

## Course overview

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Homepage for this course: [https://www.henrikbachmann.com/algnt\\_2021.html](https://www.henrikbachmann.com/algnt_2021.html).

NUCT Course for homework submission: [https://ct.nagoya-u.ac.jp/portal/site/2021\\_3211090](https://ct.nagoya-u.ac.jp/portal/site/2021_3211090)

- **Contact**

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Always feel free to contact me and to visit me in my office.

- **Lectures**

It is planned that there are 15 Lectures (October: 8,15,22,29, November: 5,12,19,25, December: 3,10,17, January: 14,21,28, February: 4) which are all Friday from 10:30 - 12:00 in the room 多 409.

- **Grading & Homework:**

The grade for this course will be based on homework submissions. The current plan is to have one homework sheet every 2-3 weeks. You can find the homework sheets on the homepage and in NUCT. Please submit your solutions in NUCT at Assignments (課題). You can submit handwritten notes on paper or tablet (both as a pdf please) or pdfs created in Latex.

- **Lecture notes:**

The current plan is to provide overview notes which contain the basic definitions and propositions. This will be created in overleaf ([www.overleaf.com](http://www.overleaf.com)) and any participation is appreciated. In particular I would like to create an algebraic number theory dictionary from Japanese to English which contains all basic words appearing in this course. You will always be able to see the newest version in overleaf, but I will also upload some versions to the homepage at some point.

The handwritten notes from the lectures will also be provided on the homepage.

- **Literature:** There are various books and lecture notes on algebraic number theory, which can be found in the library and online. Below you can find a list of standard books, which we will use during the lectures. The main part of the course will be based on [N]. More references will be added in the overview notes.

## References

- [IR] KENNETH IRELAND, MICHAEL ROSEN, A Classical Introduction to Modern Number Theory, *Graduate Texts in Mathematics*, Second Edition, Springer-Verlag, Berlin.
- [KKS] KAZUYA KATO (加藤 和也), NOBUSHIGE KUROKAWA (黒川 信重), TAKESHI SAITO (斎藤 毅), 数論 <1> *Fermat* の夢と類体論 単行本, Tankobon Hardcover 2005/1/7.  
English version: *Number Theory 1: Fermat's Dream*, Translations of Mathematical Monographs, Vol 186, First Edition.
- [N] JÜRGEN NEUKIRCH, Algebraic Number Theory, *Grundlehren der Mathematischen Wissenschaften* 322. Springer-Verlag.
- [ST] IAN STEWART, DAVID TALL, Algebraic Number Theory and Fermat's Last Theorem, *Chapman and Hall/CRC* 4th edition.