



2004 PLAN OF THE NUTRITION AND FOOD SCIENCE LICENTIATE

*IN FORCE AS OF SPRING 2004
MINIMUM QUALITY SCORE: 8.0*

1. DEPARTMENT DESCRIPTION

The Nutrition and Food Science Licentiate is part of the Health Department and attends three fundamental aspects:

- The strengthening of its graduate and postgraduate academic programs
- The development of the research lines
- Granting university-educational services

The laboratories in the Health Department grant services to the following licentiates: Nutrition and Food Science, Food Engineering, Hotel Administration, Chemical Engineering, Textile Design and diverse programs from the Continuous Education programs of the UIA. The laboratories have modern equipment that supports the teaching and realization of professional practices and research in the following physical areas:

1. Nutrition Clinic: Two offices, a physical area and material to estimate food consumption, physical area with anthropometric equipment, equipment to assess body composition (*Body Pod, Futrex*, bioelectric impedance), and calorimetric equipment.
2. Research Laboratory – Equipment for chemical clinical analysis, enzymology, hormone determination, extractions and purifications.
3. Basic Instruction Laboratory.
4. Computer Workshop: *Softwares* for food consumption assessment, diet therapy, body composition assessment, measurement of energy metabolism, statistics.
5. Physical-chemical Food Analysis Laboratory: equipment to determine energy, humidity percentage, ashes, fat, total nitrogen, proteins, carbohydrates, dietary fiber, minerals and vitamins. Laboratory certification by EMA is in process.
6. Food Service Laboratory – Sensorial Assessment Laboratory certified by SEP-CONOCER (Health Ministry).
7. Food Microbiology Laboratory – Strain Laboratory. Laboratory certification by EMA in process.
8. Food Processing Pilot Plant.
9. Food, chemical products, material and equipment storeroom.

2. FACULTY

For the operation of the Nutrition and Food Science Licentiate, the Health Department has a teaching staff of 18 academicians (13 are full-time and 5 are part-time). Their maximum scholastic level is as follows: 26% doctorate degree, 29% masters degree y 45% licentiates. Three of them belong to the National Researchers System (SNI).

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3. SOCIAL ASPECTS OF THE MEXICAN REALITY THAT THE STUDY PLAN FUNDAMENTALLY ATTENDS

The nutritional status of the Mexican population

The nutritional situation of our population has modified over the past 40 years: the mortality rate of children under 5 years of age has decreased and life expectancy after birth has increased between 1950 to 2000, both in men and in women, going from 48 to 68 years and from 52 to 72 years, respectively.

In 1999, the National Institute of Public Health, carried out the Second National Nutrition Survey. The results showed that in children under five years of age, the prevalence of underweight for age had decreased from 14.2% in 1988 to 7.5% in 1999, while the lower height for age (indicator of chronic malnutrition) decreased from 22.8% to 17.7% during the same period. The emaciation prevalence (low weight for height, indicator of acute under-nutrition) decreased from 6% to 2%. The Second National Nutrition Survey also showed that anemia is an important public health problem that affects children under 5 years of age in both rural and urban areas and women, especially those who are pregnant.

This information shows that Mexico is a country that has to continue fighting against malnutrition.

On the other hand overweight and obesity have increased in an alarming fashion among the school children. In the National Survey on Chronic Degenerative Diseases the adult population showed an increase in the prevalence of obesity (24.4%) and hypertension (30.05%). Even the younger adult population suffers from hypertension.

These results should be questioned by the health and education authorities of this country, as well as by the food industry since they are all co-responsible for the population's health. Due to this, the UIA, as a superior education institution, prepares professionals that are capable of responding to a national problem, such as this one, where under-nutrition and obesity coexist, within a globalization process that has impacted diverse levels and intensities of the economic practices, the ways of performing scientific exchanges, the acquisition of cultural conducts, the emigration and immigration phenomenon, and the health process.

What does the UIA offer under these circumstances?

