

FLUORESCENCE-BASED METHODS IN LIFE SCIENCES

MSc in Molecular Biology

Requirements

Department: Department of Biophysics and Cell Biology, Cell Biology Division

Recommended semester: 2nd year 1st semester.

Prerequisites of the course: Successful exam in the following subjects: Biophysics, Cell Biology

Teaching staff: Prof. Dr. György Vereb and the members of the Department

Education manager: Dr. Enikő Nizsalóczki (e-mail: cellbioedu@med.unideb.hu)

Aims of the course: To acquire knowledge about the various quantitative fluorescence-based cell analysis methods used in life sciences.

Short description: Basics of fluorescence. Advanced fluorescence phenomena. Förster resonance energy transfer (FRET). Fluorescent dyes and fluorescent labeling. Flow cytometry. Fluorescence, confocal, slide scanning and high resolution microscopy.

Literature:

Selected sections from “Damjanovich Sándor, Fidy Judit, Szöllősi János: Medical Biophysics (Medicina, Budapest, 2003)”.

Cell Biology Practicals, latest version. To be downloaded from eLearning.

Lecture materials on the eLearning site.

Homepage:

<https://biophys.med.unideb.hu/>

<https://elearning.med.unideb.hu/>

Signature: maximum 3 absences (no justification needed)

Absences: Absences can only be made up by studying the lecture materials on the course home page.

Exam: MCQ, TF, Relation analysis, fill-in, and other tests as well as short essays, written online @ exam.unideb.hu

Rules for repeaters: the whole course needs to be done again