The final exam is open book. You may bring your textbook (no other book) and a standard sized sheet of notebook paper with whatever you like written on it, and your usual non-graphing calculator. It is not the case that everything in the suggested problems below is actually covered on the exam.

**chapter 12:** Basic operations on vectors and geometrical applications of these operations. Angles between vectors, projections. Representations of planes and lines using vectors.

12.3 problems 19-33. problems 51-60, 63-68. In any section, problems I suggest may actually be relevant to other parts of the exam.


**chapter 13:** Be ready to think about velocity, speed, acceleration, tangential and normal components of acceleration. No arc length or curvature computations on this exam.


**chapter 14:** The main question from this section will be an optimization question from 14.7. There will be some other question from earlier (not a 14.8 question).


**chapter 15:** Nothing from 15.1. 15.2 problems 3-7, 17-36. 15.3: you can assume that triple integration will be avoided, unless very simple indeed.
probs 1-4, 9-12. 15.4: probs 7-20. Nothing cylindrical or spherical on the final. 15.5. Look at the homework assignment. 15.6: not on this final (I notice that I did do something with this in 2006). 16.1-3, possibly a bit of 17.1 will be covered next week; I’ll discuss what I’ll cover from these sections at that time.