

UPDATED GENERAL INFORMATION — JANUARY 23, 2018

`TEX file for takehome1-2018.pdf`

A copy has been placed in the course directory in response to requests for using it to write up the assignment due **Monday, January 29**. Note that the `TEX` file is written in plain `TEX`, and not in a version of `LATeX`. The command for creating a `dvi` file is simply `tex filename` (do not include the `.tex` extension). I'll put a bare bones introduction to plain `TEX` in the course directory as `doob-tex.pdf`. As a reminder, the use of `TEX` is optional.

Readings for the first two units

In addition to `algtop-notes.pdf` and the corresponding exercise and solutions, here are some recommendations:

`polishcircle.pdf`
`polishcircleA.pdf`
`polishcircleB.pdf`

The material in this course works best for spaces which have neighborhood bases of contractible open subsets. The Polish Circle, formed using the closure of the graph $y = \sin \frac{1}{x}$ (where $x > 0$), is a basic example which does not have this property, and it is often useful to see how and why things fail if a space is not reasonably well-behaved.

`coverings-notes.pdf`
`covering+section.pdf`
`univ-covering.pdf`
`complex-log.pdf`
`n-sheeted.pdf`

These are more detailed, but less formal, accounts of material in Unit I of the course notes. The drawings in these files might be helpful in understanding the ideas behind the arguments.

Here are some readings for Unit II, including a few on the group-theoretic concepts which appear there. We should add that the proof of the Seifert-van Kampen Theorem in the lectures appears in Chapter IX of `fundgp-notes.pdf`.

`free-product.pdf`
`free-product2.pdf`
`free-product3.pdf`
`free-product4.pdf`
`pushouts.pdf`
`svk-fig1.pdf`
`svk-fig2.pdf`
`svkproof.pdf`

The files `svk-fig1.pdf` and `svk-fig2.pdf` contain drawings for the proof in Chapter IX of the previously cited notes. The last file describes a different approach to proving the Seifert-van Kampen Theorem.

Readings for review of prerequisites

This also includes a few topics which might not have been seen in earlier course but are closely related and may even turn out to be enlightening or useful.

algebra-review.pdf
beyond205A.pdf
categories.pdf
corestrictions.pdf
functors+isomorphisms.pdf
homeomorphisms.pdf
HomotopySmall.gif
line2circle.pdf
math145Bnotes4.4b.pdf
moebius-strip.pdf
polya.pdf
projective-space-links.pdf
rpn-in-rk.pdf
secVIII2-addendum.pdf
synthetic-geom.pdf
zariski-topology.pdf