**COURSE TITLE: RESEARCH METHODS IN NUTRITION**

**COURSE NUMBER:** HND-607 B.Sc (Hons.) HND 7th Semester

 **CREDIT HOURS:** 3(3-0)

**NAME OF THE TEACHER OFFERING COURSE:** DR ASIF AHMAD

**COURSE OBJECTIVES**

* To apply tools and skills required to understand published research
* To identify the types of methods best suited for investigating different types of problems and questions
* To get hands-on training of writing successful research proposals for thesis and projects
* To abreast ethical consideration in research and publications
* To familiarize the students with the chemistry of different foods and food components with greater focus on structural formulae of vital nutrients and how chemistry effect during processing.

**COURSE OUTCOMES:**

* After completion of the course students will have a knowledge about how to plan, carry out and publish research
* Students will be able to investigate different types of research problems
* Scientific writing skills of students will be improved

**WEEK & LECTURE-WISE SYLLABUS BREAKDOWN:**

|  |  |  |
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| **WEEK** | **LECTURE #** | **CONTENT TO BE COVERED** |
| 1 | 1 | Introduction |
| 2 | Objectives and Importance of research |
| 3 | Types of Research: Basic research |
| 2 | 4 | Applied research |
| 5 | Quantitative research |
| 6 | Qualitative research |
| 3 | 7 | Clinical research |
| 8 | Phases of clinical research |
| 9 | Diagnostic research |
| 4 | 10 | Sampling & its significance |
| 11 | Probability sampling |
| 12 | Probability sampling |
| 5 | 13 | Non-probability sampling |
| 14 | Quiz |
| 15 | Collection of literature: Printed Source |
| 6 | 16 | Electronic sources of literature collection |
| 17 | Literature Management |
| 18 | Data collection & its significance |
| 7 | 19 | Data collection : Surveys |
| 20 | Data collection : Questionnaire |
| 21 | Data collection : Interviews |
| 8 | 22 | Data collection: Observations |
| 23 | Revision |
| 24 | Revision |
| 9 |  | Mid Test |
|  | Mid Test  |
|  | Mid Test |
| 10 |  | Mid Test |
|  | Mid Test |
| 11 | 25 | Writing Scientific documents and their importance |
| 26 | Synopsis |
| 27 | Research Proposal |
| 12 | 28 | Research Articles |
| 29 | Review Articles |
| 30 | References |
| 13 | 31 | Internship Report |
| 32 | Importance of Research designs |
| 33 | Observational research |
| 14 | 34 | Observational research |
| 35 | Cross-sectional research |
| 36 | Case Control research |
| 15 | 37 | Case Control research |
| 38 | Cohort studies |
| 39 | Cohort studies |
| 16 | 40 | Quiz |
| 41 | Experimental studies |
| 42 | Clinical studies |
| 17 | 43 | Clinical studies |
| 44 | Experimental data analysis |
| 45 | Incidence study design |
| 18 | 46 | Prevalence study design |
| 47 | Research Ethics |
| 48 | Revision |

## Recommended Book

1. Awan, J.A. 2015. Scientific Presentations. Unitech Communications, Faisalabad, Pakistan.
2. Lovegrove, J.A., L. Hodson, S. Sharmaand S.A. Lanham-New. 2015. Nutrition Research Methodologies. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Lowe, M. 2007. Beginning Research: A Guide for Foundation Degree Students, 1st ed. Routedge Publications, New York, USA.
4. Starks, T.P. 2006. Trends in Nutrition Research. Nova Science Publishers, Inc., New York, USA.
5. Walliman, N. 2005. Your Research Project, A Step by Step Guide for The First-time Researcher, 2nd ed. Sage Publications, Thousand Oaks, CA, USA.

***Institute of Food and Nutritional Sciences***

## B.Sc.(Hons.) Human Nutrition and Dietetics

 **HND 607 RESEARCH METHODS IN NUTRITION 3(3-0)**

**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. Research designs: observational studies, cross-sectional, case-control, cohort (prospective, retrospective, time-series); Experimental studies: observational studies, clinical studies. Experimental data analysis: incidence/ prevalence rate; Research ethics.

**Suggested Readings:**

1. Awan, J.A. 2015. Scientific Presentations. Unitech Communications, Faisalabad, Pakistan.
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