**STUDY PROGRAM - ENERGY EFFICIENCY (MA Professional)**

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| **Year I** | | | | | | | | | | |
| **Semester: I** | | | | **Hour/week** | | | | | | |
| **No.** | **M/E** | **Course** | **L** | | **E** | | **ECTS** | |  |
| 1 | M | Sustainable Architecture and Construction | 2 | | 2 | | 6 | |  |
| 2 | M | Application of Materials in Energy – Efficient Buildings | 2 | | 2 | | 6 | |  |
| 3 | M | Building Physics and Energy Performance | 2 | | 2 | | 6 | |  |
| 4 | E | Thermal Comfort and Indoor Climate | 2 | | 2 | | 6 | |  |
| 5 | E | Visual Comfort | 2 | | 2 | | 6 | |  |
| 6 | E | Acoustics | 2 | | 2 | | 6 | |  |
| 7 | E | Energy – Efficient Building Design | 2 | | 2 | | 6 | |  |
| 8 | E | Application of Renewable Energy Technology | 2 | | 2 | | 6 | |  |
| 9 | E | Building Performance, Evaluation, Monitoring & Controls | 2 | | 2 | | 6 | |  |
| 10 | E | Energy Efficiency and Technologies in Buildings | 2 | | 2 | | 6 | |  |
| Total | | | |  | |  | | 30 |  | |
| **Semester: II** | | | | | | | | | | |
| **No.** | **M/E** | **Course** | **L** | | **U** | | **ECTS** | |  |
| 1 | M | Methodology and Legislation for Energy-Efficient Measures in Buildings | 2 | | 2 | | 6 | |  |
| 2 | E | INTERNSHIP – Energy and Environment | 2 | | 2 | | 6 | |  |
| 3 | E | INTERNSHIP – Customized Technical Course | 2 | | 2 | | 6 | |  |
|  | M | Theses Project | / | | / | | 18 | |  |
| Total | | | |  | |  | | 30 |  | |
| **Note:** Total number of credits (ECTS) accumulated in a year is 60 ECTS. From 4 mandatory course are earned total 24 ECTS; from 7 elective course must be chosen 2 courses and earn in total 12 ECTS. After electing the elective course, it became a mandatory course. From two offered INTERNSHIPS the student must choose one practical work, respectively earn 6 ECTS. From Thesis Project the student earn 18 ECTS. | | | | | | | | | | |
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**Short Course Descriptions under the Energy Efficiency Program (MAp)**

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| **Course Title:** | **Sustainable Architecture and Construction** |
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| **Rationale and description of the course:** | The course introduces the basics of sustainable architecture and construction, through data of case studies and definitions for human physiology, climatology and building physics; traditional architecture methods and techniques; architecture and building technology and materials; energy sources and renewable energy; Energy consumption in buildings; Transport and urban fabric; environmental (green) technology in built environment; and environmental impact and life-cycle analysis. |
| **Course Goals:** | The goals of the course (module): To provide students with an overview of the broad field of sustainable architecture and construction; to analyze the environmental impact of architecture and construction developments in built environment; to highlight various aspects of sustainability and integrate them towards sustainable architecture and construction. |
| **Expected Learning Outcomes:** | Upon completion of this course, students should be able that in the field of sustainable architecture and construction issue know: what is sustainable development in build environment, its definition, characteristics, objectives; methods and scientific meaning vs. design method and their implementation; to use theoretical information to design a model of collected data that characterizes a sustainable architecture and construction |
| **Importance and relevance of subject:** | Understanding Sustainable Architecture is an importance review of the assumptions, beliefs, goals and bodies of knowledge that underlie the endeavor to design (more) sustainable buildings and other built developments, hence much of the available advice and rhetoric about sustainable architecture begins from positions where important ethical, cultural and conceptual issues are simply assumed. |
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| **Teaching Methods:** | Lecture, numerical practice and workshop/exercise. |
| **Assessment Methods:** | Level of passing the course is 55%.  Attendance of students 5%;  Individual works in class 5%;  Individual works at home 25%;  Evaluations through the tests 20%;  Final exam 45%. |
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| **Primary Literature:** | 1. Prepared Lectures from Prof. Dr. V. Nushi |
| **Additional Literature:** | 1. Kibert, Ch. J., “Sustainable Construction: Green Building Designs and Delivery, 2007 2. Williamson, T., Radford, A., Bennetts, H., ‘Understanding Sustainable Architecture’, 2003 3. Williams, D.E.; Orr, D.W., “Sustainable Design: Ecology, Architecture and Planning”, 2007 4. McLennan, J. F., “The Philosophy of Sustainable Design”, 2004 |

