

**Module (Course Syllabus) Catalogue**

**2023-2024**

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| **College/ Institute** | **Erbil Technical Health College** | |
| **Department** | **Physiotherapy** | |
| **Module Name** | **Research Methodology and Biostatistics** | |
| **Module Code** | **REM504** | |
| **Degree** | **Technical Diploma Bachelor High Diploma Master PhD** | |
| **Semester** | **4th** | |
| **Qualification** | **M.A. In Educational Psychology, and Ph.D. in Curriculum and Education** | |
| **Scientific Title** | **Lecturer** | |
| **ECTS (Credits)** |  | |
| **Module type** | **Prerequisite Core Assist.** | |
| **Weekly hours** | **4hr** |  |
| **Weekly hours (Theory)** | **( 2 )hr Class** | **( 60 )Total hrs Workload** |
| **Number of Weeks** | **12** | |
| **1st Lecturer** | **Dr. Zhwan Dalshad Abdullah** | |
| **E-Mail & Mobile NO.** | [**Zhwan.dlshad@epu.edu.iq**](mailto:Zhwan.dlshad@epu.edu.iq) | |
| **2nd Lecturer** | **Ghariba Ali** | |
| **Websites** | [**Ghariba.ali@epu.edu.iq**](mailto:Ghariba.ali@epu.edu.iq) | |

**Course Book**

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| **Course**  **Description** | The goal of this course is for students to acquire knowledge regarding what is research methodology and biostatistics, what are the types of research designs, steps in the research process: Identifying a research problem, Reviewing the literature, Specifying a purpose and research questions or hypotheses, Collecting either quantitative or qualitative data, Analysing and interpreting either quantitative or qualitative data, Reporting and evaluating the research. | | | | |
| **Course objectives** | The main objective of the Research methodology and Biostatistics course would be that students will be able to:  - begin to conduct research.  - input data in SPSS program.  - read and evaluate research studies.  - Identify the type of research designs associated with quantitative and qualitative, and Identify the characteristics of quantitative and qualitative research.  - Distinguish between the types of research Variables.  - Identify a problem that defines the goal of research  - Gather data relevant to the research using the appropriate research instrument.  -Identify the population and using sampling techniques to determine the sample size of the study.  - Analyse and interpret the data via SPSS techniques to see if it supports the prediction and resolves the question that initiated the research. | | | | |
| **Student's obligation** | • Reading and understanding of study notes  • Participation in forum, lab and class exercise and discussions  • Seminar presentation  • Participation in active communication with the lecturer  • Regular assignment submission | | | | |
| **Required Learning Materials** | Lectures notes, videos, audios, homework exercises, self-study, Hall, projector. | | | | |
| **Evaluation** | ‌ **Task** | | **Weight (Marks)** | **Due Week** | **Relevant Learning Outcome** |
| Paper Review | |  |  |  |
| **Assignments** | Homework | %14 | 3rd & 7th | 2,6,7&,9 |
| Class Activity | %2 | All | All |
| Report | %8 | 12th | From 2- to 9 |
| Seminar | %8 | 11nd | 9 |
| Essay | %8 | 6th | 2&7 |
|  |  |  |  |
| Quiz | | 4% | All | All |
| Midterm Exam | | 16% |  |  |
| Final Exam | | 40% |  |  |
| Total | | 100% |  |  |
| **Specific learning outcome:** | **1**-Ability to develop general knowledge in Research Methodology & Biostatistics, and understand the subjects of the module.  **2-** Ability to write problem statement using the keys.  **3**- Ability to locate the database and research studies to write a literature review, and following the appropriate writing style for citation and referencing.  **4-** Ability to adapt or adopt the appropriate instrument to collect the data.  **5-** Ability to determine the appropriate sampling techniques based on research design.  **6-** Ability to input data and analyze based on SPSS program, and interpret the outcome of the data.  **7-** Ability to write the research objectives, questions, and hypothesis based on the purpose of research.  **8-** Ability to use the Descriptive Statistics or Inferential Statistics based on research design.  **9-** Ability to write a discussion and conclusion of the study findings and the citations with referencing. | | | | |
| **Course References‌:** | * Main textbook - Study notes * References textbook and data (Journal, report, website and ETC.) * John W. Creswell, Planning, Conducting, and Evaluating Quantitative and Qualitative Research, 2012 * <http://repository.unmas.ac.id/medias/journal/EBK-00121.pdf> * Indrayan, Abhaya. 2012. Medical Biostatistics, Third Edition * CHAP T. LE. 2003. INTRODUCTORY BIOSTATISTICS, John Wiley & Sons   <http://www.hstathome.com/tjziyuan/Introductory%20Biostatistics%20Le%20C.T.%20%20(Wiley,%202003)(T)(551s).pdf>  **Additional Materials**   * YK Singh · 2006. Fundamental of Research Methodology and Statistics * <https://mfs.mkcl.org/images/ebook/Fundamental%20of%20Research%20Methodology%20and%20Statistics%20by%20Yogesh%20Kumar%20Singh.pdf> | | | | |
| **Course topics (Theory)** | | | | **Week** | **Learning Outcome** |
| L01: Definition of Biostatistics, General Purposes of statistics, Populations and Samples, What are they? | | | | 1st | 1 & 2 |
| **L02:** **Sampling Techniques, Types of Variables, and Types of research design.** | | | | 2nd | 2 |
| **L03: Descriptive Statistics Vs. Inferential Statistics,**  **Frequency Distribution** | | | | 3rd | 3 |
| **L04: Class midpoint, and Class Boundaries** | | | | 4th | 4 & 5 |
| **L05: Central tendency**  **Mean, Median, and Mode I** | | | | 5th | 7 |
| **L06** **Central tendency**  **Mean, Median, and Mode II** | | | | 6th | 3,4,6&8 |
| **Midterm Exam** | | | | | |
| **L07: Three measures of variability**  Variation, Range, Standard deviation. | | | | 7th | 5 |
| **L08: Pilot study, Types of Reliability. Internal consistency and Test retest** | | | | 8th | 6&8 |
| **L09: Normal distribution and Z-score** | | | | 9th | 6 |
| **L10: T. test and Correlation** | | | | 10th | 9 |
| **L11: Reporting the findings** | | | | 11th | 3 |
| **L12: Seminar presentation** | | | | 12th | From 2- to 9 |
| **Final exam** | | | | | |
| **Questions Example Design**  Q.1) | | | | | |
| **Extra Note** | | | | | |
| **External evaluator** | | | | | |