Course name: Building Physics and Energetics
Course code: YARÉPENBNF
Hours per week:2 lecture / 1 practice / 0 laboratory; Final mark/ 6 credit
Precondition for Erasmus students: none
In charge: Assoc. Prof. Talamon Attila PhD, lecturer: Assoc. Prof. Talamon Attila PhD

OBJECTIVE OF THE COURSE:

Introduction to Building Physics and Energetic, the basic concepts of building energy, building energy calculations Basic concepts of building acoustics.

14 WEEKS SCHEDULE

1. week: Introduction to building physics.
2. week: Heat transmission through solid building boundary structures in stacioner condition
3. week: Forms of moisture transmission in building boundary structures. Vapor diffusion.
4. week: Thermal bridges
5. week: Heat transport with solar radiation. Glazed structures, possibilities of architectural utilization of solar energy
6. week: Heat transfer in instacioner conditions
7. week: Levels of building energy regulation
8. week: Energy certification of buildings
9. week: Architectural utilization of passive and active solar energy. Shade structures
10. week: Architectural utilization of passive and active solar energy. Shade structures
11. week: Air circulation, natural ventilation.
12. week: Thermal comfort
13. week: Written exam, semester project submission
14. week: Late written exam, late semester project submission

Assessment:

1. SEMESTER PROJECT

Building physics calculations for building energy regulation

Method for calculating the energy performance of a selected building.
Existing status analysis:
- Selection of an existing family house (60 m2 minimum) or smaller appartement house.
-Analysis of the building from energy efficiency point of view. (architectural features, windows, wall layers,
solar orientation, et) U-value calculation (compliance, non- compliance)
-Description and analysis of the the existing active energy systems (heating, cooling, domestic hot water, lighting, connection points to the grid) Labeling the certificate.

The final submission and consultation of the semester assignments can only be done electronically at the e-mail address provided by the instructors above: talamon.attila@ybl.uni-obuda.hu

max. 50 points

2. END-OF-SEMESTER WRITTEN EXAM

End-of-semester dissertation from the topics/fields of the semester presentations.

END-OF-SEMESTER DISSERTATION

max. 50 points, (min. 30 points).

LATE END-OF-SEMESTER WRITTEN EXAM

Replacement of the written exam is possible at the end of the semester.

1. + 2. = 50 + 50 = TOTAL 100 points

0-60 point	61-70 point	71-80 point	81-90 point	91-100 point
1 - FAIL	2 - PASS	3 - SATISFACTORY	4 - GOOD	5 - EXCELLENT