Rough Outline: We will cover most all of Chapters 1–5 and Chapter 8 in the textbook by Steven Lay titled *Analysis With an Introduction to Proof*, and we will follow the outline of topics given there pretty closely. If there is time we will cover material from Chapter 6 concerning differentiation. In the syllabus below, we list in parentheses the textbook reading that students should complete in advance of class.

This syllabus is tentative and subject to change since the pace at which we cover material might change. However, the readings listed will still be correct for the given topic. We will make clear as we move through the course what has been covered and how the schedule will be adjusted. Key section dates for writing quizzes (Tuesdays) and in-section exams (Thursdays) are also listed in the syllabus below.

1. W Sept 6 Outline of course, logical statements and truth tables (Section 1.1)
2. F Sept 8 Logical quantifiers (Section 1.2)
3. M Sept 11 Proof strategies I (Sections 1.3, 1.4)
4. W Sept 13 Proof strategies II (Section 1.3, 1.4)
5. F Sept 15 Basic set operations (Section 2.1)
6. M Sept 18 Operations and relations on sets (Section 2.2)
7. T Sept 19 Gateway Quiz I
8. W Sept 20 Equivalence relations (Section 2.2)
9. F Sept 22 Introduction to functions (Section 2.3)
10. M Sept 25 Functions on sets (Section 2.3)
11. W Sept 27 Composition and inverse of functions (Section 2.3)
   Th Sept 28 EXAM I (covering Sections 1.1–2.2)
12. F Sept 29 Cardinality (Section 2.4 up to p. 89)
13. M Oct. 2 Natural numbers and induction (Section 3.1)
   T Oct 3 Short Quiz
14. F Oct. 6 Examples of induction arguments (Section 3.1)
15. M Oct. 9 Ordered fields (Section 3.2 to p. 118)
   T Oct 10 Gateway Quiz II
16. W Oct. 11 Absolute values, bounds, suprema (Sect. 3.2 pp. 118-119, Sect. 3.3 up to p. 126)
17. F Oct. 13 Completeness axiom and Archimedean property (Section 3.3 pp. 126–131)
18. M Oct. 16 Topology of reals – neighborhoods, open and closed sets (Section 3.4, pp. 134–137)
   T Oct 17 Gateway Quiz III
19. W Oct 18 Accumulation points (Section 3.4, pp. 137–139)
20. F Oct 20  Compact Sets (Section 3.5, pp. 144–146)
21. M Oct 23  Bolzano-Weierstrass theorem (Section 3.5, pp. 147–148)
22. W Oct 25  REVIEW
   Th Oct 26  EXAM II (covering Sections 2.3–2.5 and 3.1–3.4)
23. F Oct 27  Metric Spaces (Section 3.6)
24. M Oct 30  Convergence of a sequence (Section 4.1)
   T October 31  Short Quiz
25. W Nov  1  Computing limits and limit theorems (Sections 4.1 and 4.2)
26. F Nov  3  Infinite limits (Section 4.2)
27. M Nov  6  Monotone convergence theorem (Section 4.3 up to p. 180)
   T Nov  7  Gateway Quiz IV
28. W Nov  8  Cauchy sequences (Section 4.3, pp. 180–184)
29. F Nov 10  Section 4.4
30. M Nov 13  Section 4.4
   T Nov 14  Gateway Quiz V
31. W Nov 15  Convergence of Infinite Series (Section 8.1)
32. F Nov 17  Convergence Tests (Section 8.2)
33. M Nov 20  Power Series (Section 8.3)
   T Nov 21  Short Quiz
34. W Nov 22  Limits of Functions (Section 5.1)
   Th, F Nov 23-24  THANKSGIVING HOLIDAY (no meetings)
35. M Nov 27  Continuous functions (Section 5.2)
36 W Nov 29  Review for exam
   Th Nov 30  EXAM III (covers Section 3.5 and Chapter 4)
37. F Dec  1  Intermediate Value Theorem (Section 5.3)
38. M Dec  4  Compact sets and continuity (Section 5.3)
   T Dec  5  Short Quiz
39. W Dec  6  Uniform continuity (Section 5.4)
40. F Dec  8  The derivative (Section 6.1)
41. M Dec 11  The Mean Value Theorem (Section 6.2)
   T Dec 12  Gateway Quiz VI
42. W Dec 13  Taylor’s Theorem (Section 6.4)
   W Dec 20  Final Exam, 1:30 - 3:30 Location TBD