

## **Course Summary**

**Course Title: BIOMETRY**

**Credits: 6 (216 h.)**

### **Course objective**

Mastering theoretical knowledge and practical skills in the sphere of environmental statistics mathematical treatment.

### **Course task**

Knowledge formation in the field of mathematical treatment methods of environmental statistics.

### **Course outline**

The history of biometrics, the basic concepts and terminology; original data grouping methods. Main features of variation objects; variation indices; calculating methods of exponential average and variation indices; structural average and methods of their calculation; random quantity law; Variation methods and evaluation of general parameters; criteria of statistical estimation verification; checking hypotheses about the distribution laws; dispersion analysis; correlation analysis; regression analysis; aspects of research management.

### **Learning outcomes**

After completing the course the students should be able to:

- know the basic terms and definitions of biometrics;
- group the primary data;
- know the basic characteristics of variation objects and variation parameters;
- estimate the exponential average values and variation parameters;
- know structural average and to be able to estimate them;
- analyze the random quantity distribution laws;
- know the sampling method and general parameters evaluation;
- know the estimation reliability criteria;
- verify the distribution hypothesis;
- know and carry out a dispersion analyses of single-factor, two-factor, three-factor and multifactor dispersion systems;
- know and carry out correlation analyses;
- know and carry out regression analyses;
- know how to plan the study.

**Training activities: lectures and lab studies.**

**End-of-the-term assessment: examination.**

**Head of the Ecology Department,  
Professor A.I. Gorova**