Course title	**Statistics in Psychology I**				
Course code	**PSY1105**				
Course type	Compulsory				
Level	Bachelors				
Year / Semester	Year 1 /semester 1				
Teacher's name	Dr Eugenia Christoforou				
ECTS	6	**Lectures / week**	1hr	**Laboratories / week**	2hrs
Course purpose and objectives	This course introduces students to the fundamental concepts and techniques of descriptive and inferential statistics as applied in psychological research. It provides a foundation for understanding how data are collected, analyzed, and interpreted within the behavioural sciences. Emphasis is placed on conceptual understanding, critical interpretation of statistical findings, and the use of statistical software (e.g., SPSS). The course aims to build confidence in handling quantitative data and encourage scientific thinking in relation to evidence-based psychology.				
Learning outcomes	On successful completion of the course and with further independent study, students will be able to: **Knowledge and Understanding** 1. Explain the key concepts of descriptive and inferential statistics relevant to psychological research. 2. Describe the role of probability, sampling, and hypothesis testing in psychological science. **Competencies** 5. Select and apply appropriate statistical tests for different types of data and research questions. 6. Use statistical software (e.g., SPSS) to conduct basic analyses and interpret outputs correctly. **Transferable Skills**				

	7. Communicate statistical findings clearly in written form, following APA conventions. 8. Demonstrate critical thinking and ethical awareness in the use and interpretation of data.		
Prerequisites	None	**Required**	PSY1103 Quantitative Research Methods
Course content	Indicative Content • Introduction to Statistics in Psychology • Descriptive Statistics I-Central Tendency: frequency distributions, mean, median, mode • Descriptive Statistics II- Variability; range, SD, variance; Interpreting distribution spread; Visualising variability with dot plots and boxplots • Data Visualization & Assumption checking; histograms, boxplots, scatterplots; Identifying skewness, kurtosis, outliers; Inspecting assumptions before analysis; building plots and evaluate assumption violations • Probability and Sampling: Basic probability principles • Hypothesis Testing and inferential logic: Null and alternative hypotheses; Significance levels; p-values and interpretation; Type I and Type II errors. • Parametric Tests I: One-sample, paired-samples, and independent-samples t-tests; Assumption checks (normality, homogeneity of variance, independence); Robustness of t-tests; Running t-tests in SPSS; interpreting output • Parametric Tests II: Correlation; Pearson correlation; running pearson correlations in SPPS; interpreting SPSS output. • Non-parametric Tests: chi-square, Mann–Whitney U, Wilcoxon. When to use non-parametric choices; non-parametric tests assumptions; Running non-parametric tests in SPSS • Effect Size and Confidence Intervals (Cohen's d, Pearson's r, odds ratios; Interpreting effect size magnitude in psychology; Confidence intervals for means and differences) • Introduction to Statistical Software: data entry, variable coding, calculating descriptive statistics; running analysis; output interpretation.		

	• Ethical Issues in Data Analysis and Reporting- Ethical principles in psychological statistics; Transparent reporting of assumptions and violations; APA-style reporting of statistical results
Teaching methodology	Teaching will consist of a weekly 1-hour lecture introducing core concepts in statistical analysis and the foundations of psychological research. In addition, a weekly 2-hour statistics workshop held in the computer lab will offer hands-on experience with SPSS. These workshops will guide students in handling, analysing and interpreting data.
Bibliography	**Core Text:** • Coolican, H. (2024). *Research methods and statistics in psychology* (8th ed.). Routledge. • Howitt, D., & Cramer, D. (2017). *Introduction to SPSS in psychology* (7th ed.). Pearson. **Recommended:** • British Psychological Society. (2021). *Code of Ethics and Conduct*. [Available online] • American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct* [Available online] **Further reading:** A reading list will accompany each lecture, highlighting relevant articles accessible through the library, as well as open-access and e-learning resources.
Assessment	Attendance and participation 10% In class exercises 20% Practical Report (Methods and Results section) 35% Final Exam 35%
Language	English