SH2007 Research Methodology in Physics 3,0 hp

Research Methodology in Physics

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

Fastställande

Kursplanen gäller från och med VT2022 enligt skolchefsbeslut: S-2022-0529 Beslutsdatum: 2022-02-24

Betygsskala

P, F

Utbildningsnivå

Avancerad nivå

Huvudområden

Teknisk fysik

Särskild behörighet

Engelska B / Engelska 6

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

As a professional physicist/engineer, whether you are active in industry, academia or a governmental authority, you must be able to orient yourself in a specific scientific or technical field, form an opinion on a result or statement, and summarize and present your own or others work. In a typical 'philosophy of science' course you learn about the conditions under which research in general, fundamental or technical, is conducted. In this course, this will be put in a 'physics' context. That is, how does a physicist assess other peoples results, that may not be within his or her main subject? How should technical scientific results in physics be communicated to colleagues in an efficient and professional way?

In the course, you as a student will work with already published scientific articles. By studying the articles in detail, you will be trained in forming your own opinion on the scientific quality of the work.

After having completed the course, you should be able to:

- Summarize, assess and present a scientific paper in front of an audience of peers
- Describe the peer review system in the academic world, specifically within physics
- Evaluate the validity and possible errors in conclusions based on complex data

Kursinnehåll

The course will be conducted in seminar form, where invited speakers will discuss various aspects of the topics above. As a student, you should, apart from actively taking part in the seminars, also read, form an opinion on, and present a scientific paper. The presentations will be done under conference-like forms, during two days at the end of the course. There too, you are expected to take part actively, thus contributing to the quality of the seminar, and also you get the opportunity to listen to well prepared presentations from a broad spectrum of research fields.

Examination

- SEM1 - Seminar, 3,0 hp, betygsskala: P, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

Participation in lectures and seminars. Presentation of one scientific paper. Seminar (3 hp)

Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.

- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.