Agricultural Environmental Management Engineering MSc

Subjects of Final Examination

**„A”**

**Environmental management**

Natural resource utilization in agriculture.

Soil as a potentially renewable natural resource.

Soil – plant relationships.

Protection and improvement of production sites.

Soil protection and water management in hilly areas.

Water damage protection, water utilization.

Water management in plain areas.

Atmospheric resource utilization in agriculture.

Preparation to the possible agricultural consequences of climate change.

Research methodology for environmental phenomena.

Regional development and landscape management.

Assessment of environmental conditions and modelling environmental systems.

Application of geographical information system in agriculture.

Application of remote sensing in agriculture.

Environmental measurement techniques.

Advantages and risks of GMO.

Waste management and utilization.

Environmental risk assessment and management.

Environmental aspects of forestry.

Relations of nature protection and agriculture.

**„A”**

**Environmental protection**

Structure and tasks of agricultural public administration (agriculture, water management, nature protection)

Agricultural aspects of the EU Water Framework

Quality management in the agriculture

Environmental management in the agriculture

Elements of environmental planning: environmental policy, strategy, concept, programme, project

Macro and micro economic aspects of the environmental and agricultural relations

Global environmental problems and alternative solutions

Environmental protection in the EU

Sustainable development

International environmental conferences and agreements

Causes of soil degradation and restoration alternatives

Environmental monitoring and information systems

Agricultural best management practices

Code of good agricultural practice (EUREPGAP/GLOBALGAP)

Common Agricultural and Rural Policy for Europe (CARPE)

Natural resource utilization in agriculture.

Soil as a potentially renewable natural resource.

Soil – plant relationships.

Protection and improvement of production sites.

Soil protection and water management in hilly areas.

**„B”**

**Sustainable agricultural systems**

NATURA 2000, nature and biodiversity policy of the EU. Crop production in protected and environmentally sensitive areas

Soil nutrient management and its environmental aspects in the EU

Environmental aspects of agricultural water management

Environmental aspects of crop protection technologies (pest and weed control)

Environmental aspects of the soil cultivation techniques

Ecological/organic farming

Conventional crop production and its environmental impacts

Integrated crop production and its environmental impacts

Precision agriculture and its environmental aspects

Renewable resources in agriculture

Gene protection in animal breeding and its environmental aspects

Animal breeding in environmentally sensitive areas

Intensive animal breeding and its environmental impacts

Law on animal breeding, feeding and well-being and its environmental aspects

Environmental risk management of animal breeding farms

Biotechnologies in animal breeding and their environmental aspects

Grass management and its environmental aspects

Plant and animal product market control in the EU

Food control and consumer protection in the EU

The Single Payment Scheme (SPS) in the EU

**„B”**

**Environmental technologies**

Effects of air contaminants on living and non-living environment, emission and immission control

Elimination technologies for dust, aerosols and gaseous contaminants

Quality parameters of surface water and the water quality classification system

Technical methods and legal control of water quality protection

Urban sewage treatment technologies, natural sewage treatment

Biogas production, starting materials and technologies

Composting, starting materials and technologies

Sewage sludge and sewage sludge compost utilization in the agriculture and its legal control

Fate and transport of contaminants in soil and shallow ground water

Soil remediation technologies, in situ and ex situ methods

Waste management in agriculture, food production and urban areas

Hazardous waste treatment in the agriculture

Environmental risk assessment procedures and methods

Environmental impacts of noise, law for noise control

Solar energy utilization in the agriculture, applications, technologies

Wind energy utilization in the agriculture, applications, technologies

Agricultural water utilization technologies, drought, flood and excess water management

Geothermal energy utilization in the agriculture, applications, technologies

Bioethanol production, starting materials and technologies

Biomass utilization

Debrecen, 05.04.2023.

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