UNIVERSITATEA DIN ORADEA

Facultatea de Construcții, Cadastru și Arhitectură

Syllabus and bibliography for post No. 7 University Associate Professor

Installations for Constructions/Installations in Constructions – CCIA year III/Arch. III Course + Seminar

Syllabus:

1. Heating installations;
2. Gasification of coal;
3. Advantages of coal gasification;
4. Radiant floor heating systems;
5. Underfloor heating systems using water as a thermal agent;
6. Electric underfloor heating;
7. Laing pumps – factor in ensuring the reliability of underfloor heating installations;
8. Heating installations with dark wave emitters;
9. The influence of radiant heat on humans;
10. Heating with halogens;
11. Ventilation and air conditioning installations;
12. Classification of ventilation and air conditioning installations;
13. Operating principles of air conditioning installations;
14. Sanitary installations. Classification criteria;
15. Preparation of hot water for consumption;
16. Dimensioning of the domestic hot water preparation installation;

Bibliography/References:

- Standards, regulations, specific technical regulations:
  - www.euroguard-insurance.com/Background.html
  - www.en.wikipedia.org/wiki/Captiveinsurance
  - www.conceptlabs.co.uk
  - xxx, *Standarde de stat*, 1343, 1478, 1504, 1795, 1846, 3051, etc.
  - ***Pagina principală a Comisieidedicatăpoliticii în domeniulapei şi linkuricătreplanurile de gestionare a bazinelorhidrografice:http://water.europa.eu/policy
  - ***Note privindapa:http://ec.europa.eu/environment/water/participation/notes_en.htm
  - ***Rapoartele de implementare a DCA din 2007 şi 2009:
  - http://ec.europa.eu/environment/water/water-framework/implrep2007/index_en.htm
  - ***Sistemuleuropean de informaţiiprivindapa:http://water.europa.eu
  - ***AgenţiaEuropeană de Mediu – apa:www.eea.europa.eu/themes/water
- BĂRAN NICOLAE, DONŢU OCTAVIAN, **IONESCU GEORGE-LUCIAN**, CĂLUŞARU IONELA-MIHAELA – A comparative studybetween a fixedand a mobile fine bubble generator – Revista Termotehnica, nr. 2, 2012;
- *CĂLUŞARU IONELA MIHAELA*, *COSTACHE ADRIAN*, *BĂRAN NICOLAE,**IONESCU GEORGE-LUCIAN***, *DONŢU OCTAVIAN* – A New SolutiontoIncreasethe Performance of theWaterOxygenationProcess – Revista de Chimie, Bucureşti, octombrie 2013.
- *GHEORGHE I.GHEORGHE, BĂRAN NICOLAE, DONŢU OCTAVIAN, BESNEA DANIEL,* ***IONESCU GEORGE – LUCIAN***– Electromechanicalsystem for thedisplacement of fine bubblegeneratorsthatoxygenatestationarywaters – The Romanian Review PrecisionMechanics, Optics&Mechatronics, 2013, No. 43.
- ***IONESCU GEORGE – LUCIAN***, *GHEORGHE GH. I., DONŢU OCTAVIAN, BĂRAN NICOLAE* – Wastewaternutrients control throughmodelingandsimulationprocesses - The Romanian Review PrecisionMechanics, Optics&Mechatronics, 2013, No. 44 (pag. 140 – 145).
- ***IONESCU GEORGE – LUCIAN,*** *IONESCU GH. C.;SÂMBETEANU AURA*, Tehnologii moderne pentru epurarea apelor uzate, Editura MatrixRom – Bucureşti, 2013 (315 pg.) ISBN 978-606-25-0007-8.

- ***IONESCU GEORGE – LUCIAN,***Instalații pentru construcții, Editura MatrixRom București, 2017.