The licentiate's study plan, through the content of the subjects, looks to select concrete food-nutrition problems that impulse the search for the realities through the confrontation with diverse places, people and available resources and the solutions orientated towards the general wellbeing.

In relation to the teaching method, the study plan favors the workshop over the magisterial class, promotes the direct experience of the students with the social reality, looks for the themes contextualization and promotes the development of the capacity to anticipate the changes through the study of the actual status and the epidemiological, population, nutritional, feeding, economical, social and political tendencies, on a national and global basis.

Another important aspect in the student formation, are the internships or professional stays which are contemplated in the study plan:

- Human nutrition internship: 720 hours (to be carried out in Spring or Autumn)
- Food internship: 240 hours (to be carried out in Summer)

The objective of the internships or the professional stays is to provide the student with a practical experience in his/her election area, generally selected according to the subsystem studied. During this practice, the student develops an activity plan that permits integration and application of the knowledge and abilities acquired in the classrooms, as well as acquiring some professional experience.

The internship gives the student the opportunity to practice human nutrition (clinical and community), food service and food science, research, within the understanding that this practice involves various aspects of the learning process: acquisition of knowledge, its application, the analysis of its application and write a final report that synthesizes and evaluates the knowledge acquired during the licentiate.

The professional internship programs that the Health Department offers are very diverse; they go from research in basic science in a laboratory, to a community intervention. The places to carry out these internships are also diverse since the student can choose a hospital, national institution, school, nursery, community center, industrial dining room, restaurant, food or pharmaceutical company.

The development of the generic and specific competencies that are required to carry out all the tasks for the licentiate in Nutrition and Food Science, the UIA requires a practical formation of the student during his / her time in the university. The objectives of the professional practices during the licentiate are to have the student be introduced to the working environment under direct supervision by a qualified person, demonstrates what a nutritionist is and what he/she can do and learn to work in a team. Another objective is to have the student be in contact with diverse nutritional areas and with the different realities of this country, work with other professionals from different disciplines, contribute to solving problems, develop the capacity to adapt to different situations and propitiate the need for more nutrition jobs within the institutions.

These internships during the licentiate have constituted a platform of recognition of the nutritionist as a necessary professional within different institutions. .

Extracurricular Activities: In order to provide an integral formation, the following activities are suggested to the students:

- First aid course (Ibero-Med)
- Physical wellbeing (Sports UIA)
- Anthropometry standardization (Health Department - UIA)
- Food preparation certification (Health Department UIA- Health Ministry (SEP) Conocer)

4. PROGRAM OBJECTIVES

Formation of people who are capable of:

1. Learning and up-dating their knowledge in nutrition and food science in an autonomous and permanent manner.
2. Identifying and anticipating food and nutrition problems in individuals and communities.
3. Proposing creative professional solutions to solve food, nutrition and health related problems in individuals and communities, which generate and promote fare life conditions.

5. GRADUATE PROFILE

The Nutrition and Food Science Licentiate graduate will be a person that:

- Demonstrates a solid knowledge in:
 - The country's food and nutrition problems
 - The contribution of the social, cultural and physical aspects as risk factors and origin of the nutrition status.
 - Nutrition and food education
 - The clinical nutrition management of healthy and sick individuals
 - The management of food services
 - The application of the food science principals

