Final State Exam Topics

Engineering Management MSc Program

Engineering module

**Construction Industry Specialization**

1. Building assessment, examination process

2. Export report about status assignment

3. Building life-cycle in a nutshell, from construction to demolition

4. Renovation and modernization of buildings.

5. Describe the energy balance of a building.

6. Describe the main features and characteristics of passive houses. Explain briefly what is a nearly zero-energy building?

7. Energy balance components of a building. Base temperature, length of heating season, degree day and their relation.

8. Fossil fuels and renewable energy sources. The concept of primary energy.

9. Describe the heat storage capacity of a building and the effect it has on the energy properties of a building. Calculation method.

10. The role of the renewable energy in an energy performance certificate. What appliances can be used to achieve the necessary renewable energy percentages for the highest classification?

11. When are energy performance certificates required? What buildings do not require an energy performance certificate? How long is an energy performance certificate valid for?

12. Heat transfer processes. Calculation method for heat transfer through a multilayer building wall structure.

13. The risks of thermal bridges and their effect on the surface temperature. Dangers of surface and capillary condensation.