

SYLLABUS

Subject	Science Category	Faculty	Department
Statistics: Theory and Methods	Ekonomics 04 S	FEBM	Quantitative Methods and Modelling

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
7	196	16	180

Annotation

This course is aimed at PhD students in Economics and Management who require the knowledge of Statistics beyond an introductory level for their thesis work. They will be capable to link the existing methods, develop new methods with critical approaches and clearly defined criteria based on statistical theory. Doctoral candidates should gain the capability of scientific thinking and solving new problems in various scientific fields.

The course provides insights on how to formulate a research problem in terms of statistical language, how to build a statistical model, how to analyse data, how to find optimal solution and how to validate the results. Main methods of Descriptive and Inferential Statistics, Regression methods, Analysis of Variance, Logistic Regression, Estimation, Hypothesis Testing, Time Series Analysis and other statistical techniques are considered.

Grading

Final written and oral exam counts to 70 % of the final grade. This course also has a mandatory written assignment „Application of Statistical methods in N ... (related to the theses topic), based on analysis of the newest scientific literature, application of statistical methods and doctoral student's insights into the issue investigated in the thesis. The written assignment counts to 30 % of the final grade. Volume of the written assignment - 25-30 pages. The assignment must be sent to the consulting professors a week prior to taking the final exam.

Required reading

1. Nica M. (2022). Principles of Business Statistics. OpenStax CNX <https://open.umn.edu/opentextbooks/textbooks/384>
2. Argyrous G. (2011). Statistics for research with a guide to SPSS, 3rd ed.
3. Black, K. (2010) Business Statistics for Contemporary Decision Making. John Wiley & Sons, Inc. https://faculty.ksu.edu.sa/sites/default/files/business-statistics-for-contemporary-decision-making-by-ken-black_0.pdf
4. Holmes, L., Illowsky, B., Dean, S. (2017). Introductory Business Statistics <https://open.umn.edu/opentextbooks/textbooks/509>

Recommended reading

1. Lithuanian Department of Statistics (2022). Official Statistics Portal <https://osp.stat.gov.lt/en>
2. IBM SPSS Statistics 28 Brief Guide. 2022 https://www.ibm.com/docs/en/SSLVMB_28.0.0/pdf/IBM_SPSS_Statistics_Brief_Guide.pdf

Consulting Professors	Degree	Key publications during the last 5 year
Gindrutė Kasnauskienė	Dr.	1. Kasnauskiene G., Kavalnis R. (2021) How has covid-19 affected migration of Lithuanian population? <i>Economic Profile</i>, 2(22), pp. 8-15. doi: https://doi.org/10.52244/ep.2021.22.01 2. Kasnauskiene G., Kavalnis R. (2021). Does Emigration Hurt the Economy? Evidence from Lithuania, <i>Organizations and Markets in Emerging Economies</i>, 12(2), pp. 440-458. doi: 10.15388/omee.2021.12.64. 3. Kasnauskiene, G., Palubinskaite, J. (2020). Impact of High-Skilled Migration to the UK on the Source Countries (EU8) Economies. <i>Organizations and Markets in Emerging</i>

