Following are an overview of the course and a detailed week-by-week syllabus with exam and quiz dates. Please note that this syllabus is tentative. It may be necessary to make changes to the topics and to exam and quiz dates – we will make every effort to keep to this schedule. The final exam date is fixed.

The topics are listed in terms of sections of the text. Please note that your lecture notes and text together constitute the primary reference for the course.

1. Overview of Syllabus

Using the chapters in [BBQ], here is a coarse breakdown of the course topics:

(1) Precalculus review - Chapter 1: 3 lectures / 1 lab

(2) Introduction to the derivative and its applications - Chapters 2 and 3: 12 lectures / 4 labs

(3) Exponential and log functions, antiderivatives, definite integrals - Chapters 4 and 5: 14 lectures / 5 labs

(4) Differential equations - Chapter 8: 8 lectures / 3 labs

There will be a midterm examination after (2), a second midterm after (3), and a comprehensive final exam.

2. Detailed Syllabus

(1) 29, 31 Aug, 5 Sept & Lab 1: Precalculus review - Chapter 1

(2) 7, 10, 12, 14 Sept & Lab 2: Introduction to limits and derivatives: 2.1 - 2.5
   Quiz 1 in Lab 2 on 11 Sept

(3) 17 - 21 Sept & Lab 3: Differentiation methods: 2.6 - 2.8
   Quiz 2 in Lab 3 on 18 Sept

(4) 24 - 28 Sept & Lab 4: Higher order derivatives, finding maxima and minima: 2.9, 3.1-3.3
Quiz 3 in Lab 4 on 25 Sept

(5) 1-3 Oct & Lab 5: Concavity, asymptotes, graphing, extrema on closed intervals: 3.2 - 3.4

Quiz 4 in Lab 5 on 2 Oct

Midterm Exam: 5 October

(6) 8 - 12 Oct & Lab 6: Exponentials and logs, exponential growth and decay: 4.1 - 4.3

(7) 17 - 19 Oct: More growth and decay: 4.4

No lab on 16 Oct - Fall break

(8) 22 - 26 Oct & Lab 7: Introduction to antiderivatives and definite integrals: 5.1 - 5.3

Quiz 5 in Lab 7 on 23 Oct

(9) 29 Oct - 2 Nov & Lab 8: More definite integrals, integration by substitution: 5.4 - 5.5

Quiz 6 in Lab 8 on 30 Oct

(10) 5 - 9 Nov & Lab 9: Integration by parts and improper integrals: 5.6, 5.9

Quiz 7 in Lab 9 on 6 Nov

(11) 12 - 16 Nov & Lab 10: Applications of integration and review

Quiz 8 in Lab 10 on 13 Nov

Midterm Exam: 19 November

No lab on 20 Nov

(12) 26 - 30 Nov & Lab 11: Introduction to differential equations; linear, first order DEs; slope fields and compartment models: 8.1 - 8.2

Quiz 9 in Lab 11 on 27 Nov

(13) 3 - 7 Dec & Lab 12: Separable and autonomous differential equations: 8.3 - 8.4
Quiz 10 in Lab 12 on 4 Dec

(14) 10 Dec & Lab 13: Review

Final Examination – Thursday 13 December 8:30 - 11

The midterm exams are held in our classroom - Mathematics & Science Center W201. The location of the final exam will be announced later.