Information sheet for the course
Seminar Physics II

University: *Alexander Dubček University of Trenčín*

Faculty: *Faculty of Industrial Technologies in Púchov*

Course unit code: *MT-PV-6* | **Course unit title:** *Seminar Physics II*

Type of course unit: *compulsory*

Planned types, learning activities and teaching methods:
Seminar: 2 hour weekly/26 hours per semester of study; face to face

Number of credits: *2*

Recommended semester: *3rd semester in the 2nd year full-time*
3rd semester in the 2nd year part-time

Degree of study: *the 1st degree of study (Bachelor's degree)*

Course prerequisites: *MT-P-1Mathematics I, MT-P-8Mathematics II, MT-P-9 Physics I, MT-P-16 Physics II*

Assessment methods:
Active participation on each seminar. Positive knowledge rating of seminar work – minimaly 25 points from 50.

Learning outcomes of the course unit:
Students have deeper knowledge of classical and modern physics and ability to use mathematics to solve physics problems, critical thinking skills, effective written and oral communications skills.

Course contents:
Mathematical basis of vector field.
Electric charge and its properties, electromagnetic field,photon, electric field electrostatic field.
Coulomb's law, intensity, potential and energy of electrostatic field, relationship between intensity and potential of electrostatic field, conservative force fields.
Comparisons of electrostatic and gravitational field, motion of solids in electrostatic and gravitational field,
Gauss's theorem.
Wire in the electric field, electrostatic induction, electric dipole, wire capacity, capacity and energy of capacitor.
Electric field across an interface
Electric current, ohm's law, voltage, work and power of electric current.
Kirchhoffov's laws, electrical circuits.
Magnetic field, laws of magnetic field, alternating current.
Maxwell's laws of electromagnetism, electromagnetic radiation.
Seminar work defence.

Recommended of required reading:
Feynman, R.: Feynmanovy přednášky z fyziky s řešenými příklady 2/3, Fragment, Bratislava, 2007
Veis, Š.: Všeobecná fyzika I, Alfa, Bratislava-Praha, 1986.
Krempaský, J.: Fyzika, Alfa, Bratislava, 1982.

Language: *Slovak*

Remarks:

Evaluation history:

A	B	C	D	E	FX

Lecturers: *doc. Mgr. Ivan Kopal, Ph.D.*
Last modification: *31.03.2014*
Supervisor: *doc. Ing. Marta Kianicová, PhD.*