		<i>Economies</i>. Vol 11 No 1 (2020), p.55-68 ISSN 2029-4581 eISSN 2345-0037 4. Kasnauskiene G., Belinskaja L. (2020). Boom, X, Y and Z generations: how to teach financial literacy? In Материалы VII международной научно-практической конференции «Устойчивое развитие: общество и экономика», июнь 2020 г. Санкт-Петербург, Санкт-Петербургский государственный университет, 2020 p. 429-432. 5. Kasnauskienė, G. (2020). Demografinė situacija ir gyventojų senėjimas: socialiniai iššūkiai ir ekonomikos modernizavimas. <i>Ekonomikos modernizavimas: iššūkiai, problemos, sprendimai</i>. Kolektyvinė monografija. Vilnius, Vilniaus universitetas. p.271-286. 6. Kasnauskiene G., Michnevic K. (2017). Contribution of increased life expectancy to economic growth: evidence from CEE countries. <i>International Journal of Economic Sciences</i>, Vol. VI(2), pp. 82-99, 10.20472/ES.2017.6.2.005 7. Kasnauskiene G., Andriuskaite M. (2017). Economic implications of ageing Lithuanian population <i>Organizations and Markets in Emerging Economies</i> , 2017, Vol. 8, No. 1(15), p. 44-62. ISSN 2029-4581 8. Rubčinskaitė R., Kasnauskienė G. (2017). The Role of Economic Activities Clusters in Gross Value Added Generation in the Baltic States. CBU International Conference on <i>Innovations in Science and Education</i> Proceedings, March 22-24, 2017, Prague, Czech Republic, p.401-412. ISSN 1805-9961
Tomas Baležentis	Dr.	1. Li, W., Liu, E., <u>Balezentis, T.</u>, Jin, H., & Streimikiene, D. (2021). Association between Socioeconomic Welfare and Depression among Older Adults: Evidence from the China Health and Retirement Longitudinal Study. <i>Social Science & Medicine</i> 275, 113814. 2. <u>Balezentis, T.</u>, Siksnielyte-Butkiene, I., Ramanauske, N., Streimikiene, D., & Coluccia, B. (2022). Disentangling the sources of dynamics in the agricultural output of the BRIICS and EU countries: The ecological footprint perspective with shapley value decomposition. <i>Journal of Cleaner Production</i>, 346, 131198. 3. Sun, L., Wang, K., Xu, L., Zhang, C., & <u>Balezentis, T.</u> (2022). A Time-varying Distance Based Interval-valued Functional Principal Component Analysis Method-A Case Study of Consumer Price Index. <i>Information Sciences</i> 589: 94-116. 4. <u>Balezentis, T.</u>, Karagiannis, G. 2021. Aggregate Efficiency Dynamics in Lithuanian Dairy

		Farms. <i>German Journal of Agricultural Economics</i> 70(4), 251-264. 5. Jurkėnaitė, N., <u>Baležentis, T.</u>, & Štreimikienė, D. (2022). The sustainability prism of structural changes in the European Union agricultural system: The nexus between production, employment and energy emissions. <i>Business Strategy and the Environment</i>, 31: 145-158. 6. <u>Balezentis, T.</u>, Siksnyte-Butkiene, I., Ramanauskė, N., Streimikiene, D., & Coluccia, B. (2022). Disentangling the sources of dynamics in the agricultural output of the BRIICS and EU countries: The ecological footprint perspective with shapley value decomposition. <i>Journal of Cleaner Production</i>, 346, 131198. 7. Sun, L., Wang, K., Xu, L., Zhang, C., & <u>Balezentis, T.</u> (2022). A Time-varying Distance Based Interval-valued Functional Principal Component Analysis Method-A Case Study of Consumer Price Index. <i>Information Sciences</i> 589: 94-116. 8. <u>Balezentis, T.</u>, Karagiannis, G. 2021. Aggregate Efficiency Dynamics in Lithuanian Dairy Farms. <i>German Journal of Agricultural Economics</i> 70(4), 251-264. 9. Jurkėnaitė, N., <u>Baležentis, T.</u>, & Štreimikienė, D. (2022). The sustainability prism of structural changes in the European Union agricultural system: The nexus between production, employment and energy emissions. <i>Business Strategy and the Environment</i>, 31: 145-158.
Vita Karpuškienė	Dr.	1. Karpuškienė V. (2021) Alcohol Availability Restriction Policy and Changes in Consumer Behavior in Lithuania in 2016–2019, <i>Ekonomika - Vilniaus universitetas</i>, 2021, Vol.100(ISSN: 1392-1258; E-ISSN: 2424-6166 DOI: 10.15388/Ekon.2021.1.5 2. Karpuškienė.V., Rastienienė A.Liepuonius A.(2019) Alkoholio vartojimo įpročiai, aplinka ir pasekmės.- Lietuvoje STEPP Socialinė teorija, empirija, politika ir praktika, Vilniaus universitetas ISSN 1648-2425

Approved: