| Program | Level of studies | | First cycle | |
|---|---|---|---|---|
| | Program name | | Educational Physics | |
| Course name | ELECTROMAGNETISM | | | |
| Course ID | Semester | Course status | ECTS credits | L+E |
| PHY3611 | III | MANDATORY | 6 | 3+2 |
| Lecturer | Prof. dr. Senad Odžak | | | |
| Aims and intended learning outcomes | The objective of the course is to introduce students through lectures and auditory exercises with phenomena in the field of Electromagnetism. It is expected that students successfully adopt the content of the course and that the acquired knowledge is successfully applied in their further academic education and/or scientific work. | | | |

**Course content**

Coulomb's law. Electric field. Gauss's law and its applications. Electric potential. Capacity. Dielectrics. Electric current. Electrical conduction in liquids and gases. Kirchhoff's circuit laws. Magnetism. Magnetic property of matter. Biot-Savart's law. Ampere's law. Inductance. Electromagnetic induction. Alternating current. RLC circuit.

| Student workload (hours) | | Grading | |
|---|---|---|---|
| Lectures and Exercises | 75 | Assessment method | Points |
| Exam preparation | 70 | Course Test | 60 |
| Assignments | 0 | Final Exam | 40 |
| Other | 5 | | |
| Total | 150 | | |
| | | Total | 100 |

**Literature**


1. Lecture Notes
2. F.W. Sears, Elektricitet i magnetizam, Naučna knjiga, Beograd, 1962.
3. Nikola Cindro: Elektricitet i magnetizam, Školska knjiga, Zagreb, 1988.
4. I. Bleaney and B. Bleaney: Electicity and Magnetism, Oxford University Press, Oxford, 1993.
5. S. Grant and W. R. Phillips: Electromagnetism, John Wiley & Sons, Chichester, 1995.


**Remarks**

Partial and final exam consists of a theoretical part and multiple assignments. The maximum number of points in the theoretical part and assignments is 30 and 20, respectively. The successful completion of the course implies achieving at least 55% of the total number of points in both the partial and final exam. All examinations are done by using the written method.