



Ministry of Higher Education & Scientific Research
Paitaxt Technical institute-Private
Pathological Analytics Department- 2st stage

Course Catalogue

General information

Institute	Paitaxt Technical institute-Private
Department	Pathological Analytics
Course title	Scientific Research Methods
Lecturer	
Language	English
Course Level	Diploma
Period	Academic 2023-2024
Contact	
Class Hours	Schedule
Course Type	Compulsory
Time(per week)	Theory: 1 hour Practical :1 hour

Course Overview:

During this course, you will develop your own research project. You will make a proposal, survey the review literatures to help improve your hypothesis, work with your supervisor to design a suitable biostatistics design suited to your research project.

Keep suitable notebook with you and write up all about the project plans.

Course Objective:

1. To understand the basic principles of Research Methodology.
2. To provide the student with the basic knowledge of scientific Research methods.
3. To study the main characteristics and techniques towards practicing a good research.
4. To provide an understanding of antimicrobial agents and infectious diseases.
5. To teach the basic principles and methods for proposing, designing, reviewing, presenting and writing a scientific research.

Skills:

Students should be able to:

- Generate questions/hypotheses and design appropriate experiments to answer or test them.
- Work in groups to solve scientific questions or problems.
- Access the scientific literature and evaluate its reliability and usefulness in their projects
- Use computers and biostatistics to analyze experimental data
- Report experimental or project results as a scientific poster presentation

- Report project results as a research journal-style paper
- Discuss research topics in pathological analysis with one another and with other Professors.
- Use PowerPoint to present their ideas to a larger group

Student's obligation:

Class attendance regularly 85-90% of lectures each week 5 minutes before meantime of lecture is must. The students should also submit homework and assignments, accomplish extra classroom requirements such as preparing scientific research proposals and reports, presentation and seminars and also be ready for performing quizzes, mid-term and final exams, participate in the discussions inside study halls in order to pass successfully.

Forms of Teaching:

Lecture notes prepared in Microsoft Word and presented to the students using PowerPoint Data Show and classroom Board or through online (e-learning). The lecture indicates, introduction, explain every slide show and if there is any question for the students. The lecture ends with several sample questions and given answers. The notes are usually given to the students on a Disc/USB flash memory stick and by hand-out and a copy to be placed on the college website.

Discuss and solve the exam questions and place a copy of answers into their notes after giving several ways of answering. The corrected papers are given to the students for reviewing their errors. Exam answer papers are to be saved for future references. The exam paper covers most of the lectures and indicated:

Exam instructions, selective answers, definitions, mechanisms, explanations, Drawings, write an essay, diagrams, differences...etc. The exam questions usually clear, direct and obvious. Every student activity is recorded, saved and notes will be taken by the students as well as by the lecturer for all over the academic year.

This course takes a constructive view of the learning process: it will make you think and talk and learn in new ways! Two third of lecture periods will consist of traditional lectures, but 15 minutes will evolve into highly interactive discussion sessions. This means you must come to class prepared, having done the assigned reading ahead of time, so that you can take part in group discussions. Some days you will be working in groups to analyze research papers or to discuss specific project. You may need to meet with your group outside of scheduled class time to do some of this work.

Class reports and research project proposals:

Every student or small grouping students must prepare a report about a subject regarding research methods. Each report or proposal must include the following information: the logo of university or the Institute, the name of college or department, student's name, the title of the report, short description and brief introduction about the subject, aims of the report, short review literature, prospects and overviews and finally the references. Each student or small group is present

his/her/there reports as a seminar (presentation) to confirm their capability to speak about a scientific subject in front of gathering in a teaching hall.

Assessment scheme

Final exam: 50 marks

Course exams: 50 marks including:

Theory and Practical: 35 marks

Attendance and activity: 5 marks

Quizzes and seminars: 10 marks

Student Learning Outcome:

By the end of the course, the students are being able to:

- 1- Develop advanced academic knowledge about the concepts and principles of research methodology.
- 2- Cover the importance of and the history background of this subject.
- 3- Detail knowledge about the research and its applications.
- 4- Having knowledge about the up-to-date advancing and development in this field of subject
- 5- They could be familiar with the modest data analysis and presentation.

Course Reading list

Week	Topics	
1	Introduction to writing research report- Definition- Steps of conducting an academic research	
2	Basic structures of research- choosing an issue or problem- introduction- findings and discussion, conclusion and recommendation	
3	Research proposal- different types of proposals- Characteristics and organization of a proposal	
4	Data collection –How collect the data for research- Description of Primary and Secondary data	
5	Techniques involved in data collection- questionnaires, interviews, Observation and Experiments.	
6	Data processing, interpretation and presentation- data analysis-steps in analyzing data.	
7	Examining the data collected-sorting the data-coding and recording the data	
8	Statistics and Biostatistics involved in academic research writings.	
9	Research report writing –definition of research writing- strategies of writing sentences and paragraphs- Correct and acceptable written language of a research	
10	Different elements in the preliminary and supplementary sections of the research.	
11	Research report writing- main section- discussion on the introductory section- background of the study- the purpose – scope and method of data collection.	
12	How to write and discuss the findings of the research- the core part of research writing	
13	Different ways to conclude the findings and write the recommendations for the research-Writing the references. Oral presentation of the research findings- the elements of effective oral presentation.	
14	Research Ethics- copy writes- publishing the research General	

References:

1. Abdul Majid N., Yusoff M.A., Abdulla, T., et el. (2007). Academic Report Writing; 7th edi., Pearson Malaysia Sdn. Bhd., prentice Hall Companies. Kuala Lumpur, Jakarta, New Delhi.
2. Bell, J. (1993). Doing your research project: a guide for first-time researches in education and social science. Buckingham: Open University Press.
3. Comfort, J. (1995). Effective Presentation. New York: Oxford University Press.