- Shows abilities and attitudes to:
 - Contribute to the solution of food and nutrition problems in an interdisciplinary environment, capable to respond to the needs of the country's health situation with a global perspective, in a professional and ethical way.
 - Diagnose and interpret the individual or community nutrition status through an objective evaluation.
 - Orientate and promote the values of healthy eating to prevent disease and improve the health status during the entire life cycle through a) orientation and education; b) development of new products; c) the incidence in public programs and policies; d) diagnosis and detection of alterations; e) improvement of food services and f) participation in applied research.
 - Recognize, describe and analyze the physical, chemical, biochemical and physiological characteristics of the nutrients and other compounds related to nutrition and integrate them all into the human metabolism.
 - Interpret the medical therapy of the pathologies in order to promote and apply an adequate nutritional therapy.
 - Develop and oversee the food selection, preparation and conservation in the context of their toxicology, sanitation and functionality.
 - Investigate and promote the quality of the food and nutrition processes.
 - Administrate a food service: Plan, evaluate and supervise the production in a food service, taking into account the current social and economic conditions of the country and the repercussions they may have on the health of the food service customers
 - Identify the physical-chemical, organoleptic and nutrient composition of the food according to the different culinary techniques.
 - Exchange effective information related to food, nutrition, and health, in diverse contexts, through different languages, media and codes.
 - Use technology to obtain, manage and analyze information related to food and nutrition and communicate the information in an effect way.
 - Appreciate independent learning and self study to continuously be updated with the most recent knowledge
 - Respond with quality and ethics towards the country's food and nutrition needs, within a globalized perspective.

The nutritionist from the UIA has to be a professional:

- Involved in the food chain with the capacity to provide knowledge which will bring about adequate nutrition.
- Highly qualified, visionary, sensible to the needs and promote, through his/her work, integral individual and community health.
- With a solid formation, capable of incorporating nutritional values to promote a change towards health and wellbeing

6. PROFESSIONAL DEVELOPMENT AREAS, TYPES OF JOBS AND WORK FIELDS

The professional fields for the nutritionist and their performance areas are:

- Clinical nutrition in hospitals, ambulatory clinics, diverse centers and private practice to attend to the nutritional needs that healthy, at risk or ill individual require.
- Community nutrition in community health centers, public and private institutions that have social assistance programs, education centers, sports centers and other community establishments.
- Education and research in: Medium-superior educational institutions, research institutions, companies, nutritional education for the community.

- Food science in the food sector as well as in the food and pharmaceutical industries.
- Food service administration in hospitals, commercial institutions and nurseries, nursing homes, jails, mental health institutions, school and university cafeterias, factories and industries, as well as establishments with collective food services.
- Commercial and companies: nutrition counseling in the food industry, creation of companies and commercial areas that offer food and nutrition related products, services and items.

NUTRITION AND FOOD SCIENCE LICENTIATE STUDY PLAN

The Nutrition and Food Science Licentiate Study Plan is made up in the following way:

Subjects of the BASIC AREA	130 credits
Subjects of the MAJOR AREA	153 ”
Subjects of the MINOR AREA	50 ”
Subjects of the UNIVERSITY REFLEXION AREA	32 ”
Subjects of the SOCIAL SERVICE AREA	16 ”

The minimum number of credits required for the degree is: **381 credits**

REQUIRED SUBJECTS OF THE BASIC AREA

CODE	INITIALS	SUBJECT'S NAME	PRE-RE- QUIREME NTS	C	Weekly hours (H/W/S)	CRE- DITS
2487	QM013	General Chemistry		Yes	4 of theory	8
2693	QM016	Organic Chemistry	2487 y 3772	Yes	4 of theory	8
3772	QM021	General Chemistry Laboratory		Yes	2 of practice	2
3797	QM023	Organic Chemistry Laboratory	2487 y 3772	Yes	2 of practice	2
6110	NT039	Nutrition Physiology	20034	Yes	4 of theory	8
9857	QM029	General Biochemistry	2693 y 3797	Yes	4 of theory	8
9864	NT053	Introduction to Nutrition and Food Science		Yes	2 of theory	4
20038	IA001	Food Production Systems		Yes	4 of theory	8
20043	IA005	Food Conservation Processes		Yes	2 of theory & 2 of practice	6
20059	NT008	Mass Communication Methods in Nutrition	7699 y 20067	Yes	4 of theory & 2 of practice	10
20063	NT012	Cellular Biology and Genetics Workshop	2487	Yes	2 of theory & 2 of practice	6
20064	NT013	Food Workshop		Yes	2 of practice	2
20112	MT007	Descriptive Statistics and Probability Workshop	20114	Yes	2 of theory & 4 of practice	8
20113	MT008	Inference Statistics Workshop	20112	Yes	2 of theory & 4 of practice	8
20114	MT009	Mathematic Foundations Workshop		Yes	2 of theory & 4 of practice	8
20121	NT027	General Microbiology Workshop	20063	Yes	2 of theory & 2 of practice	6
20449	AH002	Service Administration		Yes	4 of practice	4
20461	SP015	Food and Culture		Yes	4 of theory	8
21039	IA070	Food Chemistry and Analysis I Workshop	3797	Yes	4 of practice	4
21040	IA071	Food Chemistry and Analysis II Workshop	21039	Yes	4 of practice	4
21045	PC057	Psychology of the Vital Cycle Development	20064	Yes	4 of theory	8
FIXED						130

