

Digest 6

(A compilation of emailed homework questions, answered around Wednesday.)

Question. (From a student):

(1) Do we have to know how to prove Kepler's Laws of Planetary Motion for the mid-term or simply remember the formula would be enough? Also I find that there are some other things about curve like the radius of curve and binormal vector that the book talks about but we didn't cover on class. Do we have to know them as well?

(2) In the syllabus, you mentioned that we are only covering Chapter 14 till section 14.5. However, I noticed that 14.6 is Planetary motion acc to Kepler and Newton and I remember us covering Kepler's motion in class. So was that an error? Do we have 14.6 after all?

(3) I just want to confirm till what section from the textbook is coming for midterm 2?

Answer. (1) As with everything we do, I will never expect you to reproduce proofs by memory, especially the rather technical derivation of Kepler's Laws. Kepler's Laws especially were meant for enrichment, and as a nice application of properties of cross product, vector-valued functions, etc. However, you will be expected to know stuff about vector-valued function, as mentioned in the announcement of topics, and you should know the basics of Kepler's laws.

Also if there is a topic that we skipped in the textbook, then it will not be on the exam.

(2) There might be a typo about section numbering in the syllabus, but we did cover Kepler's laws in class and on the homework, so it was covered and homework material especially is fair game for the exam. However, see (1) for details about Kepler's laws.

(3) I specified this in the announcement already. I said everything starting from one topic and ending at another, i.e. everything we have covered in class and on the homework and in the notes starting from the one topic and ending at the other.