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| **Course title:** | **Building Physics and Energy Performance** |
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| **Rationale and description of the course:** | Introduction to Building Physics as a Field, and Energy Performance of a Building including the Thermal and Visual aspects of Building Performance. In this context are included: the main aspects of energy performance of the building, thermal physics; transfer of heat and mass, thermal comfort, view of the visual performance of the building, etc. |
| **Course Goals:** | This course aims at providing an introduction to the field of building physics (theory and practice) and main aspects of buildings energy performance |
| **Expected Learning Outcomes:** | After completing this course the student shall be able to: (1) have an overview of the broad field of building physics and buildings energy performance; (2) To analyze buildings’ energy (thermal and visual) performance; (3) To apply building physics and building energy performance knowledge towards energy efficient environmentally friendly architecture and construction. |
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| **Teaching Methods:** | Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework |
| **Assessment Methods:** | The evaluation should be done as follows:  - First (test) evaluation: 25%  - Second (test) evaluation: 25%  - Homework and other activities: 10%  - Attendance: 10%  - Final exam: 30% |
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| **Primary Literature:** | 1. Szokolay, S. Introduction to Architectural Science. Architectural Press (Elsevier), Second Edition, 2008. 2. Hens, H. Building Physics – Heat Air Moisture. Ernst&Sohn, Berlin, 2007. 3. Hens, H. Applied Building Physics. Ernst&Sohn, Berlin, 2011. |
| **Additional Literature:** | 1. Tregenza, P; Loe, D. The Design of Lighting. E & FN Spon, London, 1998. |

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| **Course title:** | **Application of Materials in Energy-Efficient Buildings** |
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| **Rationale and description of the course:** | Building Materials, durability, reproduction, reuse, recycling and effective cost. Traditional Materials and technologies. New technology of Materials. Smart building materials with high technology.  Recycling building materials. Thermal mass and effect in efficient design of saving the energy. Applications the E-low glass and connections with efficient design of structures of facades. |
| **Course Goals:** | Aim of the course is to present the different building materials and advance the technologies in direct applied in Energy Efficiency. The base information of development of building materials during the time, in focused of recycling materials and resist materials under the several conditions.  The analysis of building materials in orientation of apply in Energy Efficiency in building constructions. |
| **Expected Learning Outcomes:** | To know the materials and technologies for apply in architecture and building constructions; to know to evaluate the properties and performance of conventional building materials and new building materials with direct apply in building construction; to have ability in determination of properties in laboratory examinations; to know to compare the applying; the conventional and benefits using the new building material; to lead the building companies in properly apply the materials based on the request of energy efficiency; to understand the thermal mass and effect in efficient energy. |
| **Important and Actuality of the Course:** | Request of saving energy through the directives and adequate parameters which will be used , starting from building materials will be the lead to the energy efficiency design of buildings in general. |
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| **Teaching Methods:** | Lecture with presentations and practical demonstrations of building materials; Numerical and laboratory analyses of building materials; Seminars and practical works; conversations during the lecture; Works in groups. |
| **Assessment Methods:** | Level of passing the course is 55%.  Presence of students 15%;  Individual works in class 5%;  Individual works at home 10%;  Evaluations through the tests 25%;  Final exam 45%. |
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| **Primary Literature:** | 1. N. Kabashi: Building Materials and applications in Efficient Design in Constructions / lecture /FNA-Prishtine 2. N. Kabashi: Building Materials I, (ligjerata te autorizuara) FNA, Prishtine 3. F. Kadiu: Teknologjia e Materialeve te Ndërtimit, FIN, Tirane 4. Neil Jackson and Ravindra K. Dhir: Civil Enginering Materials, PalgraveMacmillan; 5th edition |
| **Additional Literature:** | 1. Wayne Forster; Dean Havkes: Energy efficient buildings: Architecture, Engineering and Environment 2. Alex Wilson : The Building Green Guide to Insulation Products and Practices -The JLC Guide to Energy Efficiency |

