

Course Eligibility

Matt Yan

March 17, 2022

The degree requirement of my to-be-certified undergraduate program, *Specialization in Mathematics*, in the University of Alberta has a high concentration on mathematical courses. I'm also proud to have taken the Honors variant of most of the courses, which are more research oriented and focus more on the proofs instead of application.

Undergraduate Courses

Here is a list of relevant courses in my undergraduate years.

On the algebra side, I have taken and passed:

- Math 127 Honors Linear Algebra I
- Math 227 Honors Linear Algebra II
- Math 328 Algebra Intro Group Theory
- Math 326 Rings and Modules

of which the latter two should satisfy the course requirements of Stockholm University.

On the analysis side, I have taken and passed:

- Math 117 Honors Calculus I

- Math 227 Honors Calculus II
- Math 217 Honors Advanced Calculus I
- Math 317 Honors Advanced Calculus II
- Math 331 Theory of Functions Complex Variable
- Math 411 Honors Complex Variables
- Math 417 Honors Real Variables

Other math courses I have taken and passed are:

- Math 253 Theory of Interest
- Math 334 Intro into Differential Equations
- Math 373 Math Program/Optimization I
- Math 421 Combinatorics

Readings

In the past few months, I have been reading textbooks in my fields of interest. These include:

- The HoTT Book ¹
- Mathematical Logic, Proofs and Their Limits ²
- Set Theory, a Exploration of the Concept of Infinity³

¹The book is about Homotopy Type Theory, see <https://homotopytypetheory.org/book/>

²The book's Chinese name is 数理逻辑，证明及其限度, published by Fudan University

³The book's Chinese name is 集合论，对无穷概念的探索, published by Fudan University