**Course Description**

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| **Faculty** | **Pharmacy** |
| **Department**  | **Clinical Pharmacy** | **Level** | 7 |
| **Course**  | **Biostatistics** | **Code** | **1702103** | **Prerequisite** |  |
| **Credit hours** | 2 | **Theoretical**  |  | **Practical** |  |
| **Coordinator** |  | **Email** |  |
| **Teachers** | Dr. Manal N ALsoub | **Emails** |  |
| **Lecture Time** |  | **Place** |  | **Attendance mode** | Face to face  |
| **Semester**  |  | **Preparation date**  |  | **Modification Date** |  |

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|  **Abstracted Course Description**  |
| This course aims to covers topics such as Descriptive statistics: Indicators of central tendency, Descriptive statistics: Indicators of dispersions, Probability , Estimating a Single Population Mean distributions, Estimating The Difference between Two Population Means… |
| **Course Goals** |
| This course aims to covers topics such as Descriptive statistics: Indicators of central tendency, Descriptive statistics: Indicators of dispersions, Probability , Estimating a Single Population Mean distributions, Estimating The Difference between Two Population Means… |

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| **CILOs** |
| **Knowledge** |
| A.1. Choose and create effective graphical, tabular, and numerical summaries of dataA.2. Understanding and using probability distributions.A.3. Understanding the notion of sampling variability and sampling distributions |
| **Skills** |
| B.1. Calculate and interpret confidence intervals and p-values and understand their limitations.B.2 judge on scientific data, experiments, and hypothesis.B.3 Quantifying to Selecting and carrying out an appropriate method of analysis to compare the means of two populations, and provide an interpretation of the results of such an analysis. |
| **Competencies** |
| C.1 Practical skills of determine correct method to their analysis techniquesC.2 Practical skills of handling dataC.3 Practical skills of identifying and quantifying proper test for analyze |
| **Learning Methods** |
| **In addition to the classical learning skills, the more new skills to be adapted. Some examples: Self-directed learning , Critical thinking, scientific reasoning, Communication skills and Problem-solving skills** |
| **Evaluation Tools** |
| - Homework (5 %)- Seminar (10%)- Quizzes. (10%) - Midterm exam (25%)- Final Exam (50%) |
| **Week** | **Topics** | **Learning methods** | **Evaluation tool** | **ILOs** | **2** |
| **1.** | Introduction | Textbook and handouts | QUIZ | **A**  | **2** |
| **2.** | Basic concepts | Textbook and handouts |  | **A**  | **2** |
| **3.** | Graphical presentation of data | Textbook and handouts |  | **A**  | **2** |
| **4.** | Descriptive statistics: Indicators of central tendency | Textbook and handouts |  | **B** | **2** |
| **5.** | Descriptive statistics: Indicators of dispersions | Textbook and handouts |  | **A**  | **2** |
| **6.** | Probability distributions (Normal Distribution and Standard Normal Distribution)  | Textbook and handouts | Exam | **C**  | **2** |
| **7.** | Sampling distribution of the sample mean and the Central Limit Theorem | Textbook and handouts | Exam | **A**  | **2** |
| **8.** | Estimating a Single Population Mean: Point Estimate and Confidence Interval | Textbook and handouts | **A**  | **2** |
| **9.** | Estimating a Single Population Mean: The t-distribution  | Textbook and handouts | Exam | **C**  | **2** |
| **10.** | Estimating The Difference between Two Population Means (z, t and t’ distributions)  | Textbook and handouts | **C**  | **2** |
| **11.** | Hypothesis Testing: Introduction  | Textbook and handouts | assigment | **A**  | **2** |
| **12.** | Hypothesis Testing: A Single Population Mean  | Textbook and handouts | **C**  | **2** |
| **13.** | Hypothesis Testing: The Difference Between Two Population Means  | Textbook and handouts | Exam | **Abc**  | **2** |
| **14.** | Paired Test |  | Exam |  | **2** |
| **15.** | Final exam |  |  |  | **2** |

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| **Plan of Course Evaluation** |
| **Evaluation Tools** | **Mark** | **ILOs** |
| **A1** | **A2** | **A3** | **B1** | **B2** | **B3** | **C1** | **C2** | **C3** |
| **First Exam (Mid-term)**  | **30%** | \* | \* |  |  | \* |  |  |  | \* |
| **Second Exam (If available)** |  |  |  |  |  |  |  |  |  |  |
| **Final Exam** | **50%** |  |  |  |  |  | \* |  | \* |  |
| **Activities** | **20%** |  |
| **Activities Evaluation** | Homework/Tasks | 10% |  |  |  |  | \* |  | \* |  |  |
| Case Study  |  |  |  |  |  |  |  |  |  |  |
| Discussion and Interactions |  |  |  |  |  |  |  |  |  |  |
| Group Activities |  |  |  |  |  |  |  |  |  |  |
| Laboratory Exams |  |  |  |  |  |  |  |  |  |  |
| Presentations |  |  |  |  |  |  |  |  |  |  |
| Quizzes | 10% |  | \* |  |  |  | \* |  |  | \* |
| Others |  |  |  |  |  |  |  |  |  |  |
| **Total** | 100% |  |  |  |  |  |  |  |  |  |

 **Components**  |
| **Book** | Biostatistics: a foundation for analysis in the health sciences, 6th-9th editions, Wayne Daniel |
| **References** | Biostatistics: a foundation for analysis in the health sciences, 6th-9th editions, Wayne Daniel |
| **Recommended Readings** |  |
| **Electronic materials** |  |
| **Other websites** |  |

**Subject Coordinator:**

**Dr. Yasser Gaber**

**Head of Curriculum Committee:**

**Department Head:**

**Faculty Dean:**

**Last update date**