

# Course analysis for *Astroparticle Physics*

## Course design and results

Course code	SH2204
Credits	7.5
Course offering	Autumn 2021
Teachers	Josefin Larsson (course coordinator, examiner, lectures), Nirmal Iyer (lab and lectures), Mark Pearce (lectures), Sandhya Choubey (lectures)
Teaching	Lectures, lab and seminar day
Examination	Home assignments (5hp), seminar (1.5hp), lab (1hp), oral exam (not mandatory, for highest grades only)
Number of registered students	10 (including one PhD student)
Number of students who passed the course	10

## Background and changes since the previous course offering

The course was given on Campus again since restrictions due to the pandemic had been removed. Apart from this, some relatively minor changes had been implemented:

- Updates to the home assignment, in particular to remove ambiguity in some of the questions
- The peer-grading of the seminars was removed
- Students received more detailed instructions about how to find feedback on their work on Canvas.

## Summary of the course evaluation

An online evaluation was sent to all students after the completion of the course (and two reminders were sent). Five students answered the evaluation. The most important results are summarised below.

- The workload and difficulty level was perceived to be well-balanced by 4/5 students. One student found the course very challenging.
- Comments about the lab varied. Two students very very positive and three were partly negative. The negative comments mainly concerned the measurements, e.g.:

*The subject is very interesting, however the lab itself was very repetitive and a bit boring (maybe it would be more interesting to focus on the interpretation of what we see, the sources of uncertainties,... instead of just taking a lot of measures ?)*

- All students found the home assignments useful. There were some comments that they were rather long and also a couple of comments about unclear instructions:

*They were quite long but very interesting*

*Home assignments were well structured but a few questions could be clearer as to what we are supposed to answer*

*I though they were on an okay level, but some of the questions were maybe a bit too obscure or open-ended*

- Students were satisfied with the lectures, and in particular found the Poll questions used in some lectures useful

*The polls made the lectures more interactive and easier to hang on throughout.*

*I really liked the inclusion of the poll questions! It engages everyone in the lectures, the discussions and the re-asking of the questions really helped with my learning.*

- Other comments

*Very interesting and well structured class*

*The bunching of deadlines at the end of the course was somewhat unfortunate: with the lab, the last home assignment and the presentation all having deadlines within four days.*

*I want to give a heartfelt thank you for an amazing course! This is probably the best course I've taken during my time at KTH, with a stellar (pun intended) presentation of the subject matter and a very friendly atmosphere.*

## **Comments from the teachers**

The teachers note that it much better to be able to teach the course in person than online. The lectures were well attended and it was very easy to engage students in discussions.

The course coordinator has noted some overlap between the last part of this course and SH2403. It is good that there is a connection between the courses, but some minor modifications can be made to both courses to ensure a clear progression and minimal overlap.

Regarding the comments in the evaluation, the teachers especially note that there were additional suggestions to improve the lab this year. This was discussed already last year and we will now start working to improve it.

It was also noted that some students still perceived the home assignments to be too vague despite updates since last year. From the teachers side it is also clear that many students need additional instruction regarding how to deal with references and significant digits in the assignments.

## **Conclusions and plans for the future development of the course**

In summary, both students and teachers are satisfied with most aspects of the course. The most important changes to implement in the future are to

- Start the process of updating the lab. The teachers will have a meeting to discuss ideas for this in the spring of 2022.
- Spread the deadlines more evenly over the course.
- Improve information about significant digits and references to scientific literature in the home assignments. Also review the questions for clarity again.
- Improve coordination with SH2403. Discuss with teachers involved with both courses.