Syllabus: Computer Applications in Clinical Nutrition &Dietetics (140502370)
First Semester 2026 /2027

COURSE INFORMATION	
Course Name: Applying computer in nutrition and dietetics Semester: First semester Department: Department of Clinical Nutrition and Dietetics Faculty: Applied Health Sciences	Course Code: 140502370 Section: 1 Core Curriculum: Elictive
Day(s) and Time(s): Sunday 11:30-12:30 Tuesday 11:30-12:30 Classroom: AMS 311	Credit Hours: 2 Prerequisite: 140502211,905021212 And 110108116

COURSE DESCRIPTION

This course covers the application of ready-made software in different fields of clinical nutrition and dietetics, with emphasis on practical use. It covers the fundamental concepts of using computer technologies and artificial intelligence (AI) in clinical nutrition and dietetics. It includes the study of software and digital technologies used in dietary analysis, estimating nutritional requirements, planning therapeutic diets, and assessing nutritional status. Students are also introduced to the principles of artificial intelligence and its modern applications in healthcare, and the use of Data Analytics and Machine Learning to support nutrition decisions. The course also addresses the ethics of using technology in nutrition, protection of patient data, and keeping pace with future developments in digital medicine and nutrition. The course introduces students to how specialized digital technologies, such as AI applications, NutriSurvey, ESHA Food Processor, and SPSS, can be used in food analysis, estimating requirements, diet planning, research support, and data analysis.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion
- Collaborative learning through small groups acting in an interdisciplinary context.
- Relevant films and documentaries
- Video lectures

- **E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team**

FACULTY INFORMATION

Name	**Nada Abdallah Saleh**
Academic Title:	**Assistant Tutor**
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Email Address:	**Nadaa_mo@hu.edu.jo**
Office Hours:	**Sunday 11:30-12:30 and 1:30-2:30** **Tuesday 10:30-11:30** **Wednesday 11:30-1:30** ***Please send an e-mail (nadaa_mo@hu.edu.jo) to meet at any other time.***

REFERENCES AND LEARNING RESOURCES

Required Textbook: There is no specific Textbook for the course, therefore course material relies on the literature and review papers that were published in high-quality journals, and the material will be provided regularly.

Suggested Additional Resources:

AI Tools: ChatGPT, Elicit, Zotero with AI, NutriAI, FoodAI, MyFitnessPal, ESHA Cloud.

Software: SPSS, Excel Copilot, Microsoft Power BI (optional introduction).

Useful Web Resources:

https://www.eatright.org/

https://www.myplate.gov

https://www.nutrition.gov/

https://www.eatright.org/

https://nutrition.ai/

https://pubmed.ncbi.nlm.nih.gov/

https://researchrabbitapp.com/

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:
Tel:
Location:
Email:

