

## Course Information

Math E-16 Calculus B  
Spring 2009

### Welcome!

Welcome to Math E-16, Calculus B and Differential Equations. The instructor is Eric Connally. The Teaching Assistant is Jennifer Balakrishnan.

### Updates, Online Handouts, and the Course Website

- This information is subject to change. Any updates or announcements will be posted to the course website, <http://users.rcn.com/econnally/math/courses/e16>.
- Handouts, including class notes, homework and exam solutions, and supplementary materials, will be posted online.
- The Extension School makes computers available for students to use; see the course website for details.

### Homework, Quizzes, & Exams

- Exam and homework schedules will be provided.
- Exams will be held during the second part of class. The final will be a full three-hour exam.
- Your homework will not be corrected. Instead, complete homework solutions will be posted on the website.
- There will be a homework-based quiz midway through each class, including exam days. Quizzes are open-book, open-notes.
- Quizzes will be graded by the TA, and your homework average will be based on these quiz grades.

### Makeups

- Optional makeup exams will be scheduled for all exams except the final. There will also be a scheduled practice final.
- Optional makeup quizzes will be held during section.
- You are free to take any makeup quiz or exam, regardless your original score. Your grade will be based on the higher of the original score and the makeup score, which means that makeups are risk-free.
- Note that makeups will be offered only at the scheduled times. No additional arrangements will be made for students who miss quizzes, exams, or makeups.

### Section

- Undergraduate section attendance is strongly encouraged but not required. Keep in mind that if you choose not to attend a section, you won't be eligible to take that evening's makeup quiz.
- *Students taking the course for graduate credit must attend a **separate** graduate section.*

### Solutions and Practice Material

- Practice materials, including quizzes and exams from previous offerings of this course, will be provided. Since the course changes from term to term, these materials, while hopefully useful, are not necessarily an accurate reflection of the quizzes and exams you will take.
- Complete solutions will be posted for all quizzes, exams, makeups, practice materials, homework assignments, and any problems distributed during class.

### Grades

- Your grade is based on your quizzes, exams, and final.
- The final is worth at least 40% of your grade.
- Your lowest three quizzes will be dropped.
- If higher, your grade on the practice final replaces your lowest hourly exam grade.
- Your overall quiz average and each hourly exam are weighted equally.
- Students attending the graduate sections (for graduate credit) will receive a numerical grade from their section leader. That grade will be worth 10% of the final average; the remaining 90% will be calculated as above.

### Textbook

The text is *Calculus, Fourth Edition*, by Deborah Hughes Hallett, Andrew Gleason, et al. It is available at the Harvard Coop. Used copies are likely available online.

### Calculators

You will need a graphing calculator that can evaluate definite integrals. The instructor is most familiar with models by Texas Instruments (TI). Used calculators can often be found online.

## Syllabus

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- This syllabus is tentative and subject to change.
- There will be a quiz midway through each class except for the week of the final. Makeup quizzes will be offered during section. The lowest three quiz grades (including missed quizzes) will be dropped. *No additional arrangements will be made for students who miss quizzes, exams, or makeups.*
- Each exam (including makeups) covers all material on which you have already been quizzed. This means exams include material up to (but not including) the topics covered in the preceding class. Exams are open-book, open-notes.

## Exam Schedule

<i>exam</i>	<i>date</i>	<i>classes covered</i>	<i>time</i>
Exam 1	February 19	1–2	second part of class
Makeup 1	March 5	1–4	second part of class
Exam 2	April 9	1–8	second part of class
Makeup 2	April 23	1–10	second part of class
Practice Final	May 7	comprehensive	all 3 hours
Final	May 14	comprehensive	all 3 hours

## Homework Schedule

<b>Class 1</b> · Jan. 29 · <i>Derivatives and Definite Integrals</i>	<i>integrals</i>	<b>Class 9</b> · Apr. 2 · <i>Separation of variables</i>
§3 review 1, 4, 17, 22, 23, 52, 59, 70, 71	§7.4 1, 2, 8, 9, 15, 20, 22	§10.1 2, 4, 5, 7, 8, 10-13, 18, 26-28, 34
§5.1 2, 9	<b>Class 5</b> · Feb. 26 · <i>Integration techniques (cont.)</i>	§10.2 1, 6, 16, 17, 21, 22, 28, 32, 40
§5.2 27, 29	§7.5 1–4, 5, 11, 18, 20, 21	§10.3 8-12, 20, 22, 36
§5.3 4, 10, 14, 25, 26	§7.7 2, 3, 6, 8, 12, 13, 16, 22, 25, 28, 29, 43	<b>Class 10</b> · Apr. 9 ( <b>Exam 2</b> ) · <i>Applications of differential equations</i>
§5.4 4, 14, 17	<b>Class 6</b> · Mar. 5 ( <b>Makeup 1</b> ) · <i>Applications to geometry</i>	§11.1 1, 2, 9, 12, 16
<b>Class 2</b> · Feb. 5 · <i>Antiderivatives</i>	§8.1 7, 8, 12, 13, 14, 15, 16	<b>Class 11</b> · Apr. 16 · <i>Geometric series</i>
§6.1 6, 8, 9, 10, 25	<b>Class 7</b> · Mar. 12 · <i>Applications to probability</i>	§11.2 2, 4, 8
§6.2 12, 15, 39, 51, 55, 56, 60, 62, 66, 72, 80, 84	§8.2 2, 28-32, 35, 36	§11.3 1, 4, 9
§6.3 1–10	§8.4 3, 10, 12, 13, 14	§11.4 9, 19–26, 34, 44
§6.4 1, 3, 5, 13, 33, 34	§8.5 3, 4, 5, 8, 11, 31	<b>Class 12</b> · Apr. 23 ( <b>Makeup 2</b> ) · <i>Taylor series</i>
<b>Class 3</b> · Feb. 12 · <i>Integration</i>	§8.6 1, 4, 6, 9, 10, 12	§11.5 1, 2, 4, 6, 8, 12, 20, 22
§7.1 12, 15, 22, 24, 25, 28, 48, 51, 54, 67, 88	<b>Class 8</b> · Mar. 19 · <i>Sequences &amp; series</i>	<b>Class 13</b> · Apr. 30 ·
§7.2 1, 8, 11, 14, 17, 20, 32, 33, 36, 38, 40, 42	§9.1 1, 3, 5, 10, 11, 14, 16, 19, 34, 46, 48	§11.6 1, 2, 12, 14, 18, 20
§7.3 2, 8, 17, 24, 26, 30, 35, 36, 38, 47	§9.2 1–4, 9, 10, 13–16, 20, 21, 31	§11.7 5, 10, 12, 13
<b>Class 4</b> · Feb. 19 ( <b>Exam 1</b> ) · <i>Approximating</i>	§9.3 1, 2, 6, 24, 25	§11.10 1, 2, 6, 10, 15–18
<b>Holiday</b> · Mar. 26 · <i>Spring break</i>		<b>Class 14</b> · May. 7 ( <b>Practice Final</b> ) · 3 hours
		<b>Class 15</b> · May. 14 · <b>Final Exam</b> · 3 hours