Initial Report

Last Modified: 05/08/2012

1. How would you rate the clarity of the lectures?

#	Answer	Bar	Response	%
1	Uninterpretable		0	0%
2	Difficult to Follow		4	24%
3	Manageable		2	12%
4	Reasonably Clear		10	59%
5	Crystal Clear		1	6%
	Total		17	

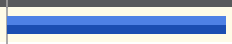
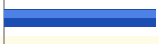
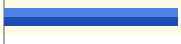
Statistic	Value
Min Value	2
Max Value	5
Mean	3.47
Variance	0.89
Standard Deviation	0.94
Total Responses	17

2. How would you rate the speed of the lectures?

#	Answer	Bar	Response	%
1	Far too slow		0	0%
2	A bit quicker would have been nice		1	6%
3	Just about right		5	29%
4	I would have preferred it if you went a little slower		9	53%
5	I was struggling to keep up		2	12%
6	I was completely lost		0	0%
	Total		17	

Statistic	Value
Min Value	2
Max Value	5
Mean	3.71
Variance	0.60
Standard Deviation	0.77
Total Responses	17

3. How would you rate the content of the lectures?

#	Answer	Bar	Response	%
1	There was enough material to keep me happy.		10	59%
2	I would have liked more examples, at the expense of something else.		7	41%
3	You should have gone faster, to sneak in more examples/material		1	6%
4	There should have been less material		1	6%
5	The material presented was interesting and well motivated		8	47%
6	The material was really boring		0	0%
7	More consideration should be given to the foundations of special relativity, for those who haven't seen it before		2	12%

Statistic	Value
Min Value	1
Max Value	7
Total Responses	17

4. Rate how clear the mathematical explanations were in the lecture.

#	Answer	Bar	Response	%
1	Very clear		1	6%
2	Reasonably clear; I think I could follow everything with a bit of help from the notes		13	76%
3	Not particularly clear; there were holes everywhere		3	18%
4	I had no idea how we got from step to step		0	0%
	Total		17	

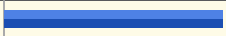
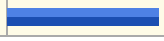
Statistic	Value
Min Value	1
Max Value	3
Mean	2.12
Variance	0.24
Standard Deviation	0.49
Total Responses	17

5. Rate how satisfied you were with the mathematical level of the lectures.

#	Answer	Bar	Response	%
1	There wasn't enough math for me; I want more rigour!		1	6%
2	Some more math would be nice, but the notes were sufficient for that		5	29%
3	There was sufficient mathematical detail to keep me happy, but not too much		7	41%
4	There was too much maths; a more hand-wavy approach would suit me better		4	24%
	Total		17	

Statistic	Value
Min Value	1
Max Value	4
Mean	2.82
Variance	0.78
Standard Deviation	0.88
Total Responses	17

6. Sometimes, I had you try calculations in class, before going over them. What did you think of these?

#	Answer	Bar	Response	%
1	I enjoyed applying what we were just shown in class.		10	59%
2	I didn't enjoy being put on the spot like that.		3	18%
3	I couldn't follow what had just been done, so I didn't know what I was doing.		3	18%
4	I thought it was a great idea that worked well.		8	47%
5	I thought it was a terrible idea that didn't help anything.		1	6%
6	I thought the lecturer should ask students for guidance in the problem rather than just showing us the solution.		2	12%
7	I enjoyed seeing the solution worked out in full detail afterwards.		7	41%

Statistic	Value
Min Value	1
Max Value	7
Total Responses	17

7. At the beginning of each lecture, the lecturer drew a little diagram indicating how mathematical vs conceptual the lecture would be. What did you think of this?

#	Answer	Bar	Response	%
1	I liked it.		9	53%
2	I didn't really care.		7	41%
3	I didn't see the point and thought it was silly.		1	6%
	Total		17	

Statistic	Value
Min Value	1
Max Value	3
Mean	1.53
Variance	0.39
Standard Deviation	0.62
Total Responses	17

8. In the lectures, I was aiming to do two things: Primarily, to expose you to a powerful mathematical formalism that you will see more of if you continue in physics, and secondarily, to teach you how to transform the electromagnetic field. How well did I do in accomplishing my goals?

#	Answer	Bar	Response	%
1	I was lost the whole time, and didn't get any of that out of the lectures.		1	6%
2	I appreciated seeing the material, even though I didn't understand it. I'm still not sure how to do those transformations.		1	6%
3	I learned how to transform tensors, but I didn't care for all the background material.		0	0%
4	I learned how to transform tensors, and the background material was great.		10	59%
5	This material was really exciting, and I've devoured everything you presented - can you write more notes for me?		5	29%
	Total		17	

Statistic	Value
Min Value	1
Max Value	5
Mean	4.00
Variance	1.13
Standard Deviation	1.06
Total Responses	17

9. Overall, how would you rate Jolyon as a lecturer?

#	Answer	Bar	Response	%
1	Poor		1	6%
2	Developing		1	6%
3	Good		3	18%
4	Excellent		12	71%
	Total		17	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.53
Variance	0.76
Standard Deviation	0.87
Total Responses	17