STUDENT LEARNING OUTCOMES MATRIX*				
Core Curriculum Learning Outcomes	**Program Learning Outcomes**	**Course Objectives**	**Course Student Learning Outcomes**	**Assessment Method**
To provide students with the optimum educational standard in the field of clinical nutrition and general knowledge in food technology	**KP1:** Demonstrate a depth understanding of the basis of nutritional science and the nutrient composition of food and discover the links between diet and disease and health	Develop competence in using various software and AI tools for nutrition data analysis and reporting.	CLO1: Use Microsoft Word, PowerPoint, and Excel to create professional nutrition documents, reports, and data visualizations enhanced by AI tools (e.g., Copilot, Grammarly).	Assignment
To provide optimal educational and training opportunities for students during their professional preparation for careers in nutrition.	**KP2:** demonstrate an understanding of food chemistry, technology, preparation, safety and correlates nutrition with food technology and future challenges**.**	Use SPSS and AI-based analytics tools for statistical analysis and interpretation of nutrition data.	CLO2: Apply SPSS and AI-assisted data analysis tools to interpret and present nutrition-related datasets effectively.	Quiz/ practical exercise
To participate in community services for health promotion and disease prevention programs	**KP3:** Explain the principles of cellular metabolic processes, the structure and function of the various physiological systems, and the principles of biochemistry	Use ESHA and AI-supported dietary assessment tools to perform accurate nutrient analyses and diet planning.	CLO3: Conduct and interpret nutrient analysis using ESHA and AI-driven nutrition applications (e.g., NutriSurvey, FoodData Central).	Exam
To encourage creativity and innovation in solving problems of emerging cases in the field of clinical nutrition	**KP4:** Providing students with high levels of educational quality based on training on specific pathological conditions in therapeutic nutrition.	Utilize online databases, scientific search engines, and AI research assistants for evidence-based nutrition practice.	CLO4: Search, retrieve, and critically evaluate nutrition evidence using PubMed, ScienceDirect, ChatGPT, .Elicit, and Gemini	Assignment
	SP1: Evaluate critically scientific research from a variety of sources in relation to nutrition and health through working with others, communication, self-management, and problem-solving and reflect on the various components	Apply AI-supported tools for literature analysis, research synthesis, and report writing.	CLO5: Evaluate and synthesize research data using AI tools (e.g., ResearchRabbit, Semantic Scholar) and present results clearly.	Quiz/ Assignment
To sustain the concept of collaboration to promote an appropriate diet solution in cases of health and disease	**SP2:** Communicate effectively with groups and individuals to promote the benefits of a balanced diet throughout the lifespan and demonstrate the ability to use scientific laboratory skills.	Enhance communication and presentation skills through AI-enhanced visual and verbal tools.	CLO6: Demonstrate professional and ethical use of AI and digital platforms for nutrition education, communication, and reporting.	Exam/ Presentation
	SP3: Assess diet, food and nutrient intake, and the consumption of food constituents in individuals and groups	Develop the ability to use AI-based software (e.g., ESHA, NutriSurvey, AnthroPlus) for dietary analysis and population-based nutrition studies.	CLO7: Assess and interpret individual and group dietary intake using AI-supported nutrition software and standardized dietary assessment tools.	Assignment
	CP1: Demonstrate consistent professional behavior in accordance with the legal and ethical boundaries of the dietetic profession	Integrate AI tools into data interpretation, client education, and decision support while maintaining ethical standards.	CLO8: Apply critical and ethical judgment when using AI tools for data analysis, patient communication, and clinical recommendations.	Assignment
	CP2: Critically apply knowledge of diet and health to evaluate and communicate and comment on			

	dietary or health information both from scientific sources.			
	CP3: Utilize the methods of data analysis using computer software and apply these methods to analyze data obtained from a wide variety of sources and situations, and apply critical thinking, testing hypotheses, formulating suggestions in diet and health			

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty.

Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.

- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
First Exam	30%	17/11/2026
Second Exam	30%	29/12/2026
Final Exam	60%	TBA

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.
Assignments: Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.
You are also expected to work on in-chapter examples, self-tests and representative number of end of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

Quizzes: Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce that you come prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

Week	Topic	Lecture hour
1-2	**Microsoft Word** -Introduction to MS Word -using basic functions -Learning formatting and editing options for the text and pages -inserting equations - Working with Tables, Table Formatting - Advanced document design for clinical reports, integrating AI tools (e.g., Grammarly, Word Copilot).	**2**
3-4	**Microsoft PowerPoint** - Setting Up PowerPoint Environment -Structure and creating slides - Working with Objects -Making presentations	2

	- Making brochures - Poster design - Making flow charts and designs	
5-6	**Microsoft excel** - Introduction to MS excel - Formatting excel work book - Perform Calculations with Functions - Create Effective Charts to Present Data Visually	2
7-8	**Using internet, websites and databases for nutritional purposes** -Introduction -NCBI -Google scholar - Exploring PubMed, ScienceDirect, and AI search assistants (Elicit, ResearchRabbit, ChatGPT) for clinical nutrition literature. -Using AI applications (Chat GPT, Gemini) and comparing their results with nutritional standards -Using Notebook LM - Nutrisurvey Application - Anthroplus Application - USDA food data central	2
9-11	**SPSS** - Installation of software - Introduction about the software - Using the software in analyzing the data	2
12-14	**ESHA** - Introduction about ESHA (the food processor)	2

