

ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Home & Health Sciences)

Course: Nutritional Epidemiology (7505)
Level: Post Graduate

Semester: Spring, 2014
Credit Hours: 3(3+0)

CONTENT LIST

Following items are included in the study pack:

1. Course Book Unit (1–9)
2. Course Outline Unit (1–9)
3. Theory Assignment Two
4. Assignment Forms Eight
5. Schedule for Submitting the Assignment & Tutorial Meetings.

Note: If any item from the above-mentioned content is missing from your study pack kindly contact:

Mailing officer
Mailing section
Services & Operational Block
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WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Course: Nutritional Epidemiology (7505)
Level: Postgraduate
Total Marks: 100

Semester: Spring, 2014
Credit Hours: 3 (3+0)
Pass Marks: 40

ASSIGNMENT No. 1

Units: (1–4)

Note: Answers the following questions. Distribution of marks is given against each question.

- Q. 1 a) Summarize the sampling and time order of study design used in nutritional epidemiological studies. (08)
- b) Explain the issues faced by epidemiologist, while conducting different types of epidemiological studies. (08)
- Q. 2 Elaborate on steps taken into account in designing of nutritional epidemiological studies? Explain with the help of schematic diagram and examples. (16)
- Q. 3 Discuss the importance of sampling, study size and power in epidemiological studies? Explain the techniques of sampling with examples. (16)
- Q. 4 Describe covariate measurement errors in nutritional epidemiology with the help of suitable examples. How can we minimize these errors as researcher? (16)
- Q. 5 Explain "Regression Model"? How would you apply this model for incidence and prevalence type of data? (16)
- Q. 6 Write short notes on the following:
- a) Role of Meta-Analysis to Draw Causal Inferences (10)
- b) Null and Alternate Hypothesis (10)

ASSIGNMENT No. 2

Units: (5–8)

Total Marks: 100

Pass Marks: 40

Note: Answers the following questions. Distribution of marks is given against each question.

- Q. 1 Biochemical markers are predictors of nutrient intake and nutritional status. Discuss with the help of examples. (16)
- Q. 2 a) Discuss the importance of accurate measurement of food consumption and nutrient intake in nutritional epidemiological studies. (08)
- b) Explain the techniques, uses and limitations for assessment of food consumption and nutrient intake at household levels. (08)
- Q. 3 Define validity. Discuss the factors affecting the design of validation studies. (16)
- Q. 4 What are the requirements of a good food composition table? Discuss with special reference to nutritional epidemiological studies. (16)
- Q. 5 Explain the merits and demerits of Food Frequency Questionnaire (FFQ) and Twenty Four- hour recall in detail. (16)
- Q. 6 Write short notes on the following:
- a) Effect of measurement error on validity (10)
- b) Validation techniques (10)

STUDENT GUIDE

Course: Nutritional Epidemiology (7505)
Level: Post Graduate

Semester: Spring, 2014

Dear Student,

We welcome you to this AIOU Post Graduate Level course of Nutritional Epidemiology (7505) which is one of the compulsory courses of Post Graduate Diploma in Nutrition for Physicians and later on M.Sc. Community Health & Nutrition. Its course book comprises of 1-9 units.

1. Course objectives:

- a. To have an overview of the principles of Nutritional Epidemiology.
- b. To have thorough understanding of Design, Planning and Evaluation of Nutritional Epidemiological studies.
- c. To know and understand the Use of Food Composition Tables and Validation of Dietary Assessment.

2. Details of the Course (Course contents are attached for quick reference) Students should read the following details of the course carefully.

2.1 Study Book

Nutritional Epidemiology (7505) is having a weightage of 3(3+0) credit hours. It means three credit hours for theory only having no practical component. In this course focus is given to conduct Nutritional epidemiological research. A brief list of the contents is given. These are covered in detail in the text book provided in the study packet. The relevant material in the papers/articles in research journals magazines available at their local libraries could also be helpful. Further you can discuss the different topics in the study session and in workshop with your class fellows, tutors and with resource person. It will help you in uplift and enlighten your knowledge and information about a specific topic.

2.2 Part Time Tutor for Lectures

You are allocated a part time tutor. The name and address of your tutor will be provided later. The tutor will help and guide you in studying the book and conducting activities related to study units. You are expected to take full advantage of the tutor's knowledge and experience. These tutors are also responsible for marking your assignments. Make all efforts to complete your written assignment in time according to the prescribed schedule. Try your best to attend all the study sessions according to the time table provided to you.

2.3 Assignments

This course includes two theory assignments which are compulsory for successful completion of whole course i.e. each assignment is of 100 marks, out of these students obtaining a minimum of 40% marks will be declared pass. Therefore it is important to submit the assignments well prepared and in time. The schedule of submitting the assignment is being provided separately. Please follow the schedule. The tutor will send the marked assignment back to you within fifteen days. If you do not receive the marked assignment within fifteen days please contact your tutor or your local regional office of the Allama Iqbal Open University.

