachmann (at) math.nagoya-u.ac.jp
Tel : +81-52-789-2428

You can also find me on...

- arXiv
- Google Scholar
- MathSciNet
- ResearchGate
- researchmap