

13941 – 743 (8) Special topics in nuclear physics (1.5L, 1.5P)

2021

Course summary:

A selection of topics from: nuclear and particle physics, radiation and health physics, quantum mechanics, statistical physics, data analysis or experimental techniques in nuclear physics.

Method of assessment: Flexible assessment

Language policy:

Afrikaans and English in the same class groups:

During each lecture, all information is conveyed at least in English. Summaries and/or explanation of the core concepts will also be given in Afrikaans. Questions in Afrikaans and English will, at the least be answered in the language of the question. Students will be supported in Afrikaans and English during a combination of appropriate facilitated learning opportunities.

Module relevance in programme:

In 2021 this module will cover mainly applications of statistical physics.

Outcomes of course:

- Deal with the Schrödinger equation for a variety of problems.
- Can interpret and apply perturbation theory.

Lecturers:

Dr L Boonzaaier

E-mail address: leandro.boonzaaier90@gmail.com

Mentor:

Honours cohort mentor.

Course content:

- The Schrödinger equation
- Revision of hydrogen atom
- Perturbation theory
- Various applications

Lectures and tutorials are scheduled to be face-to-face. Please observe all protocols and rules.

Tutorials:

One afternoon per week, as applicable under Covid-19 developments.

Study material:

Lecture notes, online resources

Assessment:

Methods of Assessment

Continuous Assessment, based on

- Series of assignments
- Final test

Venue and time of assessment opportunities

Test date set in honours calendar. Weekly assignments.

Availability of marks:

Turnaround time is typically one week. Feedback is given in terms of written and oral commentary as soon as possible.

Mark calculated: Assignments 50% + test 50%