

Research Methods in Food and Nutrition

Course Code	Title of Course	Credit Hours
HND-415	Research Methods in Food and Nutrition	2(1-1)

Learning Outcomes:

Students will be able to:

- Understand the fundamentals of research methods in nutrition, including the objectives and types of research, such as basic and applied, quantitative and qualitative, and clinical and diagnostic studies.
- Differentiate between probability and non-probability sampling methods and apply appropriate sampling techniques in research.
- Master various data collection methods relevant to nutrition research, including surveys, interviews, and laboratory analyses.
- Develop the ability to write scientific documents, including research synopses, proposals, articles, references, and internship reports, following established academic and ethical standards.

Course Contents:

Theory:

Research methods in nutrition: Introduction, objectives, types of research: basic and applied, quantitative and qualitative, clinical and diagnostic; Types of sampling: probability and non-probability; Collection of literature: printed and electronic sources, managing literature; Methods of data collection; Writing scientific documents: synopsis, research proposal, articles, references, internship report. Overview of Research designs: observational studies, cross-sectional, case-control, cohort (prospective, retrospective, and time-series); Experimental studies: observational studies, clinical studies. Experimental data analysis: incidence/ prevalence rate; Research ethics.

Practical:

Survey design and questionnaire construction; sample size calculation; quantitative data collection in nutrition (24-hour recall, FFQ, anthropometry); qualitative methods such as interviews and focus groups; data management in statistical software; developing and writing original research articles and review articles; research proposal and synopsis writing; research ethics and IRB submission simulation including development of consent forms and participant information sheets; presentation of research findings through posters and oral summaries; preparation and of a mini research project report.

Suggested Readings:

Textbook:

1. Lovegrove, J.A., L. Hodson, S. Sharma and S.A. Lanham-New. 2015. Nutrition Research Methodologies. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK

Reference Books:

1. Awan, J.A. 2015. Scientific Presentations. Unitech Communications, Faisalabad, Pakistan.
2. Lowe, M. 2007. Beginning Research: A Guide for Foundation Degree Students, 1st ed. Routledge Publications, New York, USA.
3. Starks, T.P. 2006. Trends in Nutrition Research. Nova Science Publishers, Inc., New York, USA.
4. Walliman, N. 2021. Your Research Project: A Step by Step Guide for The First time Researcher, 5th ed. Sage Publications, Thousand Oaks, CA, USA.