BIOL-UA.27 At The Bench: Experimental Physiology

Instructor:
Nataliya Galifianakis

Course Description:
This advanced level course introduces an integrated approach of the experimental physiology at the level of molecular and cellular physiology; nervous and endocrine control of systems; and organ and body system. Through student-designed experiments, the course overviews the technical foundations of experimental design, critical data analysis, and modelling. Professional skills are enhanced via readings of current literature, preparation and presentation of a research talk, and writing a formal paper.

Pre-requisite:
Principles of Animal Physiology 27 (BIOL-UA 27).

Textbook and Required Materials:
N/A

Grading:
Midterm Exam – 25%
Assignments – 10%
Lab notebook maintenance – 10%
Attendance/participation – 5%
Project presentation – 25%
Writing research paper – 25%

Topics:
Introduction to Experimental Research
Basics of writing a science research paper
Biostatistics and data analysis
Data visualization and presentation
Nutrition
Body Composition
Energy Expenditure
Cardiorespiratory fitness
Muscular fitness and strength
Stress Management