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| <b>Course title</b>                  | Statistics in Psychology II  |                        |     |                            |   |
| <b>Course code</b>                   | PSY1201  |                        |     |                            |   |
| <b>Course type</b>                   | Compulsory   |                        |     |                            |   |
| <b>Level</b>                         | Undergraduate  |                        |     |                            |   |
| <b>Year / Semester</b>               | Year 2 / Semester 1  |                        |     |                            |   |
| <b>Teacher's name</b>                | New hire 1   |                        |     |                            |   |
| <b>ECTS</b>                          | 7.5  | <b>Lectures / week</b> | 1   | <b>Laboratories / week</b> | 0 |
| <b>Course purpose and objectives</b> | <p>The purpose of this course is to provide students with a more in-depth and sophisticated grasp of statistical techniques as they are used in psychological research. This course aims to give students the abilities and information necessary to critically examine and interpret complicated data sets in the field of psychology by building on the fundamental ideas covered in "Statistics in Psychology I." The course aims to improve students' abilities to conduct rigorous and significant research, make wise decisions based on data analysis, and contribute to the development of psychology science by exploring more complex statistical approaches.</p>  |                        |     |                            |   |
| <b>Learning outcomes</b>             | <p>The following learning outcomes are expected, where students will be able to:</p> <ol style="list-style-type: none"> <li>1. Describe the fundamental ideas and assumptions of advanced statistical methods used in psychological research.</li> <li>2. Apply advanced statistical procedures to examine intricate psychological data sets.</li> <li>3. Interpret the results of complex statistical analyses, including statistical significance and effect sizes.</li> <li>4. Evaluate research articles that use advanced statistical techniques, noting their strengths and limitations.</li> <li>5. Adhere to ethical principles and responsible practices in psychological statistics analysis.</li> </ol> |                        |     |                            |   |
| <b>Prerequisites</b>                 | PSY202 & PSY203  | <b>Required</b>        | Yes |                            |   |
| <b>Course content</b>                | <p>Students will acquire a more in-depth and sophisticated grasp of statistical techniques as they are used in psychological research. This course aims to give students the abilities and information necessary to critically examine and interpret complicated data sets in the field of psychology by building on the fundamental ideas covered in "Statistics in Psychology I." The course aims to</p>   |                        |     |                            |   |

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|                             | <p>improve students' abilities to conduct rigorous and significant research, make wise decisions based on data analysis, and contribute to the development of psychology science by exploring more complex statistical approaches.</p> <p>Module 1: Review and Foundations<br/> Module 2: Multivariate Analysis Techniques<br/> Module 3: Non-Parametric Methods<br/> Module 4: Interaction Effects and Advanced ANOVA<br/> Module 5: Advanced Correlation Techniques<br/> Module 6: Hierarchical Linear Models (HLM)<br/> Module 7: Ethical Considerations and Responsible Analysis<br/> Module 8: Data Management and Preprocessing<br/> Module 9: Practical Applications and Case Studies<br/> Module 10: Emerging Trends and Future Directions</p>                               |
| <b>Teaching methodology</b> | Lecture and labs   |
| <b>Bibliography</b>         | <ol style="list-style-type: none"> <li>1. Tabachnick, B. G., &amp; Fidell, L. S. (2019). Using Multivariate Statistics. Pearson.</li> <li>2. Field, A. (2018). Discovering Statistics Using IBM SPSS Statistics. SAGE Publications.</li> </ol>   |
| <b>Assessment</b>           | <ol style="list-style-type: none"> <li>1. Midterm &amp; Final Exam (30% &amp; 30%): Mid-term and final exams will be conducted covering the entire course. Both exams will include multiple-choice, short-answer, and essay questions.</li> <li>2. Group assignment (20%), where students are required to apply advanced statistical techniques to real data.</li> <li>3. Individual in-class hand-on assignment (5%), where students will be asked to perform specific analyses using statistical software.</li> <li>4. Individual assignment (5%), where students will critically assess research articles that utilize advanced statistics.</li> <li>5. Presence and Participation (10%): Students should be present and actively participate in in-class discussions.</li> </ol> |
| <b>Language</b>             | Greek  |