# Topics for foreign candidates (academic year 2025/2026)

**Discipline: forestry (9)** 

1.

Department of Forest Resources Management

Head of the Department: prof. dr hab. inż. Jarosław Socha

Topic: Assessment of the health of stands and spatial patterns of their mortality based on the integration of field and remote sensing data

2.

Department of Ecological Engineering and Forest Hydrology

Head of the Department: prof. dr hab. inż. Marcin Pietrzykowski

Topic: The impact of changes in surface biomass on water retention and soil erosion susceptibility

3.

Department of Forest Biodiversity

Head of the Department: prof. dr hab. inż. Jerzy Szwagrzyk

Topic: Spatial and temporal changes in prevalence and abundance of selected mammals in landscape mosaic

4.

Department of Forest Biodiversity

Head of the Department: prof. dr hab. inż. Jerzy Szwagrzyk

Topic: Temporal and spatial tree regenaration patterns in canopy gaps in natural mixed stands in Poland

5.

Department of Forest Utilization, Engineering and Technology

Head of the Department: dr hab. inż. Paweł Tylek, prof. URK

Topic: The tree-of-heaven [Ailanthus altissima (Mill.) Swingle] – The state-of-the-ar mechanical and physical control methods and their biochemical effects

6.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Dynamics of primary forest stands growing in mountainous areas of Southern Poland

7.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Optimization of silviculture procedures in fir stands with a close-to-selection structure in the area of RDLP Kraków

8.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Forest as Microplastic Filters: The role of trees in capturing airborne pollution

9.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Geochemical characteristic of the relict charcoal hearths in forest ecosystems

#### **Discipline: agronomy and horticulture (1)**

1.

Department of Agroecology and Crop Production

Head of the Department: dr hab. inż. Andrzej Oleksy, prof. URK

Topic: Production and environmental verification of selected regenerative practices in soybean cultivation

#### Discipline: food technology and nutrition (4)

1.

Department of Animal Product Technology

Head of the Department:: prof. dr hab. inż. Jacek Domagała

Topic: Active hydrolysates from alternative proteins and their application in hybrid and functional foods

2.

Department of Fermentation Technology and Microbiology Head of the Department: prof. dr hab. inż. Paweł Satora

Topic: Maturation of flavored vodkas using wood chips

3.

Department of Engineering and Equipment for the Food Industry

Head of the Department: prof. dr hab. inż. Mariusz Witczak

Topic: Preparation of chitosan and chitin from selected cultivated and wild mushrooms. Properties and use in selected food products

4

Department of Plant Biology and Biotechnology

Head of the Department: prof. dr hab. inż. Rafał Barański

Topic: Determination of the effect of biofortyfication with iodine and selenium and the use of salicylic acid on the health-promoting quality of oregano and dill, together with post-harvest processing

## Discipline: animal science and fisheries (4)

1.

Department of Animal Nutrition and Fisheries

Head of the Department: prof. dr hab. inż. Zygmunt M. Kowalski

Topic: Can probiotics exert a protective effect against nickel toxicity in common carp (*Cyprinus carpio L*)?

2.

Department of Animal Nutrition and Fisheries

Head of the Department: prof. dr hab. inż. Zygmunt M. Kowalski

Topic: Effect of environmental parameters on behavioral activity and nutritional behavior of Herman's tortoise (Testudo Hermanni)

3.

Department Animal Reproduction, Anatomy and Genomics

Head of the Department: prof. dr hab.. Monika Bugno-Poniewierska

Topic: Analysis of concordance rate between results of preimplantation genetic testing (PGT-A) of domestic cat embryos depending on the degree of invasiveness of the mehtod used

4.

Department of Genetics, Breeding and Ethology of Animals

Head of the Department: prof. dr hab. inż. Wojciech Jagusiak

Topic: The role of the rearing system and activity of rabbits in shaping meat quality and production

performance

## Discipline: environmental engineering, mining and energy (1)

1.

Department of Land Management and Landscape Architecture

Head of the Department: prof. dr hab. inż. Józef Hernik

Topic: Urban green infrastructure's role in mitigating heat islands

## Discipline: civil engineering, geodesy and transport (1)

1.

Department of Agricultural Surveying, Cadastre and Photogrammetry Head of the Department: dr hab. inż. Jarosław Janus, prof. URK

Topic: Concept of an indoor navigation system based on mobile device sensors

#### Discipline: economics and finance (1)

1.

Department of Statistics and Social Policy Head of the Department: dr hab. inz. Dagmara Zuzek prof. URK

Topic: Educational migration of students from Kazakhstan and their professional activity in the

labor market in Poland and Kazakhstan