

Metric and Hilbert spaces: Lecture 1 28 July 2015 ^①
Univ. of Melbourne

Housekeeping Google, Webpage

Seminar, no tutorials in week 1

Consultation hours / Michele Vergne Cinema Theatre
Lectures not recorded (email)

Handbook page / time commitment

80% exam, Assignments 20%

Assignment due 10 September

Remarks on the notes

Rubinstein notes / Ram notes.

Ram notes: Content is Chapters 1-9

Chapter 10 is exercises (40 pages)

Chapter 11 Some proofs

Chapter 12 Vocabulary

Chapter 13 Appendix

HOW TO READ A MATH BOOK

Summary of the lecture schedule

The zoo	Limits	Bases and linear transformations
$\mathbb{R}^2$ and friends	Compactness	
New from old	Completeness	Inner products
Openness	Applications	Eigenvalues

Proof Machine

Language: The Medical doctor

Don't use symbols $\Rightarrow, \Leftrightarrow, \forall, \exists, \exists$

Proof Type II: To show: If A then B

Assume the its To show the thens.

Proof type I: LHS = RHS

LHS = ... = ... = ... = blah

RHS = ... = ... = ... = blah

Proof type III: There exists C such that D

Set $C = \underline{\hspace{2cm}}$

To show: D

Definitions

A norm is an object such that condition

An adjective norm is a norm such
that condition

or

A norm is adjective if norm satisfies
condition.