

# INDEX TO COURSE FILES

This document is an organized list of the supplementary files in the course directory, with files sorted according to the relevant chapters in Sutherland. The files are also rated using a version of the guiding principles described in the companion web site for the course, which is located at <http://www.oup.com/uk/booksites/content/9780199563081/>. Here is our version of the rating system:

- (1) = material which is central to the course but for some reason was not covered in either Sutherland or the online files [math145Anotes\[chapter numbers\].pdf](#) and [intro2topA-\[chapter numbers + sequence suffix\].pdf](#) in the course directory.
- (2) = explanations which expand upon topics in the two sources listed above, or the files of additional exercises and solutions to exercises (from both Sutherland and the online files) in the course directory; also, material from previous courses which is used without a formal introduction.
- (3) = more peripheral material, mostly to enhance understanding and give more information on topics which are closely related to subject matter of this course.

## 1: Introduction

- <http://math.ucr.edu/~res/math145A-2014/aabInternetresources.pdf> (1)
- <http://math.ucr.edu/~res/math145A-2014/aacCourseInformation.pdf> (1)
- <http://math.ucr.edu/~res/math145A-2014/braintest1.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/braintest2.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/braintest3.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/braintest4.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/mathproofs.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/polya.pdf> (2)

## 2: Notation and terminology

- <http://math.ucr.edu/~res/math145A-2014/knight2014.pdf> (2)

## 3: More on sets and functions

- <http://math.ucr.edu/~res/math145A-2014/set-theory-exercises.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/set-theory-notes.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/set-theory-solutions.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/set-theory-supplements.pdf> (2)

## 4: Review of some real analysis

- <http://math.ucr.edu/~res/math145A-2014/limit-animations.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/limit-drawing.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/limit-laws.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/maximality.pdf> (3)
- <http://math.ucr.edu/~res/math145A-2014/numberexpressions.pdf> (2)
- <http://math.ucr.edu/~res/math145A-2014/uniqreals.pdf> (2)

## 5: Metric spaces

<http://math.ucr.edu/~res/math145A-2014/geom-background.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/nonelementary-integrals.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/product-metrics.pdf> (2)  
<http://math.ucr.edu/~res/math145A-2014/product-metrics2.pdf> (2)  
<http://math.ucr.edu/~res/math145A-2014/product-metrics3.pdf> (2)

## 6: More concepts in metric spaces

<http://math.ucr.edu/~res/math145A-2014/affine+convex.pdf> (3)

## 7: Topological spaces

<http://math.ucr.edu/~res/math145A-2014/zariski-topology.pdf> (1)

## 8: Continuity in topological spaces; bases

<http://math.ucr.edu/~res/math145A-2014/affine+convex.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/lambert-fcn.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/transcendentals.pdf> (3)

## 12: Connected spaces

<http://math.ucr.edu/~res/math145A-2014/cardinals.pdf> (2)  
<http://math.ucr.edu/~res/math145A-2014/nicecurves.pdf> (3)

## 13: Compact spaces

<http://math.ucr.edu/~res/math145A-2014/inverse-fcn-thms.pdf> (1)  
<http://math.ucr.edu/~res/math145A-2014/no-max-or-min.pdf> (1)

## 99: Materials for a graduate level course in point set topology

<http://math.ucr.edu/~res/math145A-2014/grad-course-preface.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/grad-level-classnotes.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/grad-level-hw.pdf> (3)  
<http://math.ucr.edu/~res/math145A-2014/grad-level-solns.pdf> (3)