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| **Course Name: Statistics for Psychology** | | |
| **Course Code: PSYC 220** | **Course Credits: 4** | |
| **Class Timings: T/R: 12:30 to 1:45** | **Section: B** | **Student Meeting Hours/ Office Hours: MWF 12:00 to 1:00PM** |
| **Instructor Name: Khola Tahir** | | |
| **Instructor Contact Details**  Email: kholatahir@fccollege.edu.pk  **Guidelines for contacting instructor:** If you wish to discuss any query regarding the course or have any other concern, you may feel free to visit me during my office hours or write an email to me to get an appointment. | | |
| **Course Description**:  This course will provide you with the necessary knowledge of statistical concepts and skills for conducting research and an adequate quantitative foundation for understanding psychological literature and SPSS software. This course will cover (a) descriptive statistical techniques including frequency distributions, graphs, measures of central tendency and variability; and (b) inferential statistical techniques including correlation, t-test, analysis of variance, and chi-square.    The emphasis in this course is upon the psychological application of statistical techniques rather than the mathematical basis of statistics. The application of these techniques to research and the interpretation of the results will be emphasized. | | |
| **Main Mode of Instruction:** On campus regular classes.  **Technology Requirements** The students need to be in the habit of checking their emails and Moodle accounts on an everyday basis.  **Technology Etiquettes (incase of online learning):**   * In order to ensure effective learning and healthy classroom participation, it is absolutely essential for all the students to keep their videos on at all times. * At instances when they have to ask a question or answer one, or have an experience to share, they should virtually raise their hands to get the instructor’s attention. * The students are also expected to keep themselves on mute, during all times, except for when they are expected to answer in class. | | |
| **Course Objectives**  The objectives of this course is that the students will be able to apply the quantitative statistical methods in psychological researches | | |

**Required Textbooks:**

**Aron**, A., **Coups**, E. J., & **Aron**, E. N. (2013). **Statistics Psychology** (6th ed.). Upper Sadle River, NJ Pearson Education, Inc.

Gravetter , F.J., & Wallnau, L.B. (2010). *Statistics for the Behavioral Sciences*. (10th ed.). Belmont, CA: Wadsworth.

Pallant, J. (2005). *SPSS Survival Manual.* Ligare, Sydney: Allen & Unwin.

**Learning Outcomes:**

By the end of the semester you should be able to:

* Demonstrate an understanding of basic statistical concepts, vocabulary, theories, and applications used in psychology (Class Participation, Quizzes).
* Understand graphical and tabular representation of data (Lecture, Class Discussion, SPSS Lab).
* Calculate and understand how to interpret descriptive and basic inferential statistics (Lecture, Class Discussion, SPSS Lab).
* Carry out basic statistical procedures on SPSS software (SPSS Lab).
* Display enhanced critical thinking skills in analyzing and critiquing statistical information related to psychology (Class Participation, Research Assignment).

**Course Evaluation:**

Your final grade for this course will be compiled as explained in the table below:

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|  | **Criteria for grading** | **Marks** | **Percentage** |
| 1. | Class Participation and Attendance | 20 | 10% |
| 2. | Class Quizzes (best of 4 out of 5) (25 marks per Quiz) | 100 | 50% |
| 3. | Lab Attendance | 10 | 05% |
| 4. | Lab Assignment | 40 | 20% |
| 5. | Assignment/Viva | 30 | 15% |
|  | Total | 200 | 100% |

The grading system for the course is as follows:

