

Math 20B Calculus & Analytic Geometry for Science and Engineering Fall 2004

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Office Hours: M 11:00a-12:00p, Tu 1:10p-2:00p, or by appointment
Meeting Times: MWF 1:00p-1:50p
Room: 2005 Warren Lecture Hall (WLH)
Textbook: *Calculus, Early Transcendentals, 5th Edition*, James Stewart. We will cover parts of chapters 5, 6, 7, 8, and some of 9 and 10. *Math 20B Supplement*, Bill Helton. These supplementary notes are available from the course web page, or at Soft Reserves.
Prerequisites: Math 20A
Course Webpage: <http://scicomp.ucsd.edu/~spav/class/2004F-M20B/>
Final Exam: Monday December 6, 11:30a-2:30p

Catalogue Description. *20B. Calculus for Science and Engineering (4) Integral calculus of one variable and its applications, with exponential, logarithmic, hyperbolic, and trigonometric functions. Methods of integration. Polar coordinates in the plane.*

Grading Policy. Grading will be based upon performance in homeworks, two single hour exams, and a comprehensive final exam. The quarter grade is subdivided as follows:

Homework: 10%; Lesser score on midterms: 22%; Greater score: 28%; Final Exam: 40%.
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Note the scoring for the midterms: your better midterm score counts slightly more than your other midterm score. This is supposed to skew scores upwards, and decrease the effects of a “bad day.” Final scores will be converted into letter grades as follows:

Final Score	Final Grade
at least 90%	A- or better
at least 80%	B- or better
at least 70%	C- or better
at least 60%	D or better

These grade “promises” are guaranteed, but note that the “or better” might be *much* better, depending on certain factors: if the exams are too difficult, or the grading too harsh, etc. Thus, for example, the cutoff for a C- might be as low as 65%, say.

Frequently students ask for a change in grading policy late in the quarter. To make such a change would be unfair to any student who had already dropped the class thinking they couldn’t pass. In any case, this is a calculus class, not a game show; there is no “deal-making.” If you get a perfect score on the final exam, I will buy you a candy bar, but you still might not pass the class—the final exam is only worth 40% of the final grade. The point of having midterm exams is to encourage students to review the material some time before 11pm the night before the final.

The dates and times for the midterms and final exam are listed in this syllabus: The first midterm is during class on Monday, October 18, the second is during class on Monday, November 15. The final is Monday, December 6 at 11:30am. If you have known conflicts with any of these exams, I encourage you to switch to another section of 20C *immediately*. Legitimate, documented excuses for missing an exam will be dealt with individually.

I plan to have the first midterm exam returned before the end of the fourth week, *i.e.*, before the deadline to drop without a ‘W.’ Likewise, I plan to have the second midterm returned before the deadline to drop with a ‘W.’ The decision to drop the course is a serious one. However, I can only advise you on how you are doing in this course; I am *not* qualified to advise you on your educational career and know little about the various majors and their requirements. Please consult your academic advisor for these matters.

Homework. There will be 9 homework assignments, each of approximately the same length, and worth one-eighth of your final homework score. Your lowest homework score will be dropped. Since your lowest homework score will be dropped, no late homework will be tolerated.

Homework is to be handed to the TA at the end of discussion section, or to me at the end of class (for homeworks 7 & 9). I repeat: *no late homework will be tolerated*. The grader has full discretion in grading the homework; do not irritate the grader by handing in dog-chewed, coffee-stained, unnamed, unstapled homework scribbled in illegible runes on crumpled diner napkins. The answers to the homework questions may be found in the back of the book, or in the solutions manuals generally available on the black market. For this reason, unless a homework question is trivial (*i.e.*, no work is required), simply writing the answer to homework questions is not acceptable; you must *show all your work*. A homework consisting of only answers will receive a grade of zero.

It is expected, and encouraged, that students will work together on the homeworks. This saves time (yours, mine, and the grader’s), builds leadership, and encourages cooperation. Each student must submit their own homework, written in their own hand (please no printouts, photocopies or faxes¹). Since the exams follow the homework closely, it is strongly suggested that students pay careful attention to the homework.

Getting Help. I encourage you to attend my office hours, and the office hours of your TA. Students can also get help at the Department’s Calculus Lab, located in AP&M 2402, and open weekdays. See <http://www.math.ucsd.edu/frontdesk/roomschedule/apm2402/>

Help is also available from OASIS, which is a tutoring program requiring regular attendance. See <http://oasis.ucsd.edu/mstp/mstp.shtml>

Calculators. A TI-85 or -86 calculator, or one less powerful, may be used during the class and during the midterm exams. The TI-89 and -92 are *not* allowed.

Academic Integrity Students are expected to adhere to the University’s Policy on Integrity of Scholarship, found in the UCSD general catalogue. Minimum punishment for cheating on a midterm exam is a score of zero on that exam. Please note that an academic dishonesty charge can follow you for the rest of your academic career, and can prevent you from being admitted to law school, med school, etc. Any perceived benefit in GPA is not worth the risk of trashing your future. Students get caught every quarter. Plus, if I catch you cheating, it will hurt my feelings, and I may cry.