10. With regards to your answer to the previous question, why?

Text Response
I thought you were a good lecturer, and showed an obvious love of the subject, I just wish there was more time for examples, and really explaining the math behind special relativity.
Even under the time constraints of fitting SR into one week, he provided extremely clear and intuitive information about the basis of special relativity.
You lectured in a fairly lucid way, I just needed a little more time to get up to speed with the notation. I get why Einstein notation is useful, but at first, it just looks like a maelstrom of greek indices that I don't get what they represent. I mean, I got what they represent once I thought about it, but I didn't have the quick recognition you need to really follow a lecture until after the homework was done. Specifically, the gauge transform problem was really helpful for this.
The lecture is very clear, but since nearly half of the students have not had linear algebra class before, at first the notation stuffs are a little bit cofusing. The speed and the math are appropriate.
In my opinion, the best lecturers convey both intense interest in their subject and also a deep knowledge of it that extends far beyond what they are presenting. Jolyon's lectures had this quality, giving the impression that there was a great deal more interesting material just "behind" the blackboard, ready to spill out at any time, but constrained by the careful organization of the lecture. It is this quality that makes one want to pursue a subject further. All of this stands in stunning contrast to Prof. Fennie, whose lectures by comparison were hollow and disorganized. Perhaps this merely reflects the more interesting subject matter on which Jolyon lectured, but somehow I don't think so.
Lectures were so much clearer and interesting than those of the professor.
The lectures were very clear, and I think that I learned a lot from them. (I did have to work to keep up because of the math, but that was a result of my background and not of your ability as a lecturer.)
I thought Jolyon was a very good lecturer–he was just constrained by the fact that he had to teach a conceptually difficult subject in a short space of time.
The first two lectures Jolyon did an excellent job explaining and after going through the notes after it pretyt much everything made sense. However, a lot of material was covered on the last day and I think we should have spent more (or at least equal) time learning the actual EM part than on the formalism.
Not just as a relativity lecturer, but he has substituted earlier in the year and he would lecture sometimes during section and he is a PHENOMENAL lecturer. The material in relativity was not all that I wanted, but he did a fantastic job with the lectures.
I think your struggling to fit all of this great material, into a comprehensible manner that doesn't take a hand wavy approach and demonstrates the mathematical background
Almost everything was clear, and the examples discussed in class are very representative. The presentation was also very easy to understand, which is really important for a lecturer and it really helped.
For being fairly strapped for time, he did very well.

Statistic	Value
Total Responses	13

11. Is there anything that you particularly liked about the lectures?

Text Response
The dial with "concepts" and "maths" is an amazing idea. I think every physics lecture should have this.
I like that we use matrix in lorentz transformation, it is much clearer than last semester when we learned special relativity.
Really like the very simple form that Maxwell's equations assume using tensor notation.
Nothing in particular other than their clarity.
I liked the interactive approach Jolyon took, asking us to write down what we thought the answer to a question would be before he went over it.
The fact that Jolyon taught them.
I liked that you tried to show the maths.
The lecturer knows the material extremely well, and can often provide sufficient background information on a relevant topic. He's always prepared and every section is made full use of.

Statistic	Value
Total Responses	8

12. Is there anything you thought could be improved about the lectures?

Text Response
More examples/help on the math.
I think it's an unavoidable issue, but for people with no experience in linear algebra and manipulating matrices, it was easy to get lost and confused.
There should be more lectures for this topic.
Add some examples while talking about the tensor and field transformation.
More explanation of meaning of raising/lowering of indices. Would have appreciated explicit discussion of covariance/contravariance. Also, these lectures should go at the beginning of the course and the whole class should be taught using this tensor language, instead of the way it was done which was identical to my AP Physics course. I learned more in the last week with Jolyon than I did the entire rest of the semester (no exaggeration), especially with regard to the fundamental structure of the theory. Though the problems in the rest of the course were somewhat more complex than those we tackled in my AP class, there were no new concepts presented until the very last week with Jolyon.
Many of us (myself included) had not been exposed to linear algebra before these lectures, so some mathematical concepts (e.g., contracted vs. free indices, raised vs. lowered indices, and metrics) had to be picked up on the fly. The notes were somewhat helpful, although I would have appreciated more detail in the mathematical portion of the lectures so that I could better focus on the physics later on.
Give them about three times as much time.
Possibly add in the Force Law info..that is very confusing.
Less mathematical formalism. We spent 2 days going over this, when we learned about it a fair bit last semester and it was the same idea as last semester only more confusing. And then we only spent one day learning new material that will be on the final.
I didn't that there needed to be so much time spent showing the mathematical view of rotating vectors as it cut drastically into class time and as a result showing length contraction and time dilation was rushed, and class still ran late. I believe it would have sufficed to state that matrices can be used to rotate vectors and spend more time showing how on physical examples. Furthermore a large majority of students have never taken linear algebra, and I personally found the notation a bit intimidating and would have found it helpful if you spent more time explaining what the operations do in a more physical approach.
It would be nice if at least one example can be fully worked out in detail in class because I'm still having trouble doing matrix multiplications.