**Grades Quality Points Numerical Value Interpretation**

A 4.00 93-100 Superior

A- 3.70 90-92

B+ 3.30 87-89

B 3.00 83-86 Good

B- 2.70 80-82

C+ 2.30 77-79

C 2.00 73-76 Satisfactory

C- 1.70 70-72

D+ 1.30 67-69

D 1.00 60-66 Passing

F 0.00 59 or below Failing

**Course Outline (this may be altered as the semester progresses):**

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|  | **Topic** | **Readings** | **Due** |
| Chapters |  |  |  |
| 1. | Introduction: Course Outline Review, Structure of the Course, Key Concepts | Course Outline; Chapter 1 of Gravetter & Wallnau (G&W) |  |
|  | Key Concepts, Role of Statistics in Research, Scales of Measurement | **Continued:** Chapter 1 of G&W /A, C & A |  |
|  | Lab: Creating a Codebook | Chapter 1, 2, and 3 of Pallant |  |
| 2. | **Descriptive Statistics:** Describing Data, Kinds of Variables, Frequency Tables, Graphs | Chapter 2 of G&W / A, C & A |  |
|  | Describing Data, Kinds of Variables, Frequency Tables, Graphs | **Continued:** Chapter 2 of G&W/  A, C & A |  |
| 3. | Measures of Central Tendency | Chapter 3 G&W / A, C & A | Quiz 1 (Chpt 1, 2 of G&W) |
|  | Lab: Importing and Screening Data | Chapter 4 and 5 of Pallant |  |
|  |  | **Continued:** Chapter 3 G&W Chapter 4 G&W / A, C & A |  |
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| 4. | Variance and Standard Deviation | **Continued:** Chapter 4 G&W / A, C & A |  |
|  | Lab: Descriptive Statistics | Chapter 6 of Pallant | Quiz 2 (Chpt 3, 4 of G&W) |
|  |  | Chapter 8 of Pallant |  |
| 5. | **Inferential Statistics**: Foundations | Chapter 5 of G&W |  |

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|  | Z-Scores | **Continued:** Chapter 5 of G&W / A, C & A |  |
|  | Lab: Creating Graphs | Chapter 7 of Pallant |  |
| 6. | Probability | Chapters 6 of G&W / A, C & A |  |
|  | Probability | **Continued:** Chapters 6 of G&W/ A, C & A |  |
| 7. | Probability and Samples: The Distribution of Sample Means | Chapter 7 of G&W / A, C & A |  |
|  | Lab: Choosing the Right Statistic | Chapter 10 of Pallant |  |
|  | Probability and Samples: The Distribution of Sample Means | **Continued:** Chapter 7 of G&W/ A, C & A |  |
|  | Probability and Samples: The Distribution of Sample Means | **Continued:** Chapter 7 of G&W / A, C & A |  |
|  | Lab: Independent Samples *t*-test | Chapter 16 of Pallant | Quiz 3 (Chpt 5, 6, 7 of G&W) |
| 8. | Hypothesis Testing | Chapter 8 of G&W |  |
|  | Hypothesis Testing | **Continued:** Chapter 8 of G&W |  |
|  | Hypothesis Testing | **Continued:** Chapter 8 of G&W |  |
|  | Lab: Paired Samples *t*-test | **Continued:** Chapter 16 of  Pallant |  |
| 9. | Introduction to the *t*-test | Chapter 9 of G&W |  |
|  | Introduction to the *t*-test | **Continued:** Chapter 9 of G&W/ A, C & A |  |
| 10 | T-Tests  Analysis of Variance (ANOVA) | **Continued:** Chapter 9 of G&W Chapter 12 of G&W / A, C & A | Quiz 4 (Chpt 8,  9) |
|  | Lab: One-Way Btwn Grps ANOVA | Chapter 17 of Pallant (to p. 223) |  |
| 11 | Analysis of Variance (ANOVA) | **Continued:** Chapter 12 of G&W/ A, C & A |  |
|  | Analysis of Variance (ANOVA) | **Continued:** Chapter 12 of G&W/ A, C & A |  |
|  | Lab: Correlation and Checking the Reliability of a Scale | Chapter 9 and 11 of Pallant |  |
| 12 | Correlation | Chapter 15 of G&W til page 530 |  |
|  | Correlation | **Continued:** Chapter 15 of G&W til page 530 |  |
|  | Correlation | **Continued:** Chapter 15 of G&W til page 530 |  |
|  | Lab: Partial Correlation | Chapter 12 of Pallant |  |
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|  | Partial Correlation | Chapter 15 of G&W from page 531 |  |
|  | Partial Correlation | **Continued:** Chapter 16 of G&W from page 531 |  |
| 13. | Chi-Square | Chapter 17 of G&W/ A, C & A | Quiz 5 (Chapt 11 and 12) |
|  | Lab: Chi-square | Chapter 22 of Pallant |  |
|  | Chi-Square | **Continued:** Chapter 17 of G&W/ A, C & A |  |
|  | Chi-Square | **Continued:** Chapter 17 of G&W / A, C & A |  |
|  | Review | Come with questions about the lab assignment and final |  |
|  | Lab: Choosing the Right Statistic | Chapter 10 of Pallant |  |
| 14 | Review | Come with questions about the course and lab work | Lab Assignment Due |

**Course Policies:**

**Attendance and Punctuality:** Attendance is mandatory according to the policy of FCC. Students are advised to attend classes regularly in order to boost their class participation and enhance their learning. 75% of the attendance is mandatory for the students. Any student who do not fulfill the criteria will not be marked for final assessment. It is essential that each student is punctual and enters the classroom on time, so as to not to disrupt the flow of the class and their own understanding. It is in your best interest to regularly attend the classes because lecture material frequently goes beyond the textbook; missing a class will likely affect your understanding of the material and will affect your course grade. In case of an emergency, it is the responsibility of the student to inform the instructor either before the class (if possible) or after, by sending a formal application, clearly stating the reason, to **kholatahir@fccollege.edu.pk.**.

**Class Participation:** Participation makes you an active learner. Classroom participation in the form of comments, asking questions, raising issues that interest you, and giving feedback will not only make classroom meetings highly productive and lively but will also contribute toward your grade. Please make sure that your cell phones are switched **off** or put on **silent**, so as to not cause disturbance in the class. You may not take calls during class. Using your cell phone during class (texting, web-browsing, taking calls, etc.) will lead to a reduction in one (1) participation point per instance. *(e.g., if I see you texting on Monday and then on the following two Thursdays you step out of the lab class for calls that are not verifiable life-threatening emergencies, your participation marks for class automatically fall to 19 out of 20 and your lab attendance automatically falls to 18 out of 20 marks).*

**Quizzes:** There will be four (4) multiple-choice/short answer/numerical problem quizzes in this course. We will review each quiz in the subsequent class and, if you feel that your quiz has been graded unfairly or have a question about an answer, please ask. There is no midterm, but there is a final exam. **Please note that there will be no retakes for the quizzes or the final. In very extreme cases such as death of a close family member or hospitalization, an average will be computed.** In the unfortunate event of such an occurrence, you are required to provide documentation and a written application in hand or by email before the end of the next class meeting.

**Academic Honesty, Cheating, and Plagiarism:** You are expected and encouraged to do independent work. You should study in groups, brainstorm, have healthy discussions, but you *must* write your papers and take your exams and quizzes independently. Make sure the sources you have retrieved material from are clearly provided in the form of references and citations. The referencing format and APA style of writing will be discussed at the time the assignments are distributed. *There is zero tolerance for academic dishonesty and plagiarism in this class.**If you have engaged in dishonest behavior at any point in this class, you will be awarded a zero on the assignment or quiz and then reported to the Academic Integrity Committee.* You will experience consequences for your actions, but I will continue to do my best to help you learn. A breach of integrity will not affect my grading of your future assignments.

**A note on differences in learning styles and extenuating circumstances:** Statistics is often a frightening subject for students in the social sciences. If you have concerns about your ability to keep up with the coursework for any reason at all, please speak with me at the beginning of the semester or as soon as the situation arises and I will do whatever I can to help you. *NB: Extra credit will be provided throughout the semester so there will be no substitute assignments or makeups for missed material.*