	- Searching methods for an ingredient in a database - Analysis of ingredient nutrients - Inserting new ingredient	

Classroom Participation: Assessment Criteria					
Criteria	**Quality**				**Score**
	Excellent (4 points)	**Good (3 points)**	**Satisfactory (2 points)**	**Needs Improvement (1 points)**	
Degree to which student integrates course readings into classroom participation	- often cites from readings; - uses readings to support points; - often articulates "fit" of readings with topic at hand.	-occasionally cites from readings; - sometimes uses readings to support points; -occasionally articulates "fit" of readings with topic at hand .	-rarely able to cite from readings; - rarely uses readings to support points; - rarely articulates "fit" of readings with topic at hand	-unable to cite from readings; -cannot use readings to support points; cannot articulates "fit" of readings with topic at hand .	
Interaction / participation in classroom discussions	-always a willing participant, responds frequently to questions; - routinely volunteers point of view .	-often a willing participant, - responds occasionally to questions; - occasionally volunteers point of view .	-rarely a willing participant, - rarely able to respond to questions; - rarely volunteers point of view .	-never a willing participant., - never able to respond to questions; - never volunteers point of view .	
Interaction /participation in classroom learning activities	-always a willing participant; -acts appropriately during all role plays; - responds frequently to questions; - routinely volunteers point of view.	-often a willing participant; -acts appropriately during role plays; - responds occasionally to questions; -occasionally volunteers point of view.	-rarely a willing participant. -occasionally acts inappropriately during role plays; - rarely able to respond to direct questions; -rarely volunteers point of view .	-never a willing participant - often acts inappropriately during role plays;, - never able to respond to direct questions; - never volunteers point of view.	
Demonstration of professional attitude and demeanor	-always demonstrates commitment through thorough preparation; - always arrives on time; - often solicits instructors' perspective outside class.	- rarely unprepared; rarely arrives late; - occasionally solicits instructors' perspective outside class .	-often unprepared; occasionally arrives late; - rarely solicits instructors' perspective outside class .	-rarely prepared; - often arrives late; -never solicits instructors' perspective outside class	

Classroom Participation: Oral Presentation										
Element	**Excellent**		**Satisfactory**			**Needs Improvement**				***score***
	8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
Organization	▪ There is a logical sequence of information. ▪ Title slide and closing slide are included appropriately.		▪ There is some logical sequence of information. ▪ Title slide and closing slides are included.			▪ There is little or no logical sequence of information. ▪ Title slide and/ or closing slides are not included.				
Slide Design (text, colors, background, illustrations, size, titles, subtitles)	Presentation is attractive and appealing to viewers.		Presentation is somewhat appealing to viewers.			Little to no attempt has been made to make presentation appealing to viewers.				
Content	▪ Presentation covers topic completely and in depth. ▪ Information is clear, appropriate, and accurate.		▪ Presentation includes some essential information. ▪ Some information is somewhat confusing, incorrect, or flawed.			▪ Presentation includes little essential information. ▪ Information is confusing, inaccurate, or flawed.				
Language	▪ Spelling, grammar, usage, and punctuation are accurate. ▪ Fluent and effective		There are minor problems in spelling, grammar, usage, and/or punctuation.			▪ There are persistent errors in spelling, grammar, usage, and/or punctuation. ▪ Less or not fluent and effective.				
Delivery	▪ Ideas were communicated with enthusiasm, proper voice projection and clear delivery. ▪ There was sufficient eye contact with audience. ▪ There were sufficient use of other non-verbal communication skills. ▪ Appropriate delivery pace was used.		▪ There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact. ▪ Insufficient use of non-verbal communication skills. ▪ Delivery pace is somewhat appropriate.			▪ There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact. ▪ No use of non verbal communication skills. ▪ Inappropriate delivery pace was used.				
Interaction with Audience	▪ Answers to questions are coherent and complete. ▪ Answers demonstrate confidence and extensive knowledge.		▪ Most answers to questions are coherent and complete. ▪ Answers somehow demonstrate confidence and extensive knowledge.			▪ Answers to questions are neither coherent nor complete. ▪ Is tentative or unclear in responses.				
Total score	***= (y*5/16)***									