

Choosing Year 2 Options

BSc Maths and MMaths

(3 October 2022)



Core Modules:

MA259 Multivariable Calculus

MA244 Analysis III

MA251 Algebra I

MA249 Algebra II

MA260 Norms, Metrics & Topologies

MA213 Second Year Essay

List A Modules:

MA241 Combinatorics

MA243 Geometry

MA250 Intro to PDE-s

MA252 Combinatorial Optimization

MA254 Theory of ODE-s

MA257 Intro to Number Theory

MA261 Diff. Equations: Modelling & Numerics

MA269 Asymptotics and Integral Transforms

MA209 Variational Principles

MA256 Intro to Mathematical Biology

ST220 Intro to Math. Statistics

ST202 Stochastic Processes

Year result is the maximum of the average marks on all subsets that satisfy your degree requirement

Any questions about any of these modules – ask them in Q&A

To progress to MMaths you need to achieve 65% on the best 90 CATS of maths (core or list A MA2**) modules

New look prerequisites on an example of MA3J4 Mathematical Modelling with PDE

Formal registration prerequisites: None

Assumed knowledge:

- [MA250 Introduction to PDEs](#)

Useful background:

- [MA254 Theory of ODEs](#)
- [MA261 Differential Equations: Modelling and Numerics](#)

Synergies: The following modules go well together with Mathematical Modelling:

- [MA3G1 Theory of PDEs](#)
- [MA261 Differential Equations: Modelling and Numerics](#)

Leads to: The following modules have this module listed as **assumed knowledge** or **useful background**:

- [MA4M1 Epidemiology by Example](#)
- [MA4L0 Advanced Topics in Fluids](#)

Core
MA259 Mu
MA2
MA2
MA2
MA260 Norm
MA213 S

List B Modules:
MA117 Programming for Scientists
ST222 Games, Decisions and Behaviour
EC220/1 Math Economics 1 A/B
Three CS2** modules
Eight PX2** modules
Two PH2** modules and
PH342 The Philosophy of Maths
Two IB1** and two IB2** modules and
IB320 Simulation
EP304 Introduction to Secondary Maths Teaching

- Make sure you understand assessment method
- Check whether attendance is compulsory

imization

DE-s

To progress to
MMaths you

Unusual Options:

- Languages
- One GD** and five IL** modules
- Any other module in Warwick, subject to approval by both departments:
 - at most 2 from one dept,
 - no Maths modules for non-mathematicians.

MA259 Asymp
MA2
MA256 Introduct
ST220 Int
ST202 S

Arya



- 65% in Year 1
- wants to stay on MMaths
- worries about staying on MMaths
- does not have Maths preferences

Taking only List A MA2** allows Arya to qualify for MMaths on any 90 CATs and maximises her Maths options in years 3 and 4.

66 CATS Core

+ 24 CATS Term 1 modules:
MA241 Combinatorics
MA243 Geometry

+ 48 CATS Term 2 modules:
MA252 Combinatorial Optimization
MA257 Intro to Number Theory
2 out of the next 4:
MA250 Intro to PDE-s
MA254 Theory of ODE-s
MA261 Diff. Equations: Modelling & Numerics
MA269 Asymptotics & Integral Transforms

+ 12 CATS Term 3 modules:
MA209 Variational Principles
MA256 Intro to Math Biology

Bill



- 65% in Year 1
- wants to do BSc
- interested in Computer Science
- does not want too many CATS

Bill can still drop one module or underperform in it without affecting his results

66 CATS Core

+ 45 CATS Comp. Sci. modules:

CS260 Algorithms

CS262 Logic and Verification

CS254 Algorithmic Graph Theory

+ 30 CATS Philosophy module:

PH210 Logic II: Metatheory

PH340 Logic III: Incompleteness and Undecidability

(close to CS262, yet different perspective)

+ 6 CATS Maths module:

MA256 Intro to Mathematical Biology

(interested in Epidemiology and hopes to eliminate infectious diseases one day)

No:

MA117 Programming for Scientists
(done last year)

Dmitriy



- 75% in Year 1
- overconfident to stay on
- interested mostly in Pure
- does better in Algebra m

Dmitriy needs to do well on all Maths modules. He hopes to do well since he picks the modules at his core strength. But his Maths choices for year 3 and 4 will be limited.

66 CATS Core

+ 24 CATS Maths modules:
MA243 Geometry
MA257 Intro to Number Theory

+ 30 CATS Physics modules:
PX267 Hamiltonian Mechanics
PX262 Quantum mechanics and its Applications
PX276 Methods of Mathematical Physics
(Physics is crucial for understanding some parts of modern Pure Maths)

+ 30 CATS Philosophy module:
PH201 History of Modern Philosophy
(something for the soul)

Eric



- 85% in Year 1
- not confident to stay on MMaths
- interested mostly in Applied Maths
- does better in Analysis modules
- does not like Term 3 modules

Eric can underperform in two Maths modules but still qualify. He is over 150 CATS and will need to drop one module.

66 CATS Core

+ 48 CATS Maths modules:

MA250 Intro to PDEs

MA254 Theory of ODEs

MA261 Differential Equations:
Modelling and Numerics

MA269 Asymptotics and Integral
Transforms

+ 12 CATS Stats module:

ST220 Intro to Mathematical Statistics

(Stats is omnipresent. Not sure what to
take – take Stats)

+ 22.5 CATS Physics modules:

PX281 Computational Physics

PX264 Physics of Fluids

+ 12 CATS WBS module:

IB207 Mathematical Programming II

Hermione



- 85% in Year 1
- not sure about MMaths
- interested in actuarial career
- musician: piano and violin

Hermione can underperform in one Maths module but still qualify. She is on 168 CATS and will need to drop more than one module.

