

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                     |                                                          |                                         |                                     |                                                                                                                                                |            |     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Statistical analysis software, PG_00150250                                                                                                                                                                                                                                                                          |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Field of study                              | English Studies                                                                                                                                                                                                                                                                                                     |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                        |                                                          | Academic year of realisation of subject |                                     | 2025/2026                                                                                                                                      |            |     |
| Education level                             | Master's studies                                                                                                                                                                                                                                                                                                    |                                                          | Subject group                           |                                     | Obligatory subject group in the field of study<br>Optional subject group<br>Subject group related to scientific research in the field of study |            |     |
| Mode of study                               | full-time studies                                                                                                                                                                                                                                                                                                   |                                                          | Mode of delivery                        |                                     | at the university                                                                                                                              |            |     |
| Year of study                               | 1                                                                                                                                                                                                                                                                                                                   |                                                          | Language of instruction                 |                                     | English                                                                                                                                        |            |     |
| Semester of study                           | 2                                                                                                                                                                                                                                                                                                                   |                                                          | ECTS credits                            |                                     | 1.0                                                                                                                                            |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                            |                                                          | Assessment form                         |                                     | credit                                                                                                                                         |            |     |
| Conducting unit                             | Division of Corpus Linguistics and Glottodidactics -> Institute of English and American Studies -> Faculty of Languages -> Rector                                                                                                                                                                                   |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                  |                                                          | dr hab. Anna Bączkowska                 |                                     |                                                                                                                                                |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                            |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                         | Lecture                                                  | Tutorial                                | Laboratory                          | Project                                                                                                                                        | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                               | 0.0                                                      | 15.0                                    | 0.0                                 | 0.0                                                                                                                                            | 0.0        | 15  |
|                                             | E-learning hours included: 0.0                                                                                                                                                                                                                                                                                      |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Learning activity and number of study hours | Learning activity                                                                                                                                                                                                                                                                                                   | Participation in didactic classes included in study plan |                                         | Participation in consultation hours |                                                                                                                                                | Self-study | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                               | 15                                                       |                                         | 0.0                                 |                                                                                                                                                | 9.0        | 24  |
| Subject objectives                          | The aim of the course is to familiarise students with software for statistical analysis, in particular with MS Excel and/or "Statistica". Students will learn how to use of MS Excel and/or "Statistica" to analyse data using the statistical tests introduced during the module "Statistics" with some extensions |                                                          |                                         |                                     |                                                                                                                                                |            |     |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                           |                                                         |
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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Subject outcome                                                                                                                                                                                                                                                                                           | Method of verification                                  |
|                                 | [FAMU2_U02] Can apply knowledge in the field of linguistics and literature in solving practical problems in the field of the chosen specialty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The Student is able to apply knowledge from the field of IT tools of statistical analysis to solve practical problems within natural language processing.                                                                                                                                                 | [SU8] observation of student's independent or team work |
|                                 | [FAMU2_K02] Is prepared to recognise the importance of knowledge and skills in English Studies in solving cognitive and practical problems and to seek the advice of a supervisor in their chosen place of work in the event of difficulty in solving problems on their own.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The Student is ready to recognize the significance of knowledge and skills in the field IT statistical tools for solving cognitive and practical problems, and to seek the opinion of a scientific supervisor or mentor at the chosen workplace in case of difficulties with independent problem-solving. | [SK5] implementation of a problem task                  |
|                                 | [FAMU2_K01] Is ready to critically evaluate the extent of their knowledge and skills, in particular in the field of English-language linguistics and literature and English.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The student is ready for a critical assessment of his knowledge in the field of corpus and applied linguistics, as well as textual and numerical data analysis. He understands the need for continuous learning and development.                                                                          | [SK5] implementation of a problem task                  |
|                                 | [FAMU2_W12] Knows and understands the main development trends in literature, in particular with regard to research into English-language literature.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The Student is knowledgeable about and understands selected topics in statistics, which are essential as a context for research in English linguistics and for the professional work of an English philologist.                                                                                           | [SW4] test/exam - oral or written                       |
|                                 | [FAMU2_U04] Can select and apply information and communication techniques (ICT) during the acquisition and processing of information for research and professional purposes within the framework of English Studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The student is able to select and apply information and communication techniques (ICT) during the retrieval and processing of information for research in linguistics.                                                                                                                                    | [SU8] observation of student's independent or team work |
|                                 | [FAMU2_U10] Can independently plan and implement their own lifelong learning and guide others in this area within the framework of English philology and their chosen field of professional activity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | The Student is capable of independently planning and pursuing lifelong learning, as well as guiding others in this area in the use of IT statistical tools.                                                                                                                                               | [SU1] oral statement/conversation/discussion            |
|                                 | [FAMU2_U05] Can use and present orally and in writing knowledge in the field of auxiliary and related sciences, which is a context for English linguistic and literary studies and supports the professional work of an English philologist.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The Student is able to utilize and orally and in writing present knowledge in the field of statistics, which serves as a context for English linguistic research and supports the professional work of an English philologist.                                                                            | [SU2] presentation/project/paper/report                 |
| Subject contents                | The aim of the course is to familiarise students with statistical analysis software, in particular MS Excel and/or partially "Statistica" (or partially with R/Python). The students will learn how to use MS Excel for statistical analysis (and/or 'Statistics' software to apply select statistical tests). They will familiarise themselves with the software interface, will learn how to upload and edit data, create and import tabulated data (sheets), make visualizations (scatter plots, bar charts, linear charts, box plots, etc.), how to choose and interpret varying homogeneity of variance tests (F, Levene's, Brown & Forsythe's), normal distribution tests (Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors), their selection criteria and their interpretation, statistical tests (chi square, t-test, ANOVA, correlation, linear and logistic regression, post-hoc test) and effect size (Cohen D, eta square). |                                                                                                                                                                                                                                                                                                           |                                                         |
| Prerequisites and co-requisites | The level of English at C1 or higher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                           |                                                         |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Passing threshold                                                                                                                                                                                                                                                                                         | Percentage of the final grade                           |
|                                 | task solving                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 100.0%                                                                                                                                                                                                                                                                                                    | 10.0%                                                   |
|                                 | final or mid-semester tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60.0%                                                                                                                                                                                                                                                                                                     | 60.0%                                                   |
|                                 | observation of independent or team work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100.0%                                                                                                                                                                                                                                                                                                    | 20.0%                                                   |
|                                 | presentation/report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100.0%                                                                                                                                                                                                                                                                                                    | 5.0%                                                    |
|                                 | discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100.0%                                                                                                                                                                                                                                                                                                    | 5.0%                                                    |
| Recommended reading             | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Brezina, V. 2018. Statistics for Corpus Linguistics. Cambridge: CUP.<br><br>Woods, A., Fletcher, P., Hughes A., 1989. Statistics in Language Studies. Cambridge: CUP                                                                                                                                      |                                                         |

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|----------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                | Supplementary literature | Glenberg, A., Andrzejewski, M. 2007. Learning from Data: An Introduction to Statistical Reasoning. London: Routledge. Rabiej, M. 2012. Statystyka z programem Statistica. Gliwice: Helion. |
|                                                                | eResources addresses     |                                                                                                                                                                                            |
| Example issues/<br>example questions/<br>tasks being completed |                          |                                                                                                                                                                                            |
| Work placement                                                 | Not applicable           |                                                                                                                                                                                            |

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