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| **Course title:** | **Building Physics and Energy Performance** |
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| **Rationale and description of the course:** | Introduction to Building Physics as a field and building’s energy performance encompassing buildings’ thermal and visual performance. |
| **Course Goals:** | This course aims at providing an introduction to the field of building physics (theory and practice) and main aspects of buildings energy performance |
| **Expected Learning Outcomes:** | After completing this course the student shall be able to: (1) have an overview of the broad field of building physics and buildings energy performance; (2) To analyze buildings’ energy (thermal and visual) performance; (3) To apply building physics and building energy performance knowledge towards energy efficient environmentally friendly architecture and construction. |
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| **Teaching Methods:** | Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework |
| **Assessment Methods:** | The evaluation should be done as follows:  - First (test) evaluation: 25%  - Second (test) evaluation: 25%  - Homework and other activities: 10%  - Attendance: 10%  - Final exam: 30% |
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| **Primary Literature:** | 1. Szokolay, S. Introduction to Architectural Science. Architectural Press (Elsevier), Second Edition, 2008. 2. Hens, H. Building Physics – Heat Air Moisture. Ernst&Sohn, Berlin, 2007. 3. Hens, H. Applied Building Physics. Ernst&Sohn, Berlin, 2011. |
| **Additional Literature:** | 1. Tregenza, P; Loe, D. The Design of Lighting. E & FN Spon, London, 1998. |

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| **Course title:** | **Thermal Comfort and Indoor Climate** |
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| **Rationale and description of the course:** | The course is designed to upgrade the knowledge of students at the field of thermal comfort and indoor climate conditions in the built environment. More specifically the course will provide an overview on the building thermal performance, analysis of thermal physics, thermal comfort and health effects, factors influencing indoor climate, thermal properties of building materials, relevant codes and standards and interrelation between energy efficiency and thermal comfort |
| **Aim of subject:** | Upgrade the student’s knowledge on thermal building performance and thermal comfort; enable the students to use theoretical models and estimate metabolic heat production as well as analyze the drivers of health and thermal comfort in indoor climate. |
| **Learning outcomes:** | Upon completing the course, the student shall be able to understand the role of buildings thermal performance and its respective comfort conditions, as well as the influence of the environment and boundary conditions in this respect. Further the students should be aware of the effects of heating and ventilation on indoor air quality and thermal comfort. The student shall be able to apply theoretical knowledge as well as simulation tools for evaluation and prediction of buildings thermal performance |
| **Teaching methodology:** | Lectures, tutorials, lab practice, numerical practice, work insitu and workshop. |
| **Evaluation methods:** | The evaluation should be done as follows: First evaluation: 25%  Second evaluation: 25%  Homework and other activities: 10%  Attendance: 10%  Final exam: 30%  Total 100% |
| **Literature** | |
| **Main Literature:** | 1. Parsons, K.: Human Thermal Environment, CRC Press, 2002 2. Bluyssen, Ph.: The Indoor Environment Handbook, Earthscan, London, 2009 3. Wang, Sh. : Handbook of Air Conditioning, McGraw Hill, 2001 |
| **Additional Literature:** | 1. Spengler, D.; Samet, J.; McCarthy, J. : Indoor Air Quality Handbook, McGraw Hill, 2004 |

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| **Course Title:** | **Visual Comfort** |
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| **Rationale and description of the course:** | Subject: General Knowledge and purpose; definition of visual comfort encompassing daylight and artificial lighting in buildings. What is the concept of human vision, visual perception, non-visual effects of light, photometry, lighting calculations, measurements, physical light modeling and simulation tools? What are the key design principles and strategies for successful daylight utilization and integration in building design and with the electric lighting system? What are the components of daylight systems as well as electric lighting installations and principles of energy efficient architectural lighting design? |
| **Aim of subject:** | This course aims at broadening of the knowledge in the field of visual comfort encompassing daylight and artificial lighting in buildings. This course aims at introducing key concepts about human vision, visual perception, non-visual effects of light, photometric, lighting calculations, measurements, physical light modeling and simulation tools. The course provides an overview of key design principles and strategies for successful daylight utilization and integration in building design and with the electric lighting system. The course will also explain components of daylight systems as well as electric lighting installations and principles of energy efficient architectural lighting design. |
| **Learning outcomes:** | After completing this course (subject), the student will be able: 1. To understand the buildings visual performance and its respective comfort conditions, as well as the influence of the environment and boundary conditions in this respect; 2. To describe and discuss the physical parameters that influence light quality and quantity in a space; 3. Distinguish precisely the difference between basic lighting terms e.g. iluminance, luminance, contrast, daylight factor, discomfort and disability glare, daylight autonomy, etc; 4. The student shall be able to apply theoretical knowledge as well as simulation tools for evaluation and prediction of buildings visual performance. |
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| **Teaching methodology:** | Lecture, numerical practice, software application and workshop. |
| **Evaluation methods:** | The evaluation should be done as follows: First evaluation: 25%  Second evaluation: 25%  Homework and other activities: 10%  Attendance: 5%  Final exam: 35%  Total 100% |
| **Literature** | |
| **Main Literature:** | [1] TREZENGA P., WILSON M.: Daylighting: Architecture and Lighting Design. Routledge; 1 edition (March 8, 2011) ISBN: 978-0419257004.  [2] Sage Russell, The Architecture of Light (2012) ISBN-13: 978-0-9800617-1-0.  [3] David L. Dilaura, Kevin W. Houser, Richard G. Mistric, Gary R. Steffy, The Lighting Handbook: The Reference and Application (Iesna Lighting Handbook), 10 th Edition. |

