

Information about the Fourth Hour exam for Math 114-001

Mechanics of the exam:

- (1) There will be a review session from 8 p.m. to 10 p.m. the evening of Thursday, April 24, in room A5 of DRL labs.
- (2) The exam will be on Monday, April 28, in our usual room, DRL A8, at the usual time (11:00 am). This the last day of class. It will be 45 minutes long to give us time to collect the exams before everyone must leave for their next class.
- (3) **Important:** You can (and should) bring one handwritten one-sided page of notes to the exam, but no books or calculators. On this page, write down any formulas or notes which you think may help. See the next section for advice on how to prepare for the exam. Remember - no typed or photoreduced notes; only handwritten notes are allowed.
- (4) There will be 10 multiple choice questions on the exam. To receive credit for a problem you will have to mark the correct answer **and** show plausible work leading to this answer. There will be no partial credit.
- (5) The exam will have a final page which you should first tear off and then use to record your answers so that you can check these against the correct ones which will be posted on the course web page.

Scope of the exam and advice on how to prepare for it:

- (1) The exam will cover the material in sections 16.7, 16.8 and 16.9, all of chapter 10 and all of chapter 18.
- (2) The applications of triple integrals we discussed were finding volumes, masses and centers of mass. We didn't talk about finding joint density functions of random variables, so you don't need to be prepared for questions about this.
- (3) The applications of O.D.E.'s we discussed were to growth models, Newton's law of cooling, orthogonal trajectories, mixing problems, electric circuits, spring systems and predator prey models.
- (4) I will cover all of sections 18.1, 18.2 and 18.3 by the end of class on Wednesday, April 23, and problems from sections will be included on the mid-term to be given on April 28. I'll be able to cover section 18.4 only on Friday, April 25, so problems from this section (about series solutions) will not be on the mid-term. They will be on the final exam, though, so it is important to study section 18.4 and to come to class on Friday.

- (5) I would recommend trying to become comfortable with how to do all the core homework problems on the syllabus for the above sections. If you don't have time for all of these, I will make some specific recommendations below.
- (a) In section 16.7, do problem 16 on page 1066.
 - (b) In sections 16.8, do problem 7 and problem 17 on page 1074.
 - (c) In section 16.9, do problem 13 on page 1084.
 - (d) In section 10.1, do problem 9 on page 627 and problem 11 on page 628.
 - (e) In section 10.2, do problems 3 - 6 on page 635.
 - (f) In section 10.3, do problems 3, 13 and 32 on page 643.
 - (g) In section 10.4, do problems 3 and 13 on pages 656 and 657.
 - (h) In section 10.5, do problems 7 and 9 on page 666.
 - (i) In section 10.6, do problem 9 on page 672 and problem 29 on page 673.
 - (j) In section 10.7, do problem 1 on page 678 and problem 3 on page 679.
 - (k) In section 18.1, do problems 1 and 17 on page 1183.
 - (l) In section 18.2, do problems 1, 3 and 19 on page 1190.
 - (m) In section 18.3, do problems 3, 5 and 17 on page 1198.