Tufts University

Mathematics 38 **Department of Mathematics** **Fall 2007**

Course Information

Sections: 01 (Block B) B. Hasselblatt, **02** (Block B) J. McGrath, **03** (Block C) M. Frumosu.

Text: Reprint of M. M. Guterman, Z. H. Nitecki, *Differential Equations – A First Course*, 3rd ed., Saunders (1992).

Prerequisites: Mathematics 11–13 or 17–18.

Important dates: There will be three exams given on Monday, **October 1**, Monday, **October 22**, and Monday, **November 19**, from **12:00 noon to 1:20 pm**. The final exam will be given on **Friday, December 14**, from **8:30 am to 10:30 am**. *Notify your instructor of any time conflicts with other examinations during the first week of classes.* Students who take two mathematics courses with any exams at the same time have to take these back to back and must notify *both* instructors during the first week of classes. *The exams are cumulative.* **Dropping, adding and withdrawing:** *Tuesday, September 18*, is the last day for all undergraduate students to add courses. *Tuesday, October 9*, is the last day for sophomores, juniors and seniors to drop courses without record of enrollment, and for any student to select the pass/fail option. *Monday, December 10*, is the last day for undergraduate students to withdraw from courses and receive the grade of W.

Homework: Homework is due at the beginning of the next class. You are encouraged to collaborate, but you must hand in solutions written in your own hand. You receive one point if your homework contains (1) a bona fide attempt at *every* exercise (copying the statement does not suffice) and (2) the correct solution to at least 60% of the exercises (answers only are not enough). *Do not claim credit for any parts of solutions copied from the blackboard during class! This is plagiarism.* Your homework credit is $H = u_{25}(n) \cdot (n - 20)/4$, where n is the number of homework points and u is as on p. 449 of the text.

Grades: Your course grade will be computed as follows. If X_1, X_2, X_3, and Y denote your scores on the three midterm exams and the final exam, respectively, and H is your homework credit. Your overall course average is the larger of these two numbers: $(X_1 + X_2 + X_3 + Y)/4 + H$ or $(X_1 + X_2 + X_3 + 2Y)/5 + H$. This average will be converted into a letter grade according to the conversion chart given on the Mathematics Department website at http://math.tufts.edu. If you must miss a midterm exam for a reason accepted as legitimate by the Mathematics Department, your final exam score will be used in place of the missing midterm exam score. For instance, if you missed the first midterm exam for a legitimate reason, your average would become the larger of these two numbers: $(X_2 + X_3 + 2Y)/4 + H$ or $(X_2 + X_3 + 3Y)/5 + H$.

Examinations: *We do not give make-up examinations* under any circumstances for the midterm exams, and *we do not drop the lowest exam grade.* Thus, missing an exam is a very serious matter. An unexcused absence from any exam will be counted as a zero. Excuses will be accepted, at the discretion of the Mathematics Department, for genuine emergencies (for example, illness on the day of the exam or a death in the immediate family), for some unavoidable and unforeseen events of an extremely serious nature (your living quarters suffer a bad fire), or for a very limited category of foreseen, but unavoidable, serious events (your surgeon attests that you must have surgery later in the semester rather than waiting until the semester ends).

Requests to be excused must be accompanied by the appropriate documentation (for example, a letter from Health Services stating that you are too ill to take the exam on that day or a note from your Academic Dean confirming that there has been a death in your immediate family). *If you are excused from an exam, you will also be required to sign an affidavit* stating the reason for missing the exam and pledging that your account is truthful. Anyone found to have violated this pledge will be reported to the Dean of Students and will receive an F in the course.

Should you have a serious but foreseeable conflict with one of the exams, you are obligated to contact your instructor as soon as you become aware of it. The Mathematics Department will determine whether or not you will be excused from the exam. (For example, wanting to attend your sister's dance performance or having booked an inexpensive early flight home for Thanksgiving will not be deemed valid reasons for missing an exam.) If you are not excused, then you must take the exam or it will be counted as a zero. If you fail to inform your instructor or the Mathematics Department well in advance of a foreseeable conflict and then miss the exam, you will receive a zero on the exam. Unawareness of the date or time of an exam will not be considered a valid excuse, since this information is clearly announced on this syllabus.

Cheating: Don't! Mathematics Department policy requires you to sign your exam book before handing it in. *With your signature you are pledging that you have neither given nor received assistance on the exam. Students found violating this pledge will receive an F in the course.* If you question the grading on a particular problem, write a note explaining the issue (on the cover of the exam if it will fit there), and resubmit the exam booklet with the note at the end of the class in which the graded booklets were returned. *Students found to have altered the exam booklet before resubmission will receive an F in the course.* Instructors are required to report suspicions of cheating to the Dean of Students.

