

Refresher Math Course

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Introduction

Appel?

Presentation

- Paul Dubois
- will be teaching this refresher math course
- email (for any question), answer within 1 working day

Course Format

Lectures

- 8*3h
- 1h20min lecture - 1/3h break - 1h20min lecture
- No pb class planned, but lectures will have integrated live exercises
- Interrupt if needed (but may also ask at the end of the lecture)
- Lectures are recorded (if ever needed)
- 1st lecture ever => too fast/too slow: let me know
- May assume you know a concept/notation that you have never heard of, let me know if this happens

Examination

- The course is pass/fail
- Most (in fact hopefully all) of you will pass
- There will be a full exercise sheet per lecture, it is advised to attempt it all (only one will be compulsory).
- Hand-in 1 exercise per lecture (i.e., 8 in total), due 2 weeks after the lecture
- Best $(n-1)/n$ count (i.e., best 7/8 in our case), need avg $\geq 50\%$ to pass
- In the unlikely event of not passing, will be able to do an extra work

Questions?

Part I

Set theory and logical elements

0.1 Set sizes: Finite, Countable, and Uncountable

0.1.1 Definition of a set and elementary operations

SETS Set notation: \in , $\{\text{True}, \text{False}\}$, $\{a \mid \text{condition}\}$, $\{a, b, c \dots\}$, \emptyset Russell paradox
FUNCTIONS predicate: function to

0.2 Spaces: Metric, Norm, and Inner Products

0.3 Limit behavior: Convergence, Continuity, and Asymptotic Analysis