REQUIRED SUBJECTS OF THE MAJOR AREA

CODE	INITIALS	SUBJECT NAME	PRE-RE-QUIREMENTS	C	Hours per week (H/W/S)	CRE-DITS
2869	NT037	Public Health	9845	Yes	4 of theory	8
7678	NT043	Sanitation, Hygiene y Legislation	20043	Yes	4 of theory	8
7681	NT044	Epidemiology	20113	Yes	4 of theory	8
7699	NT048	Food and Nutrition Policies	2869	Yes	4 of theory	8
9845	EN005	Health Economy	20113 y 7681	Yes	4 of theory	8
9854	NT051	Cellular Physiology	20034	Yes	4 of theory	8
9855	NT052	Food Service Workshops	20068	Yes	2 of theory & 2 of practice	6
20034	NT002	Metabolic Biochemistry	9857	Yes	4 of theory	8
20061	NT010	Food Toxicology	20121	Yes	4 of theory	8
20065	NT014	Nutrition for the Healthy Individual II Workshop	20066	Yes	2 of theory & 2 of practice	6
20066	NT015	Nutrition for the Healthy Individual I Workshop	20116	Yes	2 of theory & 2 of practice	6
20067	NT016	Nutrition Education I Workshop	6110	Yes	2 of theory & 2 of practice	6
20068	NT017	Food Selection and Preparation Workshop	20064 y 7678	Yes	5 of practice	5
20106	NT018	Clinical Nutrition I Workshop	20108 y 20116 y 20066	Yes	3 of theory & 2 of practice	8
20107	NT019	Pathophysiology I	20034	Yes	4 of theory	8
20108	NT020	Pathophysiology II	20107	Yes	4 of theory	8
20115	NT021	Nutrition Status Assessment II Workshop	20116	Yes	2 of theory & 2 of practice	6
20116	NT022	Nutrition Status Assessment I Workshop		Yes	2 of theory & 2 of practice	6
20127	AE002	Marketing of Services	20449	Yes	4 of theory	8
20226	PC010	Interview Theory and Technique		Yes	4 of theory	8
20457	AH003	Food and Beverages Finance Workshop	20068	Yes	2 of theory & 4 of Practice	8
					FIXED	153

REQUIRED SUBJECTS OF THE MINOR AREA

CODE	INITIALS	SUBJECT NAME	PRE-RE-QUIREMENTS	C	Hours per week (H/W/S)	CRE-DITS
20118	NT024	Nutrition and Food Research Strategies Workshop	20106	Yes	4 of theory	8
20596	NT055	Human Nutrition Internship*	20118	Yes	8 of practice	8
20597	NT056	Food Internship**	20118	Yes	8 of practice	8
					FIXED	24

* Consists of 720 hour, to be carried out in an academic period in Spring or Autumn.