Mathematics 38 Lecture and Test Schedule

Any changes to the syllabus will be announced in class and on the web page `http://math.tufts.edu/38/`

*Keep your answers to *-problems for later assignments.* *In †-problems* **only** *find the partial-fractions decomposition.*

No.	B	C	Section	Assignment
1	9/4	9/4	1.1,2	p. 8: 1, 3, 7, 17, 18*, 19*, 20* & p. 16: 3, 5, 15, 17, 24
2	9/6	9/5	1.3	p. 25: 1, 3, 7, 8, 12, 19, 23, 25 & p. 37: 1, 5
3	9/7	9/7	1.6	p. 8: 4 & p. 56: 1, 3, 7, 11, 17, 19, 21
4	9/11	9/11	2.A	p. 8: 5 & p. 194: 1, 3, 5, 11, 16, 17, 19, 21, 31
5	9/13	9/12	2.2	p. 91: 1, 5* & p. 102: 1, 3, 7, 9, 13, 15, 17, 21, 23, 24
6	9/14	9/14	2.3	p. 113: 1–3, 9, 13, 15, 17, 31
7	9/18	9/18	2.4	p. 120: 1, 5, 9, 10, 13–15, 18;
8	9/20	9/19	2.5	p. 8: 6 & p. 129: 3, 5, 9, 11, 15, 18, 19, 22, 23
9	9/21	9/21	2.6	p. 136: 1, 5, 11, 13, 15, 19, 21, 23, 25
10	9/25	9/25	2.7	p. 9: 8 & p. 145: 1, 2, 3, 5, 11, 14, 15
11	9/27	9/26	2.8	p. 155: 1, 5, 7, 9, 15, 17
	9/28	9/28	Review	
	First Exam (through 2.8): Monday, October 1, 12:00–1:20			
12	10/2	10/2	2.9	p. 164: 1–4, 5a, 6, 8, 11 & p. 172: 3
13	10/4	10/3	5.2	p. 410: 1 & p. 421: 4, 5, 8–11, 13–15, 17, 19, 20, 22–24
14	10/5	10/5	5.3	p. 410: 5 & p. 432: 1, 3, 11, 13, 17, 19, 21 & p. 463: $11^{\dagger}$*, $12^{\dagger}$, $13^{\dagger}$*
15	10/11	10/10	5.4	p. 441: 1, 5, 9, 15, 18, 27, 29, 32 & p. 463: $14^{\dagger}$, $15^{\dagger}$*, $16^{\dagger}$, $17^{\dagger}$
16	10/12	10/12	5.5	p. 452: 3, 5, 7, 15, 17, 19, 23, 29
17	10/16	10/16	5.6	p. 9: 9 & p. 462: 3, 5, 11, 15, 19, 21, 25 & p. 479: 1
18	10/18	10/17	5.7	p. 473: 1, 3, 7, 9, 13–15, 19
	10/19	10/19	Review	
	Second Exam (through 5.7): Monday, October 22, 12:00–1:20			
19	10/23	10/23	3.2	p. 219: 1, 2cd, 5, 7, 8, 11, 13, 19, 24ab, 25, 32, 33
20	10/25	10/24	3.3	p. 232: 1, 7, 9, 11, 13
21	10/26	10/26	3.4	p. 241: 1–5, 7, 8, 11–14
22	10/30	10/30	3.5	p. 9: 10 & p. 254: 1*, 4*, 5*, 6*, 9*, 11*, 13
23	11/1	10/31	3.6	p. 265: 1, 6, 7, 9, 11, 13, 14*, 17*, 18*, 19*
24	11/2	11/2	3.7	p. 275: 1, 4*, 5*, 7, 8, 9, 11, 13
25	11/6	11/6	3.8	p. 284: 1, 3*, 5, 7, 11
26	11/8	11/7	3.9	p. 9: 11 & p. 295: 1, 5*, 7, 9, 13
27	11/9	11/9	3.10	p. 308: 3, 5, 7, 9, 13 & p. 26: 9 & p. 155: 3
28	11/13	11/13	3.11	p. 320: 1, 4, 5, 6, 7, 8, 13 [Recommended: p. 321: 1–14]
29	11/15	11/14	1.8	p. 8: 2 & p. 63: 1 & p. 71: 1, 3, 5, 16, 17, 21 & p. 194: 2
	11/16	11/16	Review	**[Start homework 36 now!]**
	Third Exam (through 3.11): Monday, November 19, 12:00–1:20			
30	11/20	11/20	4.1	p. 71: 4, 6, 8 & p. 332: 1, 5, 9
31	11/27	11/27	4.2	p. 348: 7, 9, 11, 13, 15, 17 & p. 173: 4a
32	11/29	11/28	4.2	p. 348: 1, 2, 3, 8, 19, 20
33	11/30	11/30	4.3	p. 9: 12 & p. 364: 8, 10, 14, 16, 17
34	12/4	12/4	4.4	p. 377: 1, 3, 7, 9, 12, 13a
35	12/6	12/5	Review	p. 17: 21 & p. 56: 5, 18 & p. 72: 15 & p. 113: 4 & p. 121: 16 p. 129: 17 & p. 145: 7 & p. 155: 19 & p. 222: 34 & p. 233: 12 p. 242: 15–17 & p. 255: 22 & *p. 284: 5* & *p. 308: 3* & p. 320: 11 p. 348: 1, 3 & p. 421: 1, 7 & *p. 433: 19* & p. 441: 3, 17, 31 p. 452: 1, *9*, 13 & p. 462: 2, 13 & p. 473: 5, 11 [*Italicized* exercises are optional]
	12/7	12/7	Review	
	Final Exam: Friday, December 14, 8:30–10:30am			