Note | If a student has more than 2 class assignments evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.

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| **Course title:** | **Acoustics** |
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| **Rationale and description of the course:** | Introduction to Acoustics in Architecture and Construction as a field covering building acoustics and room acoustics. It includes, the basic concepts and key parameters in acoustics, the spread of sound in buildings and construction elements, techniques and strategies for noise protection, and the computer simulation of acoustic performance of the building. |
| **Course Goals:** | This course aims at providing an introduction to and an overview of the broad field of architectural acoustics (building and room acoustics). |
| **Expected Learning Outcomes:** | After completing this course the student shall be able to: (1) To provide students with an overview of the broad field of building and room acoustics; (2) To provide students with theoretical and practical knowledge for buildings acoustic performance. |
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| **Teaching Methods:** | *Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework* |
| **Assessment Methods:** | Individual assignments completed in class 30%; Individual assignments completed at home 30%;  Exam 40%. |
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| **Primary Literature:** | 1. Kuttruff, H. Acoustics. Tailor and Francis, 2007. 2. Rossing T (Ed.). Springer Handbook of Acoustics. Springer Science+Business Media, LLC; New York, 2007. |
| **Additional Literature:** | 1. Szokolay, S. Introduction to Architectural Science. Architectural Press (Elsevier), Second Edition, 2008. 2. Long, M., Architectural Acoustics, Elsevier Academic Press, 2006. |

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| **Course title:** | **Application of Renewable Energy Technology** |
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| **Rationale and description of the course:** | Current course provides an introduction in the broad field of application of renewable energy in the architecture and buildings for different purposes. Course is structured in the form that allows students, with no substantial previous knowledge, to learn major types of renewable energy which could be used in Kosovo such as solar energy, wind energy, energy of water, biomass energy, and geothermal energy. Most of lectures starts with the description of historical use of respective renewable energy, follows with more detailed analysis and main aspects of principles of operation, provides discussion of main design elements of respective technical systems and ends with a description of country potential related to respective renewable energy source. |
| **Course Goals:** | Introduction of basic concepts and discussion of principles of application of different types of renewable energy sources and respective technologies as integral part of building energy supply systems; to enable student’s identification, layout and solving of problems related to the use of renewable energy and design adequate systems for conversion of renewable energy. |
| **Expected Learning Outcomes:** | Upon completion of the current courses, students will be able to: Differentiate between different types of renewable energy sources; Understand principles of solar energy technology; Apply main design parameters of systems for utilization of wind energy, water energy, biomass and geothermal energy; Identify potential of use of different types of renewable energy in Kosovo; Assess critically the future of utilization of respective renewable energy in Kosovo |
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| **Teaching Methods:** | Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework |
| **Assessment Methods:** | Limit to complete the course 50%.  Student attendance 5%;  First intermediate test 35%;  Second intermediate test 35%;  Seminar paper 10%;  Final assessment 15%. |
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| **Primary Literature:** | 1. Sahiti, N.; Pireci, M.; Veselaj, B.: Doracak për burimet e ripërtëritshme të energjisë, UNDP, Prishtinë, 2013, rev. 2018 2. E. E. Michaelides: Energy, the Environment, and Sustainability, CRC Press, 2018 3. E. Bollin: Regenerative Energien in Gebäude nutzen, Springer, 2016 4. W. Grassi: Heat Pumps, Springer, 2018 5. R. Ehrlich: Renewable Energy, CRC Press, 2018 |
| **Additional Literature:** | 1. V. Wesselak, T. Schabbach, Th. Link, J. Fisher: Regenerative Energitechnik, Springer, 2013 2. Quatschning, V.: Renewable Energy and Climate Change, Wiley, 2010 3. Kaltschmit, M.; Streicher, W.; Wiese A.: Renewable Energy, Springer, 2007 4. Reich, G.; Reppich, M.: Regenerative Energietechnik, Springer, 2013 |

