Course Syllabus

1	**Course title**	Research Methodology
2	**Course number**	(0603391)
3	**Credit hours**	2
	Contact hours (theory, practical)	2 theory
4	**Prerequisites/corequisites**	603202
5	**Program title**	Human Nutrition and Dietetics
6	**Program code**	043
7	**Awarding institution**	The University of Jordan
8	**School**	Faculty of Agriculture
9	**Department**	Nutrition and Food Technology
10	**Level of course**	Bachelor of Science
11	**Year of study and semester (s)**	2nd semester 2019-2020
12	**Final Qualification**	BSc.
13	**Other department (s) involved in teaching the course**	
14	**Language of Instruction**	English
15	**Date of production/revision**	June 2020

16 Course Coordinator:

Name: Dr. Rima H. Mashal
Office number: # 102 Phone number: Ext. 22406 Email: rima@ju.edu.jo

17 Other instructors:

Name:
Office number:
Phone number:
Email:

18 Course Description:

Basic of nutrition science research, with emphasis on the systematic process of identification and defining of research problems, formulation of hypotheses, quantitative and qualitative techniques for the collection and analysis of data, and the ethics of scientific research; development of a research proposal and training of the student on critical reading of research papers.

19 Course aims and outcomes:

A- Aims:

At the end of this course the student should be able to:

- Understand research terminology, basic principles and research process.
- Be aware of the ethical principles of research, ethical challenges and approval processes
- Understand the basic principles and processes of developing a research proposal.
- Describe quantitative, qualitative and mixed methods approaches to research
- Gain an understanding of the appropriate applications of the various research methods.
- Perform parametric and non-parametric hypothesis tests (t-tests, Wilcoxon rank sum, ANOVA); and interpreting their results.
- Develop introductory skills in writing up a research proposal for a program evaluation or needs assessment.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

A. Knowledge and Understanding: Student is expected to

A1- Understand the concept of academic research through critical exploration of research language, ethics, and approaches.

A2- Know the elements of the research process within quantitative, qualitative, and mixed methods approaches.

A3- Be familiar with the scientific methods of experimental design, data collection and statistical analysis.

A4- To be able to formulate a research problem or hypothesis for investigating a specific topic in human nutrition and dietetics and food science and technology.

B. Intellectual Analytical and Cognitive Skills: Student is expected to

B1- To identify various sources of information for literature review and data collection.

B2- Be able to analyze and interpret quantitative data.

B3- Identify, explain, compare, and prepare the key elements of a research proposal/report.

B4- Explain the rationale for research ethics, and the importance of and local processes for Institutional Review Board (IRB) review.

C. Subject- Specific Skills: Students is expected to:

C1- Write a research proposal about a theme of the program "human nutrition and dietetics" and/or "food science and technology".

C2- Examine the main components of a research framework i.e., problem definition, research design, data collection, ethical issues in research, report writing, and presentation.

C3- Describe sampling methods, measurement scales and instruments, and appropriate uses of each.

C4- Perform literature reviews using print and online databases.

D. Transferable Key Skills: Students is expected to

D1- Critically analyze published academic research in the field of human nutrition and dietetics and food science and technology.

D2- Demonstrate how academic research contributes to the objectives of specific career aspirations in the field of human nutrition and dietetics and food science and technology.

