

MAT 425HF/1340HF Assignment 4

Due in .pdf, .jpg or .jpeg format on Quercus by noon Thurs 8 Nov 2018

Here and hereafter, ‘G & P’ refers to problems from the required textbook *Differential Topology* by Victor Guillemin and Alan Pollack.

For your consideration: two class members have expressed an interest in pursuing G & P Chapter 2: 2.7, 3.18, 3.19, 4.5, 4.6, 4.7, 4.14

Moore Method Written Solutions

Due in .pdf, .jpg or .jpeg format on Quercus by noon Thurs 8 Nov 2018

Written solutions to all Moore Method examples and theorems from Starbird and Su we have covered in class, Chapter 12.1-12.4, up to Theorem 12.19.

For discussion

We are closing in on Theorem 12.23, which is Starbird and Su’s first classification statement regarding 2-manifolds. One option would be to continue with the remainder of Starbird and Su Chapter 12 following that. However, it could also be a natural place to stop.

Two classmates have expressed an interest in using the remaining Moore Method sessions to cover de Rham Cohomology and exact sequences instead. They have proposed either covering the chapters on de Rham Cohomology from John Lee’s book “Introduction to smooth manifolds” (namely Ch 15-16 in the hardcover version on reserve in the math library, which correspond to Ch 17-18 in the online version available through UofT libraries), or Ch 4.6-4.8 from Guillemin and Pollack (G & P).

It strikes me that Ch 4.6 from Guillemin and Pollack is well-suited to the Moore method since it is composed almost entirely of problems. It is less clear to me how the material from Lee’s book could be adapted to Moore method. Chapters 7-8 of G & P cover Stokes theorem, which I thought most of you had seen in MAT 257. However, we can discuss these options in class Oct 31 and/or Nov 1. Obviously, transitioning directly to Ch 4.6 of G & P would require you to come up to speed on certain material from Chs 4.1-4.5 by reading on your own.