Annonymous concerns.

For the most part I think the class is going well. The reality is that a lot of work is required to undersand these concepts and put them into practice. My two concerns are small and follow.

1. I don't learn well from power point. It's not impossible to learn something, but it's such a static medium and the course topic is dynamics so it's easy to see why one might not be the best encoding of the other. I tend to think very visually. I have no problem understanding complex mechanical motions if I can actually see the thing moving so I think the trick is going to be to somehow couple examples where we see mechanisms in motion and the math behind the motion. I think it would be really neet to have an "Examples Week" where we build a couple of simple 3-D mechanisms in ADAMS, work through the math that simulates them and then see how closely our results match what ADAMS produces.

2. My second thought is closely tied to the first. I understand that a lot of math is tied to this subject, however only looking at the math can hide the true geometric meaning. When dealing with equations that have several terms each of which could be scalars, vectors, or matricies, it can be very easy to forget what is occuring geometrically. I feel that learing this math would be much easier if it is presented in the context of mechanical examples instead of proofs that don't always have a good or direct geometric counterpart.

As I said at the top, I think this class requires a lot of work, so I'm not concerned about the amount of work that I'm doing.. I think the course has been very interesting up to this point and I'm interested to see what I'll be able to do with what I learn.

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Suggestions:

Rely on the fact that this is an advanced class with pre-reqs. I think we could have spent less time on review of vectors, linear algebra, etc. This was covered in ME451.

Move some discussions/proofs outside of class. For example, provide proof/example on website, but don't cover it in class in the interest of covering more material. Questions can be resolved in office hours.

More examples in class or on website. I think this will be easier to accomplish once we get farther into actual constraints, dynamics, etc.

1. Cut out some of the introductory/review material in the first few weeks of class. The first 3 or 4 lectures were reviews of linear algebra, calculus and reference frames. These could have probably been condensed into 1 or 2 less lectures, and explanations only given for important things such as Lagrange multipliers and geometric vs. algebraic vectors. ME 451 is a pre-requisite for this course, so anyone should be able to look at their old notes (or the current content for ME 451 on the website) to resolve any questions they would have for the intro/review stuff.
2. This comment follows 1) above; there is too much homework for the review/introductory material, and not enough for the last 2 assignments. I have no problem with the occasional math proof, but would rather spend my time familiarizing myself with how euler angles and parameters work in a mathematical sense, or to get a better understanding of what's required for the various geometric constraints and how to construct them mathematically.

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Suggestions:

1) Assignments should include problems with numerical or symbolic solutions along with the usual rigorous proofs.
2) An outline of computational procedure to generate kinematic quantities will be of great help.
3) An example with a simple test case along with computational procedure would reinforce the taught material. It does not have to be covered in class, a handout would suffice.