1. Course title: Biochemistry of exercise
2. Type of the course**:** Lecture and practical exercises
3. Form of evaluation: : graded assignment
4. Proposed semester: winter
5. Recommended amount of hours: (10h of lectures and 10h of exercises)
6. Course description:
    - L1) Homeostasis, cell organelles, aminoacids and proteins properties
    - L2) Energy sources for muscular activity, skeletal muscle structure and function
    - L3) Carbohydrates and lipids, the structure and metabolism
    - L4) Principles of metabolic regulation
    - L5) High-intensity exercise vs endurance exercise, biochemical differences
    - P1) Properties of peptide bond, protein denaturation
    - P2) Alpha-amylase activity
    - P3) Reducing properties of sugars
    - P4) pH of foodstuffs, properties of buffer solutions
    - P5) Metabolic gains
7. Learning outcomes:

Knowledge: After the course students get the knowledge about protein structures and functions, metabolic processes during physical exercises, with special regard to glucose and free fatty acids catabolism and acidic alkaline balance in the body

Skills: After the course students are able to use basic laboratory equipment, make some simple biochemical procedure and interpret the results of tests.

Social competence: The student is able to collaborate with others, to solve complex problem.

8. Studies: BA or MA (I or II)
9. The unit implements the subject: Department of Physiology and Biochemistry
10. Teacher: PhD Justyna Kuśmierczyk
11. Teaching conditions: group - max 24 students
12. Recommended credit points: 4