

LOGIC AND PROOF * MHF 3302 * Spring 2006

Text: *Logic and Proof* by Sherwood, Norman and Barr.

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Office Hours: after class in L228

Exams: Test 1 July 6
 Test 2 July 20
 Test 3 August 3

Grades: Each test is worth 25% of your grade. The remaining 25% will be given for your graded homework. No grades will be dropped and only University approved makeups can be given. No exceptions can be made for early travel, etc. Please plan accordingly.
No +/- grades will be used in this class. The NC grade is not available in this class.

Disclaimer: All information in this syllabus is subject to change. Please pay attention in class for any changes.

Assignments: Your homework assignments will be given in class after every lecture.

1. Assignment: GET THE BOOK. Do p.6 (all), p.16,17 (1, 3-6)
2. Assignment: pp.16, 17 (2, ,8,10,12,15,18,20)**7**
3. Assignment: p.23 (1,3), Exer 2 from *LC*
4. Assignment: pp.35,36 (2, ,9,10), Exer 3 from **3** *LC*
5. Assignment: pp.36,37 (4-8) (Hint for 6: use Addition Taut. twice)
6. Assignment: pp.41,42 (1,2,3, ,5,11,12), 4 from **4** Exer *LC*
7. Assignment: p.47 (1-4,6,10), 7 from Exer *LC*
8. Assignment: p.54 (4, ,1,3,6 - recommended order)**5**
9. Assignment: p. 57 (1,2,5,6,7)
10. Review day. Suggestion: complete through Chapter 2.*LC*
11. . Projected date: Fri, Feb 3 (subject to change - stay tuned)**Test 1**
Assignment for next class: read pp. 59-63, do 1-6, p. 64.
12. Assignment: p.67 (1,3,4,6,7,8,10,12)
13. Assignment: p.82 (4,6, ,9,13,18), 17 from learn the “ ”**7** Exer *LC*, *Logician's Oath*
14. Assignment: pp.81,82, (1,3,8,11, [do use FED in #14],15,16) Challenge: #12**14** not
15. Assignment: pp.89,90 (1,3,5,6,8-12)
16. Assignment: pp.97,98 (1, ,3-5,7)**2**
17. Assignment: pp.98,99 (10 w/o IP[see Examples 3.18 and 3.35],11-13,14, ,18(inv),19(val))**16**
18. Assignment: Read pp. 68-70, do p.71 (3-7), pp.89,90 (2,3,6,7,13)
19. Review day. Suggestion: complete through Chapter 3.*LC*
20. . Projected date: Fri, Feb 24 (subject to change - stay tuned)**Test 2** .
Assignment for nextclass : Read sec. 4.1-4.4 and do pp.103-4 (1a,c,d,2), p.105 (1), p.106 (1-4), pp.107-8 (1,3,4)
21. Assignment: 32 in in text, complete T4, T5, T6.Exer *LC*;
22. Assignment: In text, finish T7, do , T9, T11 (4 steps), T12.**T8**
23. Assignment: a) prove steps, “biconditional method”)
b) do T14 (begin as in text, 5 steps)
c) do demonstration of T15 using T6 (also, use shortcut discussed in class)
d) 34 in Exer *LC*.
e) 35 in Exer *LC*.
24. Assignment: Finish demo. of T17; do T19, T21 using no theorem after T18; do and T24 **T22**
using “double complement trick”; do T26 without reference to T25; do T25 using T26.
25. Assignment: Do T27,T28; Do T31 without reference to T30; do T30 using T31 and “complement tricks” (6 steps)
26. Introduction to informal proofs. Assignment: Exercises 38 - 42 in *LC*.
27. Informal proofs. Assignment: Exercises 43 - 47 in *LC*.
28. Informal proofs. Assignment: Exercises 48 and 49 in *LC*.
29. Review for Test 3.
30. . Projected date: Mon, Mar 27 Wed, Mar 29 (stay tuned for further info)**Test 3 or**
31. Assignment: Read Ex.1, p. 177, and Ex. 5, p. 180. Do pp. 182-3 (1-4, informal PMI)

32. Assignment: p.183 (10, 11), Exer. 52 in *LC*
33. Assignment: p.183 (6-9), Exer. 53,54 in *LC*
34. Assignment: Additional induction problems: 55-60 in *LC*
35. Assignment: Additional induction problems: 61-64, 66, 67, 77 in *LC*
36. Assignment: Additional induction problems: 70, 73, 75, 76
37. Assignment: pp.147-8, (4, 5, 6, 12, 13, 14); learn Definition 5.6.
38. Assignment: Read Examples 5.9 and 5.10; do p.148 (7, 8, 10a).
39. Assignment: pp. 151 (9), p.154 (3, 5), Exer. 50 in *LC*.
40. Assignment: pp. 158-9 (7, 8, 9, 10), Also:

Exercise A: Let f be the function whose domain is \mathbb{R} and whose value at any x is given by the

formula $f(x) = \frac{1}{x^2 + 1}$. Prove f does not map \mathbb{R} onto $(0, 1)$.

41. Assignment: pp. 166-7 (5, 8, 9, 10) Also:

Exercise B: Let f be the function whose domain is \mathbb{R} and whose value at any x is given by the formula $f(x) = \frac{1}{x^2 + 1}$. Prove 1-1

42. TBA

FINAL EXAM: Wed APR 26, 1-3:50

have you listed as teaching MHF 3302 on the Lake Mary campus in B term on MWR from 10:15-12:45. I have reserved room 228 in the L building.

Please send your book order as soon as possible.

I have attached information about the SCC campus and if you have any questions please let me know.

Thanks Gloria