

Course title: Building Physic

Building physic	
Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Building physic
Level:	Bachelor
Course Status:	elected
Year of Study:	III – sem V
Number of Classes per Week:	2+1
ECTS Credits:	3
Time /Location:	According to the Timetable.
Teacher:	Prof.ass.Dr Cenë Krasniqi
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Course Description:	In this course a description will be made of physical qualities such as humidity, water and sound temperatures which have an impact on construction structures. At the same time, the techniques of their evaluation as well as protection from their negative influences will be treated
Course Goals:	To gain knowledge about the impacts of physical qualities on construction structures. To understand the importance of Temperatures, humidity - water, noise that they have not only for comfort or normal operation but also with the safety of structures (both current and long term). This course will address the development of these impacts, their effect on construction structures and ways to protect or reduce the negative impacts of these physical qualities. The behavior of concrete materials as well as the structure as a whole from these influences will be analyzed as well as the selection of materials and techniques most suitable for use in the country and certain conditions.
Expected Learning Outcomes:	<p>Upon completion of this course the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand the impact of these phenomena on structures 2. Recognize and apply the principles of protection from the adverse effects of i. 3. Identify and evaluate the effective sources of heat (and renewable) energy as well as their effective transport. 4. Select the choice of thermal insulation materials and techniques, as well as to perform the appropriate heat transfer through the layers as well as the overall capacity and expenditure of the energy for each building. 5. Identify the potential risk of impact on humidity, its tracking and the negative effect. 6. Use adequate materials and effective protection technology from water to the object 7. To identify the types of potential noises in a structure, to calculate the isolation effect of different materials, the

	application of sound bridges, the effective methods of noise protection
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Student Workload (should be in compliance with student's Learnign Outcomes)

Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	1	15	15
Practical Work	4	1	4
Consultations with the teacher	0.5	14	7
Field Work	1	3	3
Test, seminar paper	1	2	4
Homework	1	5	5
Self-study (library or home)	1	5	5
Preparation for final exam	2	2	6
Assessment time (test, quiz, final exam)	2	1	2
Projects, presentations, etc.	2	1	2
Total			75

Teaching Methods:	Lectures with presentation and practical demonstrations of elements, insulation materials. - Discussion during lectures. - Semester seminar with concrete assignments. - Numerical exercises - Exercises in groups.
Assessment Methods:	<i>Regular attendance 10%</i> <i>Successful seminar: 10 points%</i> <i>Written exam 40%</i> <i>Final exam 40%</i>

Primary Literature:	1. C.Krasniqi .N. Kabashi <i>Izolimet ne Ndërtimtari (ligjërata te autorizuara)</i> 2.C. Krasniqi. N Kabashi <i>Fizika e Ndërtimit (Ligjërata te autorizuara –si dhe prezantimi)</i>
Additional Literature:	3. <i>Materialet ndërtimore I dhe II N.Kabashi (ligjërata te autorizuara</i> 4. <i>Bauphysic A. Pech , Ch Pohn band 1 Springer</i> 5. <i>Bauphysic Hugo Bachmman</i>

Designed teaching plan

Week	Title of the Lecture
Week 1:	General knowledge of the subject matter construction physics. Its importance as well as the areas of application in construction. Physical qualities that affect the safety, function and comfort of construction structures.
Week 2:	Impact of overhang and contraction and protective measures - expansion joints The impact of moisture on building materials and structure.
Week 3:	Heat sources, propagation and accumulation. Renewable energy sources (solar, wind, water, geothermal)
Week 4:	<i>Heat transfer thru multilayers walls, calculation of insulation</i>
Week 5:	Heat transfer thru windows, door, glass façades and ventilated façades
Week 6:	calculation of capacity and total heat consumption. Rational Approaches to Minimizing Expenditures Thermal bridges, constructive details.

Week 7:	Condensation, vapor conductivity, calculation of vapor transfer thru walls
Week 8:	Fire in the structures, principles of fire protection, equipment and evacuation line
Week 9:	Water-moisture sources, free flowing water, under pressure and capillary water. Water effect on building materials, water aggressiveness
Week 10:	Waterproofing materials based on bitumen, cement based, cold and PVC based coatings. Application of moisture resistant materials (durable solids, zinc coatings, plasticization etc.)
Week 11:	Insulation of flat, inclined roofs as well as vertical surfaces such as plates , balconies, foundations, pillars under water structures etc
Week 12:	Special facilities, such as pens, reservoirs, basins facilities for water treatment
Week 13:	Acoustics. Noises, and disturbing frequencies for man Sound conductivity: with shock and through the air sound transmission through material
Week 14:	Constructive details of sound insulation growth at residential facilities Calculate sound isolation Specific objects intended for opera concerts, etc.
Week 15:	Visit the site of an object during execution

Academic Policies and Code of Conduct

We start and finish class on time.

Tools used during class must be cleaned and stored away at the end of class.

Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.

Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.