20. Topic Outline and Schedule:

Topic	Week	ILO/s	Evaluation Method	References
1. Introduction to Research and the Research Process	1st week	A1		Lecture Notes, Handouts
a. Concepts, Constructs, Variables, and Definitions		A1, B1	Exams, Quizes,	Lecture Notes, Handouts
2. <u>Types of Research Designs:</u> Cross-sectional studies; Prospective study and Retrospective study: Case-control study and Cohort study; Randomized controlled trial.	2nd and 3rd week	A2, A3,C2	Exams, Quizes, Take-home assignment	Ref. 1
3. <u>Statistical Analyses and Interpretations:</u> a. Compare means (ANOVA) b. Correlation and Regression: Odds Ratio, Relative risk (RR), B coefficient…etc. c. Causality, Incidence, Prevalence, Dose-response relationship,	4th & 5th week	A3, B2, D1	Exams, Quizes, assignments.	Lecture Notes, Ref. 1
4. Ethical issues in conducting research: - Local processes for Institutional Review Board (IRB) review.	6th week	B4, C2, D2	Exams, Quizes	
5. The main components of a research proposal: - literature reviews using print and online databases	6th& 7th week	B1,C4	Exams, Quizes, assignments	Recent Review Articles. Lecture Notes,
6. Sampling methods, measurement scales/instruments	7th& 8th week	A3,C2	Exams, Quizes, assignments	
7. How to write a research proposal	7-8th week	B3, C1, D1	Exams, assignments	Lecture Notes, Ref. 1
8. Oral Presentations on selected topics in the field of human nutrition and dietetics and food science and technology.	7-12th week	A4, C2, D1	-Oral report assignments	Recent Review Articles.

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

ILO/s	Learning Methods
A. Knowledge and Understanding (**A1-A4**)	Lectures and Discussions
B. Intellectual Analytical and Cognitive Skills (**B1-B4**)	Lectures and Discussions
C. Subject Specific Skills (**C1-C4**)	Lectures and Applications. Group discussions and oral presentations
D.Transferable Key Skills (**D1-D2**)	Lectures and Applications. Oral presentations

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Learning Methodology

Regular class periods will be in a lecture and discussion format. Term paper and oral presentations will provide hands-on experience on research methodology including basic concepts employed in quantitative and qualitative research methods. Students are expected to attend class, and complete all assignments, and to participate in discussions.

Projects and Assignments

- Each student is to a research proposal. The proposal is to be on a related topic of particular interest to the student. For the paper, the student should utilize reference material to discuss their topics.
- The proposal will be presented to the class as scheduled.

Evaluation

ILO/s	Evaluation Methods
A. Knowledge and Understanding (**A1-A4**)	Exams and reading assignments.
B. Intellectual Analytical and Cognitive Skills (**B1-B4**)	Exams, Oral Reports.
C. Subject Specific Skills (**C1-C4**)	Exams , Reports & assignments.
D.Transferable Key Skills (**D1-D2**)	Reports& assignments.

A- Attendance policies:

B- Absences from exams and handing in assignments on time:

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

- Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the module coordinator (for multiple sections) who will take the concerns to the module representative meeting. Thereafter, problems are dealt with by the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.

- For more details on University regulations please visit:

  http://www.ju.edu.jo/rules/index.htm

E- Grading policy:

Exam	%	Date
Midterm Exam	30	
Assignments: Proposal Oral Report	 10 10	
Final	50	

F- Available university services that support achievement in the course:

24. Required equipment: (Facilities, Tools, Labs, Training….)

Classrooms, Smart boards

25. References:

A- Required book(s), assigned reading and audio-visuals:

1. Kumar, Ranjit. Research Methodology - A step-by-step Guide for Beginners. 2nd Ed. London: SAGE Publications.

B- Recommended books, materials, and media:

1. Creswell, J. W. Research design: Qualitative, quantitative and mixed methods approaches. 5th Ed. Thousand Oaks, CA: Sage, 2018.
2. Pawar, B.S. (2009). Theory building for hypothesis specification in organizational studies, Response Books, New Delhi.
3. Neuman, W.L. (2008). Social research methods: Qualitative and quantitative approaches, Pearson Education

26. Additional information:

Name of Course Coordinator: **Dr. Rima H. Mashal** Signature: ---------- Date: ----------

Head of curriculum committee/Department: ---------- Signature: ----------

Head of Department: ---------- Signature: ----------

Head of curriculum committee/Faculty: ---------- Signature: ----------

Dean: ---------- -Signature: ----------