

Professor Victor Tan

Deputy Head Department of Mathematics

10 QUESTIONS TO ASK IF YOU ARE CHOOSING NUS MATH



| | | | | | | | | | | | | | (H | 3 1 | P v v z | DENUSE USE 13TH MAY 2023 | | | | | |
|--|--|--|--|--|---|-----|----|--------------|----|-----|-----|------------|--------|---------------|------------------|--------------------------------------|----|---|--|--|--|
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | • | • | | | |
| | | | | | | | , | \mathbf{C} | 10 | | | | • | • | | ۲ | | ۲ | | | |
| | | | | | P | \Sŀ | ٢Ū | G | m | at | | <u>v</u> r | าน | S.(| ea | u. | Sg | | | | |
| | | | | | + | ·6 | 56 | 55 | 16 | 5 2 | 273 | 3 <u>8</u> | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

#1. Why NUS Math?



- NUS Math is #1 in Asia
- Among top 15 in the world
- Many top tier mathematicians in the department
- Many good math professors in the department
- Special Program in Mathematics (SPM)





(+ 5 additional)

#2. What topics will I learn in MA program?

Essential Courses (8)

- MA1100 Basic Discrete Mathematics
- MA2001 Linear Algebra I
- MA2002 Calculus

Year 1

Year 2

Year 4

- MA2101 Linear Algebra II
- MA2104 Multivariable Calculus
- MA2108 Mathematical Analysis I
- MA2116 Probability
- → MA4198 Mathematics Capstone Project

Elective Courses (choose 7)

- MA2202 Algebra I
- MA3211 Complex Analysis
- MA3252 Linear and Network Optimization
- MA3259 Mathematical Methods in Genomics
- MA3264 Mathematical Modeling
- MA3265 Introduction to Number Theory
- MA4254 Discrete Optimization
- MA4260 Stochastic Operations Research
- MA4261 Coding and Cryptography
- MA4264 Game Theory
- MA4268 Mathematics for Visual Data Processing
- MA4270 Data Modeling and Computation
- ETC ...

Year 3 & 4





#3. Will I be able to go deep as math major?

Total 160 units (~ 40 courses)

- 2nd major 10 courses
- Minor 5 courses
- Specialization 5 courses
- UROPS
- UTOP
- UPIP
- More maths
- Others





#4. What is advanced placement test?



- Take a test to be exempted from certain lower level course
- Available courses: MA2001, MA2002
- Eligibility: A grade in H2 (or equivalent) Math or Further Math, and excellent overall results
- Only for CHS freshmen
- Application: Apr 28 May 26
- Test dates: MA2001 (Jun 21); MA2002 (Jun 22)
- Admin fee \$54 per course



#5. Is SPM suitable for me?

- Students with very strong passion and aptitude in math
- Students who intend to go for graduate schools
- Students with good grades in:

MA1100T (enter SPM in Sem 2 of their first year)

MA1100 & MA2001 & MA2002 (enter program in Sem 1 of their second year)

What's for the students?

Take the more challenging S-version courses

In-depth study and rigorous training

Close mentorship





#6. Should I choose a second major?

- If you want to formally engage in multi-disciplinary studies
- If the second major enhance your career prospect
- If the two majors complement each other
- If you are simply passionate in another subject

What if I am not sure?

- Try out various Gateway/intro courses
- Start with a minor and upgrade to second major
- Start with a second major and downgrade to minor

Mathematics with ...

- Statistics
- Economics
- Computing
- Engineering
- Physics
- Business

.

• Many others







#7. How difficult is the MA program?

- Not just about computation
- Emphasize on understanding concepts
- Start from first principle
- Logical and rigorous argument

The program is **not easy** BUT it is **rewarding**!

Problem Solving
Quantitative Reasoning
Analytical Thinking

- Rigorous & Systematic
- Perseverance
- Life Long Learning





#8. How do I prepare ahead for the courses?

- Enjoy the break!
- Revise some relevant A level topics on Sets, Functions, Calculus, Linear algebra etc
- Take a look at the lecture notes for MA1100, MA2001, MA2002
- Search online for any introductory textbooks/courses on
 - Fundamentals of Mathematics
 - Elementary Calculus
 - Elementary Linear Algebra





#9. How does NUS prepare me for my career?

- Centre for Future-Ready Graduates (CFG)
- Career advice
- Career Booster workshops
- Job and internship opportunities



This week we are sharing with you job opportunities, career and competition events to attend in the Public





#10. Will I get any support from NUS staff?

Academic mentorship

- A mentor (math professor) will be assigned to every MA student
- Help students adapt to uni life
- Provide general academic/career guidance and pastor care
- Point them to the available resources
- Cultivate a caring environment for students





https://www.math.nus.edu.sg/ug/prospective/