Never forget to attach the prescribed forms duly filled along with the complete assignments. The study units on which each assignment is based are identified. However for your convenience we are providing the related information for follow up.

Assignment No.	Units
1	1-4
2	5-8

3. Method of Study

A study period of sixteen weeks has been allocated for studying this course through distance learning whereas seventeenth and eighteenth weeks are kept for general assessment and for final examination. You are expected to spend four weeks on studying first two units of the book. This will help to improve your reading speed and get familiar with the contents of the units.

Sr. No	Unit No.	Assignment No.	Study period
1.	1-2	1 st	Four weeks
2.	3-4		Four weeks
3.	5-8		Four weeks
4.	9	2 nd	Four weeks
5.	Preparation for Exams		Two weeks

The next two units i.e. 3 & 4 will be easier for you and you will be able to study them in comparatively less time. You can spend three weeks on studying these two units. During the eighth week you can complete your 1st assignment and dispatch it to your tutor.

Unit 5, 6, 7 & 8 can be studied during 9th, 10th, 11th and 12th week and the last unit i.e. unit- 9 can be studied in the 13th week and the 2nd assignment can be completed along with 14th, 15th and 16th week.

The last two weeks can be kept for examination and its preparation. It is therefore necessary to study the units completely before starting work on assignments.

4. Workshop

Workshop will be arranged for three days. Schedule of the workshop and venue will be sent to you during the study period. Workshop will cover some of the lectures of the specialists on important topics. The tutor will provide guidance for the workshop. Attendance in workshop is compulsory for all the students.

5. Final Examination

At the end there will be a final examination for each course. You will be expected to take this examination in the examination halls specially established for this purpose.

Course Coordinator

ALLAMA IQBAL OPEN UNIVERSITY ISLAMABAD
Department of Home and Health Sciences

Course: NUTRITIONAL EPIDEMIOLOGY (7505)

Level: Post Graduate

Credit Hours: 3(3+0)

- UNIT 1: OVERVIEW OF THE PRINCIPLES OF NUTRITIONAL EPIDEMIOLOGY**
- Objective of Nutritional Epidemiological
 - Research Types of Epidemiological Studies
 - Epidemiological Measurements
 - Interpretation of Epidemiological Research: *(the Role of Chance, Bias and Consideration of Effect of other Variables)*
 - Systematic Reviews and the Role of Meta-Analysis
- UNIT 2: DESIGN, PLANNING AND EVALUATION OF NUTRITIONAL EPIDEMIOLOGICAL STUDIES**
- Introduction
 - The Design and Planning of Nutritional Epidemiological Studies
 - New Issues in Study Design and Use of Computers
 - Evaluation of Study Design.
- UNIT 3: SAMPLING, STUDY SIZE AND POWER STUDY**
- Types of Sampling
 - Variability
 - Sample Size
 - Power of Studies
- UNIT 4: COVARIATE MEASUREMENT ERRORS IN NUTRITIONAL EPIDEMIOLOGY; EFFECTS AND REMEDIES**
- Modeling Disease- Covariate Relationships
 - Measurement Errors and Bias in epidemiological Studies
 - Covariate Measurement in Linear Regression
 - Correcting for Measurement Error
 - Scale Bias and Calibration Confounding Measurement Errors
- UNIT 5: FOOD CONSUMPTION, NUTRIENT INTAKE AND THE USE OF FOOD COMPOSITION TABLES**
- Introduction and the use of Food Analysis in Determining Nutrient intake.
 - Food Consumption Tables and Nutrient Databases
 - Calculation on Nutrient Intake from Data on Food Intake and on the Composition of Foods.
 - Food Groups and Food Scores.

UNIT 6: HOUSEHOLD SURVEYS

- Introduction
- Characteristics of Household Data
- Techniques, Uses and Limitations
- Using Household Surveys in Epidemiological Studies

UNIT 7: INDIVIDUAL SURVEYS

- Methods for Assessment of Present or Recent Data
- Food Composition Tables
- Measurement Error in Dietary Assessment
- Energy Adjustment, Effects of Measurement Error on Validity
- Adjustment of Intake in the Distant Past
- Problems of Retrospective Assessment in Population Sub Group

UNIT 8: BIOCHEMICAL MARKERS OF NUTRIENT INTAKE

- Prediction of Nutrient Intakes from the Values of Biochemical Markers of Nutrient Status
- Markers of Dietary Intake: Inorganic Nutrients
- Markers of Dietary Intake: Lipids, Protein, Dietary Fiber and Energy

UNIT 9: THE VALIDATION OF DIETARY ASSESSMENT

- The Context of Validation, Validation Techniques
- Factors Affecting the Design of Validation Studies
- Statistical Techniques and Interpretation

Recommended Books:

- 1) Barrie M. Margetts and Michael Nelson. Design Concepts in Nutritional Epidemiology (1997), Oxford Printing Press.
- 2) Walter Willet, Nutritional Epidemiology, (1998), Oxford University Press.
- 3) Spark Arlene. J. Nutrition in Public Health: Principles and Practice. (2007)–CRC Press.

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