Matrix II: Comparison between the Program Intended Learning Outcomes ILOs and (ARS, 2009)

	ARS	Program ILOs
Knowledge and Understanding	2.1.1-Theories and fundamentals related to the field of learning as well as in related areas.	A1- Explain the basic principles of Clinical Nutrition, Metabolism, endocrinology, food-drug interaction, food allergy, critical care, sports, pediatric and geriatric, and life cycle nutrition. A2-Illustrate the pathogenesis of several diseases including obesity, diabetes, cancer, endocrine disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases.
	2.1.2-Moral and legal principles for professional practice in the area of specialization.	A4-Outline the ethical principles of professional practice in healthcare and outline the laboratory tests and clinical techniques for assessment of cardiovascular, respiratory, renal diseases, and endocrine disorders.

	2.1.3-Principles and the basics of quality in professional practice in the area of specialization.	A3-Discuss the diet involved in development of cancer and diet with anticancer effects and effect of anticancer on nutritional state. A6-Discuss the role of nutrition in different inherited metabolic disorders. A7-Outline the guidelines for a healthy diet in children and older adults.
	2.1.4-Mutual influence between professional practice and its impact on the environment.	A5- Discuss the different methods of nutritional assessment. A8- Discuss the principles of diet therapy and management of obesity, diabetes, cancer, endocrine disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases in addition to food allergies and intolerance, poisoning and drugged conditions.

	ARS	Program ILOs
Professional and Practical Skills	2.3.1- Master basic and modern professional skills in the area of specialization.	B1- Specify therapeutic and dietary interventions of obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases in addition to food allergies and intolerance, poisoning and drugged conditions. B3- Advise patients about balanced diet to promote the quality of life and the efficiency of medication B4- Use numeracy and computation in determination of body mass index, body weight and atherogenic index B5- Use numeracy in determination of nutrient requirement in cardiovascular, respiratory and renal diseases B6- Evaluate cancer patients based on their nutritional status. B7- Alter the care plan throughout the course of the disease if complications occurred.

	2.3.2- Write and evaluate professional reports.	B2- Interpret case studies and results of laboratory tests for diagnosis of different types of disorders.

	ARS	Program ILOs
Intellectual Skills	2.2.1- Analyze and evaluate information in the field of specialization and analogies to solve problems	C1-Calculate calories present in different nutrients classes. C2- Identify different types of nutrition used for different drugged and poisoned cases. C3-Select appropriate communication & health education strategies for treating diabetes. C4-Design a diet that provides children with the nutritional requirements for normal growth and development.
	2.2.2-Solve specified problems in the lack or missing of some information.	C8-Select the appropriate drugs and dietary regimens for endocrine disorders C9-Design an appropriate nutritional plan for cancer patients. C10-Analyze and interpret quantitative nutritional data in a suitable form.

	2.2.3-Analyze research of specified topics.	C14-Develop an appropriate research strategy starting from formulating a research question and communicating the results.
	2.2.4-Evaluate risks in professional practices	C11-Differentiate between food allergies and intolerances. C12-Evaluate food safety in work place.
	2.2.5-Professional decision-making in the contexts of diverse disciplines.	C5-Suggest lifestyle modifications to prevent obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases in addition to food allergies and intolerance, poisoning and drugged conditions. C6-Select the appropriate drugs and dietary regimens for obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases in addition to food allergies and intolerance, poisoning and drugged conditions. C7-Demonstrate the rationale behind describing these diets and compare it with the recommendations in such disease situations.

		C13-Apply the guidelines of sports and life cycle nutrition.

	ARS	Program ILOs
General and Transferable Skills	2.4.1-Communicate effectively.	D1-Communicate effectively verbally and in writing.
	2.4.2-Effectively use information technology in professional practices.	D2-Use computer skills effectively, such as Word and the internet to find information from reliable sources.
	2.4.3-Self-assessment and define his personal learning needs.	D3-Practice self-assessment to determine learning needs.
	2.4.4-Use variable sources to get information and knowledge.	D4-Retrieve relevant and updated information from various reliable sources.
	2.4.5-Show teamwork and time management skills	D5-Work in team and manage time effectively.
	2.4.6-Lead others in different professional disciplines.	D6-Develop decision making, critical thinking, and problem solving skills.
	2.4.7-Continuous and self-learning.	D7-Develop self-learning skills.

III. Intended Learning Outcomes (ILO's)

A-Knowledge and Understanding

By the end of the program, graduates should demonstrate knowledge and understanding of the following outcomes:

A1-Explain the basic principles of Clinical Nutrition, Metabolism, nutritional genomics, endocrinology, food-drug interaction, food allergy, critical care, sports, pediatric and geriatric, and nutrition throughout the life cycle.

A2-Illustrate the pathogenesis of several diseases including obesity, diabetes, cancer, endocrine disorders, GIT and liver disorders, and cardiovascular, respiratory and renal diseases.

A3-Discuss the role diet can play in the development of cancer, how nutrition can have anticancer effects, and effect of anticancer treatment on nutritional state.

A4- Outline the ethical principles of professional practice in healthcare and outline the laboratory tests and clinical techniques for assessment of cardiovascular, respiratory, renal diseases, and endocrine disorders.

