**GAU, Faculty of Humanities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Unit Title** | | Statistics and Research Method II | | |
| **Course Unit Code** | | PSY 318 | | |
| **Type of Course Unit** | | Compulsory for research Track in Psychology | | |
| **Level of Course Unit** | | Third year, Bsc | | |
| **National Credits** | | 6 | | |
| **Number of ECTS Credits Allocated** | | 12 | | |
| **Theoretical (hour/week)** | | 3 | | |
| **Practice (hour/week)** | | 3 | | |
| **Laboratory (hour/week)** | |  | | |
| **Year of Study** | | 3 | | |
| **Semester when the course unit is delivered** | | 6 | | |
| **Mode of Delivery** | | Face to Face | | |
| **Language of Instruction** | | English | | |
| **Prerequisities and co-requisities** | | PSY 101, 102, 211,218, 284 | | |
| **Recommended Optional Programme Components** | | None | | |
| **Objectives of the Course:**  This course is designed to be an intensive investigation into statistical analyses commonly used in Psychology and other social-behavioral sciences. Topics include Factorial ANOVA,Hypotheses Testing,Repeated Measures, Multiple Regression, Trend Analysis, Non Parametric procedures, and the General Linear Model (GLM).Student will be exposed to various analytic philosophies. In addition, the course will be computer intensive (using SPSS). The main goals of this course are to (a) expose the student to advanced statistical techniques, (b) make the student proficient in the techniques, (c) give the student the expertise to “think” about appropriate statistical techniques for the problems they will face in-and-out of the academic settings, and (d) give the student exposure to different analytic strategies and philosophies. | | | | |  |
| **Learning Outcomes** | | |  | |
| When this course has been completed the student should be able | | | Assesment. | |
| 1 | Formulate and test hypotheses about a population mean, variance and/or a population proportion. | | 1,2,4 | |
| 2 | Understand the types of errors possible when conducting a hypothesis test. | | 1,4,5 | |
| 3 | Be able to compute and interpret covariance and correlation as measures of association between two variables. | | 1,2,5 | |
| 4 | Understand how regression analysis can be used to develop an equation that estimates mathematically how two variables are related. | | 1,5 | |
| 5 | Understand the differences between the regression model, the regression equation, and the estimated regression equation. | | 1,2,5 | |
| 6 | be able to estimate a multiple regression equation, test the independent variables for significance and be able to interpret the coefficients and Learn how to use residual plots to make a judgment as to the validity of the regression assumptions, recognize outliers, and identify influential observations | | 1,2,4,5 | |
| Assesment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work | | | | |
| **Course’s Contribution to Program** | | | | |
|  |  | | | CL |
| 1 | Ability to identify the current and historical core content of and what is known in psychology. | | | 4 |
| 2 | Differentiate the various areas of Psychology and identify what is known in each. | | | 2 |
| 3 | Ability to show familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology. | | | 3 |
| 4 | Ability to apply psychological content and skills to career goals. | | | 2 |
| 5 | Ability to identify, and evaluate construct and critically analyze complex arguments. | | | 4 |
| 6 | Ability to apply basic research methods in psychology, with sensitivity to ethical principles. | | | 5 |
| 7 | Ability to identify the writing format of the American Psychological Association (APA). | | | 4 |
| 8 | Ability to understand the role of academic, professional, and personal integrity in maintaining a healthy community. | | | 3 |
| 9 | Ability to recognize and describe the ways in which diversity influences psychological processes. | | | 2 |
| 10 | Ability to distinguish important behavioral factors associated with personal and cultural diversity that enable intervention process in therapy. | | | 2 |
| 11 | Ability to demonstrate effective communication skills following professional conventions in psychology appropriate to purpose and context. | | | 4 |
| CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High) | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Contents** | | | | | | | | |
| Week |  |  | | | | | | Exam**s** |
| 1 |  | Hypotheses Testing | | | | | |  |
| 2 |  | Comparisons Involving Means | | | | | |  |
| 3 |  | Comparisons Involving Variances. | | | | | |  |
| 4 |  | Comparisons Involving Proportions. | | | | | |  |
| 5 |  | Correlation | | | | | |  |
| 6 |  | Regression Analysis | | | | | |  |
| 7 |  | Chi- Square Tests | | | | | |  |
| 8 |  |  | | | | | | Mid Term |
| 9 |  | One - way Analysis of Variance | | | | | |  |
| 10 |  | Two - way Analysis of Variance | | | | | |  |
| 11 |  | parametric statistics e.g.- the sign test, Wilcoxon rank test, Wilcoxon signed rank test, | | | | | |  |
| 12 |  | Kruskal Walis test | | | | | |  |
| 13 |  | spearman rank correlation coefficient | | | | | |  |
| 14 |  | revision | | | | | |  |
| 15 |  |  | | | | | | Final |
| **Recommended Sources** | | | | | | | | |
| **Textbook:** Jones, S. (2010). Statistics in Psychology. Explanations Without Equations. Palgrave.  Pagano, R. R., (2007). *Understanding Statistics in the Behavioral Sciences*, 8th Ed. Thomson Wadsworth.  SPSS Inc. (1988). SPSS-X user’s guide (3rd ed.). Chicago: SPSS    **Supplementary Material (s):** | | | | | | | | |
| **Assessment** | | | | | | | | |
| Attendance | | | % |  | | | | |
| Laboratory | | | 20% |  | | | | |
| Midterm (Written) | | | 30% |  | | | | |
| Project (Written) | | | % |  | | | | |
| Final (Written) | | | 50% |  | | | | |
| Total | | | 100% |  | | | | |
| **ECTS Allocated Based on the Student Workload** | | | | | | | | |
| Activities | | | | | Number | Duration (hour) | Total Workload(hour) | |
| Course duration in class (including the Exam week) | | | | | 15 | 3 | 45 | |
| Labs and Tutorials | | | | | 15 | 3 | 45 | |
| Assignments | | | | | 14 | 3 | 42 | |
| Project/Presentation/Report Writing | | | | | 15 | 3 | 45 | |
| E-learning Activities | | | | | 4 | 10 | 40 | |
| Quizzes | | | | | 3 | 10 | 30 | |
| Midterm Examination | | | | | 1 | 14 | 14 | |
| Final Examination | | | | | 1 | 22 | 22 | |
| Self Study | | | | | 14 | 5 | 70 | |
| Total Workload | | | | | | | 353 | |
| Total Workload/30 (h) | | | | | | | 11,7 | |
| ECTS Credit of the Course | | | | | | | 12 | |