

## Course description

**Name of course:** Lucky meeting of Informatics and Physics

**Credits:** 2

**Hours/week:** 2

**Type:** practice

**Topics:**

1. Image forming instruments:
  - the camera and the Lytro camera - comparison and short overview
2. The Lytro camera - the physics and informatics behind it;
3. Ray Optics; The laws of Reflection and refraction
4. Reflection by plane and spherical mirrors;
5. The laws of refraction; Total internal reflection
6. Refraction by spherical surfaces
7. Thin lenses
8. Different optical instruments: microscope, telescope etc.;
9. Electricity – basics; Static electricity;
10. Coulomb's law; The Electric field;
11. Electric fields and conductors; Electric dipoles;
12. Capacitors; Capacitors in series and parallel;
13. Electric Current – Ohm's law; Resistors in series and parallel;