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| **Course Title:** | **Building Energy Performance - Assessment, Monitoring and Control** |
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| **Rationale and description of the course:** | The course introduces the basics of assessment, monitoring and control of energy performance in buildings, through data collection and measurements.  • Measurement of indoor and outdoor atmospheric conditions as well as air quality.  • Thermal / visual / acoustic performance monitoring.  • Control of the energy performance of the building. |
| **Course Goals:** | Provide students with an overview of building energy performance assessment tools and equipment (auditing); as well as to provide students with theoretical and practical knowledge on the application of tools for the recognition and implementation of assessment, monitoring and control of energy performance of buildings. |
| **Expected Learning Outcomes:** | Upon completion of this course, students should be able to:  • Understand, analyze, evaluate and interpret critically the energy performance of buildings;  • recognize, understand and use the tools, measuring tools and information technology of building performance;  • Understand and apply a simple assessment methodology of energy performance of buildings. |
| **Importance and relevance of subject:** | Consumption of energy from humans is done daily and throughout life to develop various activities in buildings. Meanwhile, energy efficiency in buildings not only saves energy, but controls consumption, consequently preserves the environment and human health. Therefore this subject is very important to be studied and is constantly current. |
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| **Teaching Methods:** | Lecture, numerical practice and workshop/exercise. |
| **Assessment Methods:** | Level of passing the course is 55%.  Attendance of students 5%;  Individual works in class 5%;  Individual works at home 25%;  Evaluations through the tests 20%;  Final exam 45%. |
|  | |
| **Primary Literature:** | 1. Prepared Lectures from Prof. Dr. V. Nushi |
| **Additional Literature:** | 1. Preiser, WF and Vischer, J: Assessing Building Performance, New York,2005 2. Hill Mallory, Preiser, WF: Enhancing Building Peformance, Cincinati 2012 3. SEI (Sustainable energy Irland) “Building energy managers Guide” |

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| **Course Title:** | **Energy Efficiency and Technologies in Buildings** |
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| **Rationale and description of the course:** | • Introduction to fundamentals of energy  • Energy supply, use and losses  • Advanced energy technologies for energy-efficient buildings  • Economical aspects of energy technology for energy efficient buildings  • Case-studies |
| **Course Goals:** | This course provides general knowledge regarding energy and energy technologies, with special focus on cost-effective energy-efficient measures for buildings.  After completing this course, students will be able to recognize, understand, use and discuss concepts and principles of energy efficiency and energy technologies in buildings. |
| **Expected Learning Outcomes:** | After competing this course, students will be able to:  • Understand energy in general as well as energy efficiency in buildings  • Understand and interpret the importance of technology in energy efficiency and savings;  • Study and interpret basic concepts of energy technology for buildings;  • Apply obtained knowledge in practical examples and in practice;  • Understand and interpret economical aspects of energy supply, demand and consumption. |
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| **Teaching Methods:** | This course will comprise interactive activities and lecturing, emphasizing the discussion and practical examples related to the respective subjects.  The course involves lectures, design and numerical practice, in-situ visits, and team work. |
| **Assessment Methods:** | Quizzes: 10% (week 3, 6, 11, 14)  Test I: 20% (week 8)  Assignment 1: 10% (week 9)  Assignment 2: 30% (week 15)  Test II: 20% (week 15)  Activity/Attendance: 10%  Total 100% |
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| **Primary Literature:** | 1. Steven V. Szokolay: Introduction to Architectural Science: The Basis of Sustainable Design (a number of sections are available in Albanian, translated by Dr. sc. Miranda Rashani) 2. UNIDO: Energy efficiency technologies and benefits (open access) |
| **Additional Literature:** | 1. Steven Szokolay, Introduction to Architectural Science (2008) 2. UNIDO: Module 18 `Energy efficiency in buildings` (Manual i përkthyer në gjuhën shqipe nga Miranda Rashani) 3. Tom Woolley, Sam Kimmins: Green Building Handbook (volume 1 and 2) 4. Michael Bauer, Peter Mösle, Michael Schwarz. Green Building – Guidebook for Sustainable Architecture (2007) 5. Roberto Gonzalo, Karl J. Habermann: Energy-Efficient Architecture: Basics for Planning and Construction (2006) 6. CIBSE Guide F: Energy Efficiency in Buildings |