Course Webpage. The course page, <http://scicomp.ucsd.edu/~spav/class/2004F-M20B/> will include this syllabus and any updates, general announcements and some pertinent course materials.

¹At the TA’s discretion, faxes *may* be acceptable.

Course Schedule. The lecture schedule is tentative, but the homework and exam schedules are exact.

week 0	F Sep 24	Introduction and (Review) §3.11	
week 1	M Sep 27	(Review) §4.2, 4.10	
	W Sep 29	(Review) §5.1, 5.2	
	Th Sep 30		
	F Oct 01	(Review) §5.3, 5.4	
week 2	M Oct 04	§5.5	
	W Oct 06	§5.6	
	Th Oct 07	§3.11 # 3, 5, 7, 8, 15, 18, 19, 31, 32, 34, 38. §4.2 # 1, 11, 12, 15, 17, 24 HW 1 : §4.10 # 1, 5, 11, 13, 25, 45, 46 §5.1 # 2, 11, 13 §5.2 # 3, 5, 8, 36, 39, 49	
		HW 2 : §5.3 # 7, 11, 13, 21, 25, 30, 55 §5.4 # 7, 11, 13, 21, 29, 61 §5.5 # 3, 6, 11, 15, 23, 37, 57, 59, 62, 73 §5.6 # 3	
		F Oct 08	§6.1
week 3	M Oct 11	§6.2	
	W Oct 13	§6.5	
	Th Oct 14	§6.1 # 5, 7, 9, 17, 41, 44 HW 3 : §6.2 # 1, 5, 11, 31, 33, 48, 51, 61 §6.5 # 3, 5, 9, 10, 16, 18	
		F Oct 15	§7.1
week 4	M Oct 18	exam 1 covering §3.11, 4.2, 4.10, 5.1–5.6, 6.1, 6.2, 6.5	
	W Oct 20	§10.3	
	Th Oct 21	HW 4 : §7.1 # 1, 5, 9, 13, 19, 27, 31 §10.3 # 1, 3, 7, 10, 16, 22, 25, 31, 35	
		F Oct 22	Appendix G
week 5	M Oct 25	Appendix G, Supplement §1	
	W Oct 27	Supplement §1, 6	
	Th Oct 28	Appendix G # 1, 3, 7, 15, 21, 27, 35, 37, 40, 41, HW 5 : 45 Supplement §1 # 2, 3, 4	
		F Oct 29	§7.2, Supplement §2

week 6	M Nov 01	§7.3
	W Nov 03	Supplement §3, Stewart §7.4
	Th Nov 04	HW 6 : §7.2 # 1, 2, 5, 13, 16, 25, 41, 53 Supplement §2 # 1, 2, 3 §7.3 # 1, 3, 7, 12, 13, 16, 19, 23, 25 Supplement §3 # 1, 2, 3
	F Nov 05	§7.4, Supplement §4
week 7	M Nov 08	§7.5
	W Nov 10	§7.7
	Th Nov 11	Veteran's Day–No Meeting
	F Nov 12	§7.8
		HW 7 : §7.4 # 1, 2, 5, 9, 16, 19, 23, 41, 55 Supplement §4 # 2, 3, 4, 5 §7.5 # 3, 5, 7, 10, 11, 15, 16, 17, 21, 33, 35 §7.7 # 2, 8, 13, 21, 32
week 8	M Nov 15	exam 2 covering §7.1–7.5, 7.7, 10.3, Appendix G, Supplement §1, 2, 3, 4
	W Nov 17	§8.1
	Th Nov 18	HW 8 : §7.8 # 2, 5, 10, 13, 25, 30, 33, 35, 49, 53, 68 §8.1 # 5, 7, 9, 17, 33
	F Nov 19	§8.2
week 9	M Nov 22	§8.3, 8.5
	W Nov 24	§10.5
	Th Nov 25	Thanksgiving–No Meeting
	F Nov 26	Thanksgiving–No Meeting
week 10	M Nov 29	§9.1, 9.2
		HW 9 : §8.2 # 1, 3, 5, 6, 10, 13, 33 §8.3 # 23, 25, 30 §8.5 # 1, 2, 6, 11 §10.5 # 5, 7, 9, 11, 13, 17, 21, 22, 25, 27, 29
	W Dec 01	§9.2, 9.3
	Th Dec 02	
	F Dec 03	final exam review final exam review questions (like a homework assignment, but not to be turned in) §9.1 # 1, 2, 5, 7, 9, 10 §9.2 # 3–6, 7, 8, 9, 11, 23, 24 §9.3 # 1, 3, 6, 9, 11, 15, 35, 36, 38
finals	M Dec 6	Final Exam. 11:30a-2:30p