A5-Discuss the different methods of nutritional assessment.

A6-Discuss the role of nutrition in different inherited metabolic disorders.

A7-Outline the guidelines for a healthy diet throughout the different stages of life cycle, including in children and older adults.

A8-Discuss the principles of diet therapy and management of obesity, diabetes, cancer, endocrine disorders, GIT and liver disorders, and cardiovascular and respiratory and renal diseases, in addition to food allergies and intolerance, poisoning and drugged conditions.

B-Professional and Practical Skills

At the end of the program students will be able to:

B1- Specify therapeutic and dietary interventions for obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, cardiovascular, respiratory and renal diseases in addition to food allergies and intolerance, poisoning and drugged conditions.

B2-Interpret case studies and the results of laboratory tests for diagnosis of different types of disorders.

B3-Advise patients balanced diets to enhance the quality of life and the efficiency of medication.

B4-Use numeracy and computation in determination of body mass index and atherogenic index.

B5-Use numeracy in determination of nutrient requirements in different disorders including cardiovascular, respiratory and renal diseases.

B6-Evaluate cancer patients based on their nutritional status.

B7-Alter the care plan throughout the course of the disease if complications arise.

C-Intellectual Skills

At the end of the program, the students will be able to:

C1-Calculate calories present in different nutrients classes.

C2-Identify different types of nutrition used for different drugged and poisoned cases.

C3-Select appropriate communication and health education strategies for treating different disease such as diabetes.

C4-Design a diet that provides children with the nutritional requirements for normal growth and development.

C5-Suggest lifestyle modifications to prevent obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, cardiovascular and respiratory and renal diseases, in addition to food allergies and intolerance, and poisoning and drugged conditions.

C6-Select the appropriate drugs and dietary regimens for obesity, diabetes, cancer, endocrine, metabolic disorders, GIT and liver disorders, cardiovascular and respiratory and renal diseases, in addition to food allergies and intolerance, and poisoning and drugged conditions.

C7-Demonstrate the rationale behind describing these diets and match them with the recommendations in different disease conditions.

C8- Select the appropriate drugs and dietary regimens for endocrine disorders.

C9-Design an appropriate nutritional plan for cancer patients.

C10-Analyze and interpret quantitative nutritional data in a suitable form.

C11-Differentiate between food allergies and intolerances.

C12-Evaluate food safety in the work place.

C13-Apply the guidelines of nutrition throughout the life cycle and in sports.

C14-Develop an appropriate research strategy starting from formulating a research question and communicating the results.

D-General and Transferable Skills

At the end of the program students will be able to:

D1-Communicate effectively verbally and in writing.

D2-Use computer skills effectively, such as Word and the internet to find information from reliable sources.

D3-Practice self-assessment to determine learning needs.

D4 Retrieve relevant and updated information from various reliable sources.

D5-Work in team and manage time effectively.

D6-Develop decision making, critical thinking, and problem-solving skills.

D7-Develop self-learning skills.

E-Program Curriculum:

Course Code	Course Title	Credit hours	Program ILOs Covered
Mandatory Courses			
DNB 01	Fundamentals of nutritional Biochemistry	2	A1, A5, C1, C14, D1-D7
DNB 02	Metabolism and molecular nutrition	3	A1, A5, A6, B1, B2, B7, C1, C10, D1-D7
DNB 03	Nutrition in drugged and poisoned cases	2	A1, A8, C2, C5, C6, D3, D1-D7
DNB 04	Pediatric and Geriatric nutrition	2	A1, A7, C4, D1-D7
DNB 05	Malnutrition and obesity	3	A2, A5, A8, B1, B2, B3, B4, C1, C5, C6, D1-D7
DNB 06	Nutrition in diabetic cases	2	A2, A8, C3, C5, C6, D1-D7

DNB 07	Nutrition in endocrine disorders	3	A1, A2, A4, A8, B1, B2, B3, C1, C5, C6, C8, D1-D7
DNP 06*	Critical care nutrition	3	A1. B1, B2, B3, C5, C6, D1-D7
DNB 07	Nutrition in cardiovascular, respiratory and renal diseases	3	A2, A4, A8, B1, B2, B3, B5, C5, C6, C10, D1-D7
DNB 08	Nutrition in Gastrointestinal and liver diseases	3	A2, A8, B1, B2, B3, C5, C6, C7, D1-D7
DNB 09	Food allergies, food safety and intolerances	3	A1, A8, B1, B2, B3, C5, C6, C11, C12, D1-D7
DNB 010	Nutrition in cancer cases	3	A2, A3, A8, B1, B2, B3, B6, C5, C6, C9, D1-D7
DNR 11	Project	2	A1, C5, C6, C14, D1-D7
Elective courses			
DNPE 11	Adverse aspects of food	1	A1, A7, C1, C11, D1-D7
DNPE 12	Sports nutrition	1	A1, C13, D1-D7
DNPE 13	Nutrition in selected conditions	1	A1, A7, C5, D1-D7
DNPE 14	Life cycle nutrition	1	A1, C13, D1-D7
DNPE 15	Nutrition care quality	1	A1, C7, D1-D7
DNPE 16	Leadership and communication skills	1	A1, C3, D1-D7