# Syllabus of the course
«*Econometrics*»

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| **Specialty** | *051 Economics* |
| **Study Programme** | *Business statistics and analytics* |
| **Study cycle (Bachelor, Master, PhD)** | *the first (Bachelor) level of higher education* |
| **Course status** | *Mandatory* |
| **Language** | *English* |
| **Course / semester** | *second course, second semester* |
| **ECTS credits** | *5* |
| **Workload** | *Lectures – 24 hours.* |
| | *Practical studies – 12 hours.* |
| | *Laboratory studies – 12 hours.* |
| | *Self-study – 102 hours.* |
| **Assessment system** | *Grading including Exam* |
| **Department** | *Department of Higher Mathematics, Economic and Mathematic Methods, auditorium 329 of the main building*<br>*phone: (057)702-04-05 (add. 3-33)*<br>*website: http://www.vm.hneu.edu.ua/* |
| **Teaching staff** | *Ievgeniia Iuriivna Misiura, PhD in Technics, Associate professor* |
| **Contacts** | *Ie. Iu. Misiura ievgeniia.misiura@hneu.net* |
| **Course schedule** | *Lectures: according to the schedule*<br>*Practical studies: according to the schedule*<br>*Laboratory studies: according to the schedule* |
| **Consultations** | *At the Department of Higher Mathematics, Economic and Mathematic Methods, offline, according to the schedule, individual, PNS chat.* |

**Learning objectives and skills:**

form future specialists‘ mathematical knowledge for solving theoretical and practical economic problems in any sphere of a professional activity, master skills in analytical thinking and skills in using mathematical knowledge for formation of real processes and developments and for solving economic problems

**Structural and logical scheme of the course**

| Prerequisites | Postrequisites |
|---|---|
| Higher mathematics | Statistical analysis of risks and methods of its evaluation |
| Probability theory and mathematical statistics | |
| Operation Research and Optimization Methods | |
| Statistics | |

**Content of the educational discipline**

**Module 1.** *Pair and multiple linear regression models*

**Theme 1. Particular properties of econometric models and principles of their construction.**

**Theme 2. A pair regression and correlation in econometric research**

**Theme 3. General questions in a construction of a multiple regression model**

**Theme 4. An estimation of parameters of a linear equation of a multiple regression and its quality in a whole.**

**Theme 5. Particular equations of a regression. Particular correlation. A forecasting using regression models in international economics.**

**Theme 6. Problems in the construction of linear multiple regression models**

**Module 2.** *Types of econometric models*

**Theme 7. The generalized schemes of regression analysis.**
**Theme 8. Systems of econometric equations.**
**Theme 9. Dynamic econometric models**
**Theme 10. Modeling one-dimensional time series**
**Theme 11. Learning relationships using time series**
**Theme 12. Factor analysis and its application to solving problems in international economics**

**Teaching environment (software)**

*Multimedia projector, S. Kuznets PNS, Corporate Zoom system, software: MS Excel*

**Assessment system**

Assessment of students' learning outcomes is carried out by the University according to the cumulative 100-point system.

Current control is carried out during lectures and practical (seminar) classes and aims to assess the level of students' readiness to perform particular tasks, and it is assessed by the amount of scored points.

The maximum amount during the semester – 60 points; the minimum amount required is 35 points.

Final control is carried out at the end of the semester in the form of an exam (the maximum amount is 40 points, the minimum amount required is 25 points).

Current control includes the following assessment methods: homework; defence of laboratory works; a written test; an independent creative work, a colloquium.

***More detailed information on assessment and grading system is given in the technological card of the course.***

**Course policies**

Teaching of the academic discipline is based on the principles of academic integrity.

Violation of academic integrity includes academic plagiarism, fabrication, falsification, cheating, deception, bribery, and biased assessment.

Education seekers may be brought to the following academic responsibility for breach of academic integrity: repeated assessment of the corresponding type of learning activity.

***More detailed information about competencies, learning outcomes, teaching methods, assessment forms, self-study is given in the Course program***