Non-conventional energies used in constructions - Master CIS year I Course + Seminar

Syllabus:

1. Energy efficiency in construction;
2. Creative energy;
3. Alteration of constructions;
4. Solar heating installations;
5. Heat pumps;
6. Taking heat from the surrounding environment;
7. Heat sources for a heat pump – Soil;
8. Heat sources for a heat pump – Groundwater;
9. OCTOPUS heat pump;
10. Air flow control between interior and exterior;
11. Moisture flow control;
12. The installations of a building;
13. Heating installations;
14. Sanitary facilities;
15. Electrical installations;
16. Building energy. Climate parameters;
17. Energy balance of the building;
18. Heating load;
19. Annual energy consumption for heating;
20. Evaluation of the thermal protection level of the existing building. Methods of investigation.

Bibliography/References:

1. ALBATICI, R. – *Performance of light vs. heavy building envelopesconcerninghumancomfort in warmclimates: an experimental comparison*. In.12. International PassiveHouseConference, Nuremberg, 11-12 April 2008, Proceedings, Darmstadt, Passivhaus Institut, April 2008.
2. FEIST, W., PEPER, S., KAH, O. – *Climate neutral passivehouseestate in Hannover-Kronsber: Constructionandmeasurementresults*. PEP Project Information No.1, Darmstadt, Passivhaus Institut 2005.
3. FEIST, W. *-Energy EfficiencyReduces Energy Losses*,11th International Conference on PassiveHouses, Bregenz, Austria, 13-15 april 2007.
4. IANCĂU, M., IONESCU, G. – *Ultra-lowenergybuildings*, Journal of Sustainable Energy, Vol. I, nr. 4, 2010, 32-36.
5. THULLNER, K. - *Lowenergybuildings in Europe – Standards, criteriaandconsequences. A study of nine European countries.* Report EBD-R--10/32, Report TVIT--10/5019. Division of Energy and Building Design / Division of Building Services, Lund University, Lund, Sweden, 2010.
6. ȘTEFAN SZABO, **LUCIAN IONESCU –** Optimizarea energetică a clădirilor prin utilizarea surselor regenerabile, Editura Matrix Rom București 2023.
7. SPERANȚA COLDEA, **LUCIAN IONESCU** –Editura Matrix Rom București 2021.
8. ***IONESCU GEORGE – LUCIAN,***Instalații pentru construcții, Editura MatrixRom București, 2017.

Technical equipment in urban aesthetics - ARH. year III Course + Seminar

Syllabus:

1. Remodeling of buildings;
2. Solar energy;
3. The hybrid boiler;
4. Types of non-conventional systems – Solar heating installations;
5. Heat pumps;
6. Air-water heat pumps;
7. Ground-water heat pumps;

8. Water-water heat pumps;
9. OCTOPUS heat pump – The ice pillar;
10. Air flow control between outside and inside;
11. Building envelope and moisture flow;
12. Building installations;
13. Electricity consumption in buildings;
14. Energy balance of the building;
15. Heating load;
16. Thermal load;
17. Visual and acoustic comfort;
18. Impact of buildings on the environment;
19. Energy efficiency in buildings;
20. Creative energy;
21. The policy of the EU member states regarding buildings with low energy consumption.

Bibliography/References:

- Standarde, normative, reglementări tehnice specifice:
  - www.en.wikipedia.org/wiki/Captiveinsurance
  - www.conceptlabs.co.uk
  - xxx, *Standarde de stat*, 1343, 1478, 1504, 1795, 1846, 3051, etc.
  - ***Rapoartele de implementare a DCA din 2007 şi 2009:
  - http://ec.europa.eu/environment/water/water-framework/implrep2007/index_en.htm
  - ***Sistemuleuropean de informaţiiprivindapa:http://water.europa.eu
  - ***AgenţiaEuropeană de Mediu – apa:www.eea.europa.eu/themes/water
- BĂRAN NICOLAE, DONŢU OCTAVIAN, **IONESCU GEORGE-LUCIAN**, CĂLUŞARU IONELA-MIHAELA – A comparative studybetween a fixedand a mobile fine bubble generator – Revista Termotehnica, nr. 2, 2012;
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