**Course code: CP-306**

**Course title: Statistical Methods**

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| 1. **Course Learning Outcomes: (CLO’s)**
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| CLO-1 | **Describe** the basic concepts of statistical methods relevant to psychological research. (C1) |
| CLO-2 | **Explain** the assumptions and utility of different statistical analysis.(C2) |
| CLO-3 |  **Illustrate** the initial screening of research data using SPSS.(C2) |
| CLO-4 | **Apply** an appropriate type of statistical procedure relevant to hypothesis testing in psychological research. (C3) |

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|  | CLO 1 | CLO 2 | CLO 3 | CLO 4 |
| **PLO-1****Cognitive** | **Psychology Knowledge:** Graduates will be able to comprehend the core concepts of Clinical Psychology—an ability to describe the manifestation of psychological issues | *
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| **PLO-2****Cognitive**  | **Psychology Knowledge:** Graduates will be able to comprehend the core concepts of Clinical Psychology—an ability to describe the manifestation of psychological issues |  |  |  |  |
| **PLO-3****Psychomotor** | **Basic Assessment Skill Development**: An ability to demonstrate and interpret various assessment modalities. |  |  |  |  |
| **PLO-4****Psychomotor** | **Therapeutic Techniques and Implementation**: Graduates will be able to utilize the therapeutic skills and construct the intervention plan. |  |  |  |  |
| **PLO-5****Affective**  | **Communication:**  Graduates will be able to communicate and demonstrate practical verbal and written skills |  |  | *
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| **PLO-6****Psychomotor** | **Case studies**: An ability to conceptualize individual clinical cases with diverse ethnic, religious, and cultural backgrounds along with integrated assessment and intervention skills |  |  |  |  |
| **PLO-7****Affective** | **Ethical considerations**: Graduates will ensure professional ethical guidelines and principles in clinical and community settings. |  |  |  |  |
| **PLO-8****Psychomotor** | **Research:** An ability to identify the need for significant indicators of mental health in a collectivistic culture to execute scientific research |  | *
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| **PLO-9****Psychomotor** | **Community Work**: Graduates will able to engage with different organizations to provide community services including recognition and bridging different resources to fulfill the psychological needs of communities such as marginalized population |  |  |  |  |
| **PLO-10****Psychomotor** | **Mental Health Awareness:** Graduates will be able to take initiative and design Programs for prevention and promotion of mental health wellness and quality of life in general population. |  |  |  |  |
| **PLO-11****Cognitive**  | **Lifelong Learning**: Able to develop significant professional goals for life and recognize the importance of psychological skills in their personal and professional lives. |  |  |  |  |

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| 1. **Assurance of Learning and Assessment Items:**

*Specify Assessment Items that will assure student learning through application and achieve objectives of specific PLOs / CLOs* |
| **Assessment Item** | **Application/ Outcomes****CLO / PLO** |
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| Assignment 1: Critical Review of Article | CLO1/PLO5 |
| Project | CLO4/PLO5 |
| Assignment 2:  | CLO4/PLO8 |
| Quiz 1 | CLO1/PLO1 |
| Quiz 2 | CLO1/PLO1 |
| Midterm | CLO2 |
| Final Exam | CLO1,2,3,4,5 |

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| 1. **Weekly Sessions Plan:**
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|  Week | Course Contents  | CLO | **Blooms Taxonomy Level** | Reference Chapter(s) |
| 1 | **Introduction, Course Orientation,*** Introduction, Course Orientation, Outline
* Previous experience, apprehensions, expectations
* First word of statistics
* What makes statistics difficult
* Ways to handle the statistics difficulties
* Definition of statistics
* What is data
* What is a sample
* What is population
* What is variable
* What is a parameter
* What is a statistic
 | 1 | C1 |  Chapter 1 Introduction to StatisticsGravetter, F. J., & Wallnau, L. B. (2019). *Statistics for the behavioral sciences.* Cengage Learning Asia Pte Ltd. |
| 2 | **Variables and scales of measurements**· Definition· Discrete variables· Continuous variables· Scales of measurements1. Nominal2. Ordinal3. Interval4. Ratio | 2 | C2 | Chapter 1 Introduction to Statistics |
| 3 | **Frequency distribution and Graphs**· Frequency distribution· Shape of frequency distribution1. Symmetrical distribution2. Skewed distribution· Graphs1. Key elements of graphs2. Types of graphs3. Interpretations· Percentile ranks | 3 | C2 | Chapter 2 Frequency Distributions |
| 4 | **Types of statistics and research and statistics**Types of statistics· Descriptive statistics· Inferential statisticsResearch and statistics· Psychometric analysis· Descriptive analysis· Inferential analysis | 4 | C3 | Steele, C., Andrews, H., & Upton, D. (2012). Statistics in Psychology. Pearson Education Limited. |
| 5 | **Reliability and Validity**Reliability· Definition, Types, examplesValidity· Definition, Types, examples | 2 | C2 | Steele, C., Andrews, H., & Upton, D. (2012). Statistics in Psychology. Pearson Education Limited. |
| 6 | **Central tendency****PRESENTATIONS**Measures of central tendency1. Mean (Definition, example, calculation)2. Median (Definition, example, calculation)3. Mode (Definition, example, calculation) | 2 | C2 | Chapter 3 Central Tendency  |
| 7 | **A descriptive analysis of SPSS**Frequency, percentages, mean, standard deviation, graphical representation, and their interpretation of the descriptive analysis. | 4 | C3 | Chapter 3 Central TendencyChapter 4 Variability  |
| 8 | **Inferential statistics**Discussed SPSS analysis and relate it with the result section of the thesis.Inferential statistics· Hypotheses testing· Probability: concepts and uses· Tests of association· Tests of differences· Task: identify tests of association and tests of differences, how to write descriptive analysis in sequences, and show a draft of the result section. | 4 | C3 | Chapter 8 Introduction to Hypothesis Testing |
|  9 | Mid term  |  |  |  |
| 10 | **Reverse coding and Normality**· Reverse coding· Normality and how to find out these terms or procedures on SPSS.· Psychometric analysis on SPSS (Cronbach’s alpha) | 4 | C3 | Chapter 15 Correlation |
| 11 | **Correlation analysis**Test of association (Correlation analysis)1. Rationale2. Hypotheses3. Assumptions4. SPSS steps5. Interpretation of output | 4 | C3 | Chapter 9 Introduction to the t Statistic and Chapter 10 The t Test for Two Independent Samples |
| 12 | **Tests of differences (T-test)**The Guest lecture by Dr. TaskeenTests of differences (T-test)1. Types2. Rationale3. Hypotheses4. Assumptions5. SPSS steps of independent sample t-test**6.** Interpretation of output | 4 | C3 | Brace, N., Kemp, R., & Snelgar, R. (2006). SPSS for psychologists. London Lawrence Erlbaum Association. |
| 13 | **ANOVA**ANOVA1. Types2. Rationale3. Hypotheses4. Assumptions5. SPSS steps of independent sample one-way ANOVA6. Interpretation of output | 4 | C3 | Brace, N., Kemp, R., & Snelgar, R. (2006). SPSS for psychologists. London Lawrence Erlbaum Association.Steele, C., Andrews, H., & Upton, D. (2012). Statistics in Psychology. Pearson Education Limited.  |
| 14 | **Practice of SPSS**The practice of SPSS analysis like t-test, correlation, ANOVA, and descriptive analysis. | 3 | C2 | Chapter 15 Correlation |
| 15 | **Discussions**Discussed all course evaluations and course outlines. |  |  |  |
| 16 | Final term  |  |  |  |