Statistic	Value
Total Responses	11

13. What did you think of the lecture notes?

Text Response
They were really well done! I do wish there were more examples, particularly on lorentz transforming tensors. I feel that this was the most important part of the lectures, but there was no step by step example of how to do it in the notes and we didn't spend enough time in class on it either.
They are thorough, well-written, and I will hold on to them throughout my education. I loved them.
Awesome. Seriously. Although you never really derived the tensor equations.....
They are clear, and kind of professional.
I like that you ask us to do some calculation by ourselves rather than just give us the answers.
Very good. If you write a sequel on something else, like General Relativity, I would love to read them.
didn't read them
I read them in their entirety, and I thought they were very clear, if a bit assuming on mathematical background (as I said earlier).
The notes were very difficult for someone who has never encountered linear algebra nor worked with component notation. I'm not sure if Jolyon could have made it clearer for someone with my math background–but an elementary text on this notation may have helped.
SO great! Jolyon should write textbooks! Although I needed the lectures and the notes to fully understand the notes, he answered all my questions as they popped up and gave nice exercises throughout the notes.
Very detailed, very descriptive.
I liked the lecture notes a lot, it allowed me to teach myself everything
As said above, it would help a lot if the mathematics was more detailed.
The notes are incredibly useful.
Excellent

Statistic	Value
Total Responses	15

14. Did the homework questions help you learn the material? Did you enjoy the homework questions? Were the provided solutions helpful in understanding the questions?

Text Response
I enjoyed them.
Yes, the homework was perfect!
It was really helpful. Again, the gauge transform one was great, annoying as it was to figure out.
Yes.
Yes, they were interesting, especially the last few. I haven't carefully looked at the solutions yet.
yes
Yes; yes; I have not yet read the solutions yet but if they were written similarly to the notes, then they would certainly be helpful.
I enjoyed the homework questions very much; after spending around 18 hours studying the new notation, its actual application was straightforward.
The homework questions were really cool!
The homework questions were useful but I wish we could have covered the answers in section to make sure we understood them more clearly.
Yes they were very helpful, I wish you would have gone over an example like those in class
Yes, all the homework questions are very related and intellectually stimulating, although sometimes the wording are kind of vague (especially some of the non-Purcell problems). The solutions are generally pretty good.
Yes. Somewhat. Haven't read the solutions.

Statistic	Value
Total Responses	13

15. Did you attend any office hours for special relativity? If you did, what did you think of them?

Text Response
Yes, and I thought your "review" session of it was tremendously helpful and enjoyable.
I did. They were very, very helpful. I think you really did well with the small group and getting us all involved. Your enthusiasm was inspiring and engaging. They were by far the most productive office hours I've ever been too, and I think anyone who didn't go really missed out on a great introduction to special relativity / index notation.
They were really helpful. I learned some important math which I lack before.
Yes. It makes the materials much clearer by doing examples.
N/A
no
Yes. They were quite helpful although difficult to follow as I was still working on picking up the math.
I probably would not have survived this week without going to the office hours. They elucidated many of my confusions and helped immeasurably in understanding the final lecture.
Unfortunately no as they are during my practice time.
no, I probably should have
Yes. They are necessary for fully understanding some lectures.
Yes. Helpful.

Statistic	Value
Total Responses	12

16. If you have any more comments, please leave them here.

Text Response
Your stuff on special relativity was great. Great introduction, very intuitive, clear, easy to follow and understand, with just enough rigor to make things concrete but not lose the concepts. Keep it up!!! Amazing stuff.
I did enjoy the last three lectures that you gave. The whole course would have been less interesting without them. Your lecture notes helped me to appreciate the material better. I like them.
The treatment of special relativity in 1116 was completely useless in my opinion. We were taught just enough to solve the problems, and the methods used did not appear to be systematic. I got completely confused regarding what was and what wasn't conserved between frames. It was breath of fresh air to see Jolyon's notes.
Thanks a lot!
To ask you to teach this topic in a week was ridiculous. I would therefore like to qualify any of the negative statements I may have made above by saying that you truly did the best possible job you could have done given the time constraint. Unfortunately, the professor (or whoever had the idea to cover this stuff in one week) made it impossible for things to be crystal clear, and I knew that I, along with a lot of my classmates, were lost a lot of the time. I think I was less lost because I had gone to your office hours...even so, the only way I could attain even a cursory understanding of the material was to devote nearly all my time to studying linear algebra and component notation. This topic should have been coverd in about 2-3 weeks, and I think for a lot of people, the power of this notation was totally lost by the confusion surrounding it. I think this was unfortunate and would suggest in the future teaching this topic in a reasonable amount of time.
It really bothered me that you dropped the C's in the equations and I found it rather confusing to figure out where they went later, it would have been much appreciated if you could have just put them in the equations instead of being lazy
This is overall a great class. I just feel like a lot of typos in the exams are completely preventable and they sometimes really hinder one's performance in unexpected ways.
Since the materials are all new to most students, I think it may be better for you to provide very basic problems about the pure math concepts before the problems that require us to use the math concept to solve physics. The pure math problems can be very easy so as to let us be sure that we understand it correctly and gain some confidence.

Statistic	Value
Total Responses	8