** Consists of 240 hours, to be carried out in an academic period in Summer.

OPTATIVE SUBJECTS OF THE MINOR AREA

CODE	INITIALS	SUBJECT NAME	PRE-RE-QUIREMENTS	C	Hours per week (H/W/S)	CRE-DITS
9234	IA062	Food Microbiology Workshop	20063 y 20121	Yes	2 of theory & 2 of practice	6
9879	NT054	Metabolic and Nutritional Support Workshop	20106	Yes	2 of theory & 2 of practice	6
20052	NT003	Psychological Disorders of Eating Conducts	20065 y 20106	Yes	2 of theory	4
20055	NT004	Clinical Nutrition II Workshop	20106	Yes	2 of theory & 2 of practice	6
20056	NT005	Nutrition and Physical Activity Workshop	20115 y 20065	Yes	2 of theory & 2 of practice	6
20057	NT006	Public Health in Nutrition	2869	Yes	4 of theory	8
20058	NT007	Design, Application and Evaluation of Nutrition Programs	7699 y 2869	Yes	2 of theory & 4 of practice	8
20117	NT023	Nutrition Education II Workshop	20067	Yes	2 of theory & 2 of practice	6
20119	NT025	Total Quality in Food Service Workshop	7678 y 9855	Yes	2 of theory & 2 of practice	6
20120	NT026	Food preparation Workshop	20068	Yes	1 of theory & 5 of practice	7
20123	NT029	Functional Food Topics		Yes	4 of theory	8
20125	IA009	Quality Systems	20113	Yes	4 of theory	8
20175	AE004	Management Decision Taking Seminary	20127	Yes	4 of theory	8
20180	AE009	Company Development Workshop	20127	Yes	4 of theory	4
20448	SP014	Community Research Methods and Techniques	7699	Yes	4 of practice	4
20474	IA054	Sensorial Evaluation Workshop	20068	Yes	2 of theory & 2 of practice	6
MINIMUM						26

REQUIRED SUBJECTS OF THE UNIVERSITY REFLEXION AREA

SUBJECT NAME	PRE-RE-QUIREMENTS	C	Hours per week (H/W/S)	CRE-DITS
University Reflexion 1		Yes	4 of theory	8
University Reflexion 2		Yes	4 of theory	8
University Reflexion 3		Yes	4 of theory	8
University Reflexion 4		Yes	4 of theory	8
FIXED				32

REQUIRED SUBJECTS OF THE SOCIAL SERVICE AREA

CODE	INITIALS	SUBJECT NAME	PRE-RE-QUIREMENTS	C	Hours per week (H/W/S)	CRE-DITS
8763	SS100	Professional and Social Service Practice		Yes	2 of theory	16
					FIXED	16

NOTES: • The student must attend regularly the classes of all the subjects included in this study plan. In order to have the right to take the corresponding ordinary exam, the student must attend the classes according to the frequency established in the Student Regulations. The subjects that appear with a darker letter and have a **YES** in the “C” column can only be accredited by taking the corresponding ordinary exam. If the student receives a failure score, the student may not present an extraordinary exam nor the sufficiency title, and the student will have to take the subject again until it is accredited in the ordinary way.

- In order to complete the licentiate’s Study Plan, all the subjects must be completed and in the areas that comprise the program. Para cumplir con el Plan de Estudios de esta licenciatura, únicamente se tomarán en cuenta las materias contenidas en él y dentro de las áreas que lo forman.

- Subjects that appear in this Study Plan are offered by different Coordinations / Departments and may be identified by the two letters included in the “Initials” column, according to the following relation

INITIALS	COORDINATION	DEPARTAMENT
AE	Business Administration	Administration and Public Accounting
AH	Hotel Administration	Administration and Public Accounting
EN	Economy	Economy
IA	Food Engineering	Engineering and Chemical Sciences
MT	Mathematics	Physics and Mathematics
NT	Nutrition and Food Science	Health
PC	Psychology	Psychology
QM	Chemistry	Engineering and Chemical Sciences
SP	Social and Political Sciences	Social and Political Sciences
SS	University Social Service	Direction of the Integral Formation Services

STUDENT SOCIETY

This licentiate has a student society. If you would like information on the society, contact the Student Office (COPSA).

EX-STUDENT SOCIETY

This licentiate has an ex-student society. If you would like additional information, contact the Ex-student Office.

The Iberoamericana University has an internet page, in which you may consult additional information.

www.uia.mx