Set up and background for Mathematics 350: Vector Analysis

What previous mathematics, physics and computer science courses have you taken? When? For each of those courses, please rate your retention and understanding according to this scale:

5 – I understood everything and remember it all.
4 – I understood and remember most things.
3 – I understood and remember some things.
2 – I understood and remember only a few things.
1 – I understood and remember nothing

Here is a sample: Math 414 – Real Analysis II – Spring 1991 – 2

Our text book *Second Year Calculus* by Bressoud tales a story of historical and mathematical development, loosely summarised on the cover. Start with $F = ma$, do some math leading up to Chapter 10 (where the second equation is studied in many forms), then end with $E = mc^2$. This is not the kind of textbook that you start at the beginning and get wherever you get. We need to finish the book. The end is the whole point. To do this, we must touch only lightly on some of the introductory material. Much of it should be familiar from 223, your physics classes, and other mathematics classes. I will present Chapter 1 in the first week or so. After that we have 13 weeks.

It seems to me that we will need at least 2 weeks each for chapters 4 and 10. They are the most important and newest material. We also must spend at least one week on chapter 11, so that we may discuss the ending. Beyond that, I leave it up to you. Please indicate on this form how many weeks you wish to spend on each chapter. Do this by looking through the book and seeing what pace you wish to set. You may indicate "0" for some chapters, but realise that may leave you responsible for reading them on your own outside of class. In fact, this will probably be necessary. Note the author says he uses this for 15 weeks of 4 hours/week and we have 14 weeks of 3 hours/week. Please make sure your desired list totals to 14 weeks.

Weeks desired	Constraints	Chapter
_____	≥ 1	1. $F = ma$
_____		2. Vector Algebra
_____		3. Celestial Mechanics
_____	≥ 2	4. Differential Forms
_____		5. Line Integrals, Multiple Integrals
_____		6. Linear Transformations
_____		7. Differential Calculus
_____		8. Integration by Pullback
_____		9. Techniques of Differential Calculus
_____	≥ 2	10. The Fundamental Theorem of Calculus
_____	≥ 1	11. $E = mc^2$