66 CATS Core

+ 36 CATS Maths modules:

MA241 Combinatorics

MA252 Combinatorial Optimization

MA257 Intro to Number Theory

+ 36 CATS List A modules:

MA117 Programming for Scientists

ST220 Intro to Mathematical Statistics

ST202 Stochastic Processes

(Java + actuarial exemptions)

+ 15 CATS WBS module:

IB132 Foundations of Finance

(something for job applications)

+ 15 CATS IATL module:

IL016 The Science of Music

(something for the soul)

Lisa



- 75% in Year 1
- wants to do BSc
- wants to become rich
- not sure how

66 CATS Core

+ 24 CATS Maths modules:
MA257 Intro to Number Theory
MA117 Programming for Scientists
(Java)

+ 12 CATS Stats modules:
ST222 Games, Decisions and Behaviour
(Someone said it was easy. It is not quite true but the module is still useful for Lisa.)

Lisa does Number Theory because she likes it. This will give her more options to choose Maths modules in Year 3.

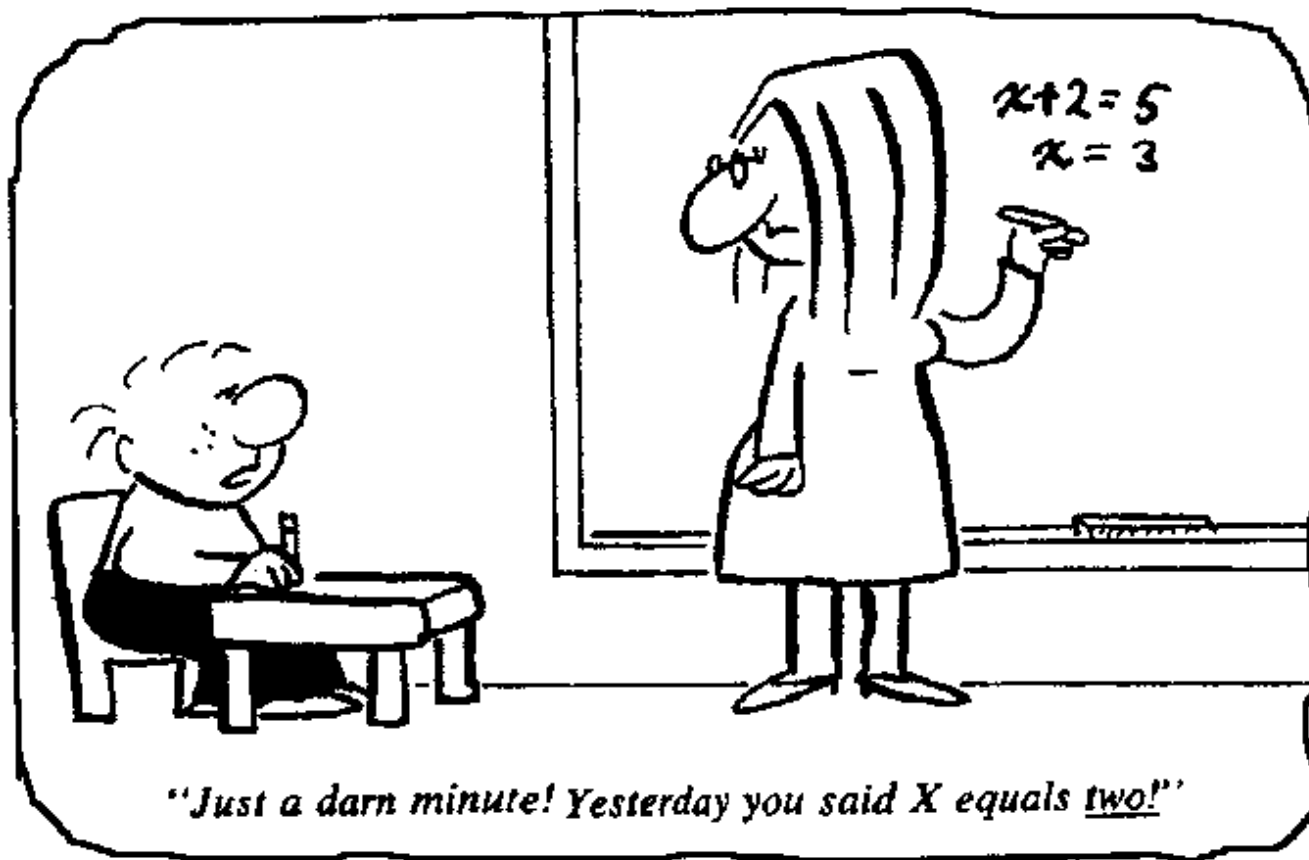
+ 30 CATS WBS modules:
IB133 Foundations of Accounting
IB2C9 Principles of Entrepreneurship
(something for business interviews)

Lisa should also do internship next summer not only to improve CV, but also to clarify her vision of her future career.

Lisa should contact Ray Ryan, our career advisor on myAdvantage

THE END

WARWICK



Any questions –
ask then in Q&A

