Course Title	**ADVANCED RESEARCH METHODS & STATISTICS II**				
Course Code	ESSRE602				
Course Type	CORE				
Level	PhD (Level 3)				
Year / Semester	1st/ Fall				
Teacher's Name	Dr Panayiotis Paoullis, Dr Panos Constantinides				
ECTS	10	Lectures / week	3	Laboratories/week	3
Course Purpose	The class builds upon and complements students' research skills and competences developed in ESSRE601 – Advanced Research Methods & Statistics I. The course aspires to enable students to conduct high level research using data analysis techniques which apply to qualitative and quantitative research. The course engages students in advanced statistical analysis techniques which are widely used by social researchers, as well as by exercise science, sports and rehabilitation researchers worldwide. The same applies to qualitative data analysis. Likewise, the course focuses on providing students with the opportunity to become professional users of data analysis software, such as IBM SPSS and other. The course makes use of real research data in practical data analysis applications in order for students to become able to apply the same tools and analyses in their own data collected for their doctoral dissertations. The course also stresses the importance of adopting a critical stance when reviewing research literature and use their acquired knowledge and competences to evaluate value and trustworthiness.				
Learning Outcomes	Students are expected to: 1. Design and apply a data collection and analysis scheme that applies to their own research questions/hypotheses. 2. Use and review a wide range of research approaches (both quantitative and qualitative) for analyzing data. 3. Apply methods of qualitative data analysis that fall under the grounded theory approach, such as constant comparative method and analytic induction. 4. Convert qualitative into quantitative data and justify the advantages and limitations of such transformation. 5. Process and analyze qualitative data using qualitative data analysis software (i.e. QDA MINER). 6. Apply inferential statistics tests to quantitative data such as t-test, correlation, one-way ANOVA, two-way ANOVA, ANCOVA, MANOVA, MANCOVA) and the respective non-parametric tests, multivariate liner regression models, using IBM SPSS.				

	7. Evaluate the appropriateness of theoretical models using quantitative data through applying Structural Equation Modelling statistical techniques. 8. Enter, process and analyze quantitative data using IBM SPSS. 9. Critically review research literature and evaluate it based on generally accepted criteria.		
Prerequisites	No	Corequisites	No
Course Content	1. Analysis of qualitative data. Qualitative data analysis as a personal process and as a journey towards a grounded theory. The constant comparative method and analytic induction for analysing qualitative data. Qualitative data analysis software (QDA MINER). 2. ANOVA factorial designs. Between subjects, within subjects and mixed designs. Univariate and multivariate ANOVA designs. Using Covariates in ANOVA factorial designs. 3. Building Regression Models. Selecting methods in regression analysis (enter, forward). Data screening and preparation. Comparing alternative models. 4. Structural Equation Modelling. Confirmatory Factor Analysis. Goodness of-fit measures.		
Teaching Methodology	The course is taught using a variety of teaching methodologies that include lecturing, project-based learning, hands-on training, collaborative approach.		
Bibliography	**Textbooks:** 1. Thomas, J.R., Martin, P., Etnier, J., & Silverman, S.J. (2023). Research Methods in Physical Activity (8th ed.). Human Kinetics, Champaign, IL. 2. Silverman, S. J., Locke, L. F., & Spirduso, W. W. (2007). Proposals that work: A guide for planning dissertations and grant proposals. London: Sage Publications. 3. Silverman, D. (2006). Interpreting qualitiative data, (3rd ed.). London: Sage. 4. Silverman, D. (2009). Doing qualitative research: A practical handbook, (3rd ed.). London: Sage. 5. Creswell, J. W. (2016). Η έρευνα στην εκπαίδευση: Σχεδιασμός, διεξαγωγή και αξιολόγηση της ποσοτικής και ποιοτικής έρευνας (Επιμέλεια Χαράλαμπος Τσορμπατζούδης). Αθήνα: Ίων. 6. Λαγουμιντζής, Γ., Βλαχόπουλος, Γ., & Κουτσογιάννης, Κ. (2015). Μεθοδολογία της έρευνας στις επιστήμες υγείας. Αθήνα: Σύνδεσμος		

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7. Χαλικιάς, Μ., Μανωλέσου, Α., & Λάλου, Ρ. (2015). Μεθοδολογία Έρευνας και Εισαγωγή στη Στατιστική Ανάλυση Δεδομένων με το IBM SPSS Statistics. Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. https://repository.kallipos.gr/handle/11419/5075
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References:

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2. Παπαναστασίου, Κ. & Παπαναστασίου, Ε.(2014). Μεθοδολογία εκπαιδευτικής έρευνας (2η έκδοση). Λευκωσία.
3. Beins, B. (2012). APA style simplified: Writing in psychology, education, nursing, and sociology. Oxford: Wiley-Blackwell.
4. Cohen, L. & Manion, L. & Morisson, K. (2008). Μεθοδολογία Εκπαιδευτικής Έρευνας. (Μετάφραση Σ. Κυρανάκης κ.α.). Αθήνα: Μεταίχμιο.
5. Cohen, L., Manion, L., & Morisson, K. (2007). Research methods in education. New York: Routledge.In English.
6. Green, J., Camilli, G., & Elmore, P. (Eds.). (2006). Handbook of Complementary Methods in Education Research. New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.
7. Kazdin, A. E. (1995). Preparing and evaluating research reports. Psychological Assessment, 7(3), 228-237. doi:10.1037/1040-3590.7.3.228
8. Μακράκης, Β. (2005). Ανάλυση δεδομένων στην επιστημονική έρευνα με τη χρήση του SPSS. Αθήνα: Gutenberg.

	9. Wiersma, W., & Jurs, S. (2008). Research methods in education: An introduction. F.E. Peacock Publishers.
Assessment	Final Written Examination (50%) Qualitative Research Project (20%) Quantitative Research Project (30%)
Language	Greek / English