13940 – 742 (8) Special topics in applied photonics (1.5L, 1.5P)

2021

Course summary:

The content may include aspects of light-matter interaction, quantum mechanics and quantum optics, atomic, molecular, solid state, or plasma physics and experimental design. The content may be of interdisciplinary nature.

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:

- Understand basic quantities of equilibrium statistical physics.
- Calculate relevant properties for non-interacting systems.
- Deal with the physics of systems of identical particles.

Lecturers:

Dr L Boonzaaier
E-mail address: leandro.boonzaaier90@gmail.com

Mentor:

Honours cohort mentor.

Course content:

- Ensembles
- Ideal and noninteracting system of particles and magnets
- Distributions for identical particles and their applications.
- 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%