Particle Physics Evaluation Survey
AS Physics — Mr A.C. Norman

December 8, 2011

What did you enjoy least about the particles course?

- the amount of different charges etc to know
- The experiments, and the writing up of subsequent experiments.
- Pair Production and Annihilation
- Annihilation
- Some of the calculations were a bit difficult, but mostly it was good.
- learning things that weren't as logical, such as charges and masses
- Practical Lessons.
- the maths side
- particle annihilation
- Memorizing quark content
- nothing
- not undering all the numbers and substituting equations

What did you enjoy most?

- practicals with work set in booklet
- How we still don't know everything about particles, and it's on the forefront of physics.
- Particle Interactions
- Stable and Unstable nuclei
- Learning all about how and what particles are made up of.
- Going more in-depth in evidence and understanding
- The vast amount of things unknown before the course.
- generally love the subject
- the practicals
- Understanding how it fits together
- it's something new and interesting
- learning about the particles and the feynman diagrams

Which topic(s) did you find hardest?

Atomic Structure	0
Radioactive decay	1
Antimatter	1
Creation and annihilation	6
The four interactions	5
Quarks and Leptons	4
Hadrons: Baryons and Mesons	3
Conservation Laws	0
Feynman Diagrams	0

Which topic(s) did you find easiest?

Atomic Structure	10
Radioactive decay	4
Antimatter	2
Creation and annihilation	1
The four interactions	2
Quarks and Leptons	2
Hadrons: Baryons and Mesons	1
Conservation Laws	7
Feynman Diagrams	7

Workload 1

How much work have you found yourself doing outside of the lessons per week (for particle physics ONLY)?	
less than half an hour	0
half an hour–1 hour	4
1–2 hours	7
2–3 hours	0
more than 3 hours	1

How does this workload compare to other sixth form lessons?	
much less	0
less	2
about the same	8
more	2
very much more	0

Workload 2

How does your workload in physics (all 9 lessons of it) compare to that of your other AS subjects? Workload in physics is. . .

much less	0
less	0
about the same	10
more	2
very much more	0

Course Handouts

There were 14 lessons on particle physics in total (including 2 spent doing practicals). There were 10 sets of notes with blanks to print. How many did you print in advance?

6 4
7 1
8 3
9 4

Pace

For your learning and understanding of the topics in the course, how was the overall pace of the course. . .

. . . overall?		. . . IN LESSONS?	
too fast	4	too fast	4
about right	8	about right	8
too slow	0	too slow	0

For particles, there have been 4 homeworks, and there is 1 to come on Feynman diagrams. Have homeworks been the right level of difficulty?

too easy!	0
about right	10
too hard!	2

In-class activities

Which in-class methods of teaching and learning did you find worked well for your understanding?	
Mini-whiteboards	6
Homework feedback	8
Multiple choice votes	5
Tests	4
Teacher talking	7
Question & Answer	4
Practicals	3
Card sorts (radioactivity, quarks, Feynman)	7
Demonstrations	5
Slide Presentations	4
Filling in handouts	2
Doing problems in class	6
Showing others at the board	1

In-class activities

Which in-class activities didn't work so well for developing your understanding?	
Mini-whiteboards	1
Homework feedback	0
Multiple choice votes	2
Tests	3
Teacher talking	1
Question & Answer	0
Practicals	4
Card sorts (radioactivity, quarks, Feynman)	3
Demonstrations	1
Slide Presentations	1
Filling in handouts	3
Doing problems in class	1
Showing others at the board	4

Out-of-class activities

Which of the following have you spent time doing outside of class to learn independently?

	Tried it	Helpful?	Not helpful?
Homeworks	11	10	0
Other questions from E:HEBER	1	0	1
Writing up practicals	4	1	3
Writing up class notes in neat	4	3	0
Reading class notes ahead of lesson	5	1	2
Trying to fill gaps in class notes	7	3	3
Provided textbook explanations	4	3	1
Provided textbook questions	5	1	2
Other textbooks	1	1	1
Revision guide	7	4	1
The course website	3	2	0
Other websites	6	2	1

Other comments

- Maybe making a completed version of the class notes available at the end of the course to help with revising for exams.
- I think that it could help if we did more past papers or practice questions to help us see how we are doing.
- Some aspects of the course when gone over too quickly can lead to a struggle to understand and follow the ensuing topics.
- Give out copies of sheets with blank spaces filled in.
- Ask specific people questions instead of the class in general because it's always the same people answering!
- I really enjoy my lessons and look forward to them despite how hard I find it.
- The lessons have been good and fairly easy to understand without being too dull or condescending.

Other comments 2

- I found that the fill-in notes made you focus on filling out individual words and not on the meaning of the entire page. This meant you spent time waiting for a particular subject that related to your next gap, not concentrating on what was being said. To improve, I would suggest more notes should be written out by hand by the students, rather than filling in words.
- The fill in the blank sheets can be a pain as you're trying to understand the physics whilst finding the correct 'words' to fill in the blanks. They are also useless if no extra work is put in making your own notes from them.

Other comments 3

- I read up on the notes but sometimes I still don't understand and get confused in the next lesson.
- The notes from EHEBER are good but sometimes I don't get them all filled in and its difficult to fill them in at home because I don't know if I get them right.
- having a cake rota
- Also bring back the bow tie, it was awesome.