**Final exam topics**

**for Agricultural engineering in environmental management (BSc.) students**

*(started in 2017/2018)*

1. Environmental benefits of using precision farming.
2. Impact of population explosion on environment.
3. The significance of plant protection in agricultural production, and its role in food supply and food security. The ecological and economical principles of Integrated Pest Management.
4. Municipal waste management technological system (steps, waste types, waste collection and separation methods, physical-, chemical-, biological-, thermal treatment of wastes, waste diposal, advantages and disadvantages of them).
5. Solar energy and usage possibilities.
6. Wind and water energy and usage possibilites.
7. Geothermal energy and usage possibilites.
8. Biogas production methods and usage possibilities.
9. Biofuel (boidiesel and bioethanol) production methods and usage posssibilites.
10. Solid biomass production methods and usage possibilities.
11. Air pollution, (main types, main sources, main effects), air quality, air pollution minimization and control. Pollution prevention technics.
12. Water pollution (main types, main sources, main effects), water quality and water characteristics (physical, chemical, microbiological).
13. Wastewater treatment (primary treatment, secondary treatment, tertiary treatment, sludge treatment and disposal).
14. Soil pollution (main types, main source, main effects), soil degradation types (erosion, deflation, acidification, secondary alkalization, soil compaction) and prevention processes.
15. International environmental agreements and their role in environmental protection.
16. Necessity and features of environmental impact assessment (basic steps, participants and their tasks, legal and institutional background of the permit granting process, content and availibility of permits).
17. Reasons of biodiversity crisis: habitat loss and degradation, invasive alien species, climate change, overexploitation. Nature conservation methods: species and habitat protection, roles of international conventions and treaties.
18. Specification of the most important prescriptions of organic plant production according to EU organic regulation.
19. Importance and role of animal breeding in national and business economy:opportunities of efficiency improvement in animal breeding; categories of outcomes and inputs; classification of livestock farms (by size, by intensity, by structure); specific characterictics of production of animal product; cost structure (significant variable - and fixed costs); production value (determining factors, parameters).
20. Basic elements and tools of landscape management.