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| **Course Title:** | **Energy-Efficient Building Design** |
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| **Rationale and description of the course:** | Introduction to energy – concepts, forms, sources, supply and demand; Energy consumption in general and in the building sector; Energy demand and energy efficiency in buildings; Energy-efficient cost-effective measures; Human factor in energy efficiency; Examples of successful energy-efficient building design practices. |
| **Course Goals:** | This course provides an overview of energy and building energy performance, as well as energy efficiency in buildings.  After completing this course, students will be able to recognize, understand, discuss and use building energy performance as well as design cost-effective and energy efficient buildings. |
| **Expected Learning Outcomes:** | After completing this course, students will be able to: understand energy in general and, in particular, the energy-efficiency in buildings; understand and interpret the importance and impact of building and systems design in energy performance of buildings; study, interpret and design energy-efficient buildings; understand and use economic analyses along with energy-efficient building design; understand and interpret building performance drivers as well as existing energy performance rating systems; understand the mutual importance of human factor in building energy performance and environment; apply obtained knowledge in practical examples and in practice. |
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| **Teaching Methods:** | This course will comprise interactive activities and lecturing, emphasizing the discussion and practical examples related to the respective subjects.  The course involves lectures, design and numerical practice, in-situ visits, and team work. |
| **Assessment Methods:** | Quizzes: 10% (week 3, 6, 11, 14)  Test I: 20% (week 8)  Assignment 1: 10% (week 9)  Assignment 2: 30% (week 15)  Test II: 20% (week 15)  Activity/Attendance: 10%  Total 100% |
|  | |
| **Primary Literature:** | 1. Steven V. Szokolay: Introduction to Architectural Science: The Basis of Sustainable Design (a number of sections are available in Albanian, translated by Dr. sc. Miranda Rashani)  2. UNIDO: Module 18 `Energy efficiency in buildings` (a number of sections are available in Albanian, translated by Dr. sc. Miranda Rashani) |
| **Additional Literature:** | 1. Termoteknika, Ngrohja dhe Kondicionimi i Ndërtesave. Pjesa I. Termoteknika, UPT Tirane (2013) 2. Termoteknika, Ngrohja dhe Kondicionimi i Ndërtesave. Pjesa II. Ngrohja e ndertesave, UPT Tirane (2013) 3. Steven Szokolay, Introduction to Architectural Science (2008) 4. Michael Bauer, Peter Mösle, Michael Schwarz. Green Building – Guidebook for Sustainable Architecture (2007) 5. Roberto Gonzalo, Karl J. Habermann. Energy-Efficient Architecture: Basics for Planning and Construction (2006) 6. CIBSE Guide F: Energy Efficiency in Buildings |

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| **Course Title:** | **Methodology and Legislation for Energy-Efficient Measures in Buildings** |
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| **Rationale and description of the course:** | The course introduces the methodology and legislation for energy-efficient measures to be taken for improvement of Energy Performance of the Buildings. |
| **Course Goals:** | The goals of the course is to provide students with an overview of the broad field of methodology and legislation to start, develop and complete research about various energy-efficient issues and what to publish, initially how to draft an article, essay, paper, research project, legislative draft decision panel, the thesis, dissertation, book, etc. in topic of characteristics and application of energy-efficiency. |
| **Expected Learning Outcomes:** | Upon completion of this course, students should be able that in the field of energy efficiency measure issues know: what is method vs methodology; its definition, characteristics, objectives; methods and scientific meaning vs. design method and their implementation; to use theoretical information to design a model of collected data that characterizes an energy efficient issues. |
| **Importance and relevance of subject:** | Understanding methodology and legislation and measures to be taken for energy-efficient buildings, is an importance review of the assumptions, beliefs, goals and bodies of knowledge that underlie the endeavor to measures (more) for buildings and other built developments, hence much of the available advice and rhetoric about energy efficient measures begins conceptual issues. |
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| **Teaching Methods:** | Lecture, numerical practice and workshop/exercise. |
| **Assessment Methods:** | Level of passing the course is 55%.  Attendance of students 5%;  Individual works in class 5%;  Individual works at home 25%;  Evaluations through the tests 20%;  Final exam 45%. |