# General information:

**Curriculum:** Architect BSc

**Course name: LECTURES ON ECODESIGN\_Basics**

**Course code:** EPB047MA

**Szemester:** 7

**Credit value:** 4

**Lecture number/week:** 2/2

**Evaluation:** midterm grade

## Pre-course: -

**Course Host : Dr. Bálint BARANYAI Ph.D., assistant professor**

Office: 7624, Pécs, Boszorkány út 2., Hungary, Room B 335

E-mail: baranyai.balint@mik.pte.hu

**Lecturers: Dr. Bálint BARANYAI Ph.D., assistant professor**

Office: 7624, Pécs, Boszorkány út 2., Hungary, Room B 335

E-mail: [baranyai.balint@mik.pte.hu](mailto:baranyai.balint@mik.pte.hu)

**Syllabus**

Theoretical and experimental philosophy, way of seeing, basic knowledge in design methodology through the analisys of case studies

**The aim of the course**

The aim of the course to introduce the approach of the autochton (ancient, traditional) and historical architecture in accordance with the natural environment, to realize its energy- and eco-conscious view of seeing and the trivial availability of adaptation of those. By demonstrating positive and negative ecological solutions reminding the students for the designer’s responsibility – via the energy consumption of buildings – which is a rightful but maybe unconscious expectation of the present and forecoming society.

**Content of the course**

Detailed demonstration and analisys of autochton, historical and recent buildings, case studies from architectural, energetical, climatical and ecological design and feasibility aspects. In addition to present basic knowledge about climatic zones, such as building climatics, building energetics, building aerodynamics and comfort, additionally delivering the possible methods of building physics calculations.

For further reference see **Neptun Meet Street**

**Exams and evaluation**

The attendance on the lectures is compulsory according to the Education and Exam Rules of the University of Pécs.

The semester terminates on the 13th academic week.

The course can be accomplished with successful written exam in the exam period. Maximum achievable points: 100 points

|  |  |  |
| --- | --- | --- |
| 85 p – 100 p | 100% | A (5, jeles, excellent,sehr gut) |
| 70 p – 84 p | 84% | B (4, jó, good, gut) |
| 55 p – 69 p | 69% | C (3, közepes, avarage, befriedigend) |
| 40 p – 54 p | 54% | D (2, elégséges, satisfactory, genügend) |
| 0 p – 39 p | 39% | F (1, elégtelen, fail, ungenügend) |

## Recommended bibliography

* Gerhard Hausladen, M. de Saldahna, P. Liedl, C. Sager, Climadesign, Lösungen für Gebäude, die mit weniger Technik mehr können, Callwey Könyvkiadó, München, 2005
* Thomas Herzog, Solar Energy in Architecture and Urban Planning, Prestel Könyvkiadó, München, London, New York, 1996
* Sophia und Stephan Behling, Sol Power, Die Evolution der solaren Architektur, Prestel Könyvkiadó, München, New York és Sophia und Stephan Behling, 1996
* Zöld András, Energiatudatos építészet, Műszaki könyvkiadó, Bp., 1999
* Dr. Széll Mária, Transzparens Épületszerkezetek, Szerényi és Gazsó Bt., 2001
* Hegger, Fuchs, Stark, Zeumer: Energie Atlas, Edition Detail, 2008
* Herzog, Krippner, Lang, Fassadenatlas, Birkhäuser, Edition Detail, Basel, Boston, Berlin, München, 2004
* Gerhard Hausladen, M. de Saldahna, P. Liedl, Climaskin Konzepte für Gebäudehüllen, die mit weniger Energie mehr leisten
* DETAIL
* XIA inteligente architektur
* Robert Kronenburg, Flexible Architecture that Responds to Change
* Thomas Herzog, Architektur + technologie
* sir Norman Foster, Sol Power
* Detlef Glücklich, Ökologisches Bauen
* Michael John Gorman, Buckminster Fuller, Designing for Mobility
* Roberto Gonzalo, Karl J. Habermann, Energieeffiziente Architektur
* Michael Bauer, Peter Mösle, Michael Schwarz, Green Building
* Christian Schittich, Gebäudehüllen
* Otto Kapfinger, Hermann Kaufmann wood works
* Herzog Natterer, Schweitzer, Volz, Winter, Holzbau Atlas
* Schittich, Staib, Balkow, Schuler, Sobek, Glasbau Atlas
* Christian Schittich, Ba uen im Bestand
* Philip Jodidio, GREEN Architecture now!
* Simo Roberts, Gebäude integrierte photovoltaik
* Kristin Feireiss, Lukas Feireiss, Architecture of Change
* Gert Kähler, Matthias Schuler, Gerhard Hausladen, Helmut F.O. Müller, Eberherd Oesterle, Guy Battle, Die klima-aktive Fassade
* Herzog, Krippner, Lnag, Fassaden Atlas
* Hegger, Fuchs, Stark, Zeumer, Energie Atlas
* Oesterle, Lieb, Lutz, Heusler, Doppelschalige Fassaden
* Klaus Daniels, Advanced Building Systems
* Al Gore: Wir Haben die Wahl
* Paolo Portoghesi: Nature and Architecture
* Holger König, Niklaus Kohler…:Lebenszyklusanalyse in der Gebäudeplanung
* Ken Yeang: Ecodesign
* Chris van Uffelen: Ecological Architecture

## Education methodology

Interactive lectures via displayed presentations

# Detailed program of the semester

|  |  |
| --- | --- |
| **1st week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | - |
| 10th September | Introduction, briefing |

|  |  |
| --- | --- |
| **2nd week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 17th September | Sustainable, energy efficient and ecological architecture\_climatic zones |

|  |  |
| --- | --- |
| **3rd week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 24th September | The history of the sustainable, energy efficient and ecological architecture\_01 |

|  |  |
| --- | --- |
| **4th week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 1st Október | The history of the sustainable, energy efficient and ecological architecture\_02 |

|  |  |
| --- | --- |
| **5th week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 8th October | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **6th week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 15th October | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **7th week** | Friday 11:15-14:45 |
| cycle „1” | Lecture |
| Methodology | presentation |
| 22nd October | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **8th week** | Friday 11:15-14:45 |
| cycle „2” | Lecture |
| Methodology | presentation |
| 6th November | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **9th week** | Friday 11:15-14:45 |
| cycle „2” | Lecture |
| Methodology | presentation |
| 13th November | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **10th week** | Friday 11:15-14:45 |
| cycle „2” | Lecture |
| Methodology | presentation |
| 20th November | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **11th week** | Friday 11:15-14:45 |
| cycle „2” | Lecture |
| Methodology | presentation |
| 27th November | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
| **12th week** | Friday 11:15-14:45 |
| cycle „2” | Lecture |
| Methodology | presentation |
| 4th December | Sustainable, energy efficient and ecological case studies – residental buildings |

|  |  |
| --- | --- |
|  | **last week of term-time** |
| **15th week** | Friday 11:15-14:45 |
| cycle „1+2” | Summary |
| Methodology |  |
| 17th December |  |

We keep the right of the changes (date/place/time) which will be announced in every case in advance. All the questions regarding the course can be addressed to Dr Bálint Baranyai.

Dr. Bálint Baranyai

course host

Pécs, 30. 08. 2023.