EHEA's bachelor degree in Human Nutrition and Dietetics

First Course	
First Semester	Second Semester
General and Inorganic Chemistry (6 cr)	Laboratory Experimentation (6 cr)
Organic Chemistry (6cr)	Anthropology and Psychology of Feeding Behavior (6 cr)
Biochemistry (6 cr)	Human Physiology (6cr)
Biostatistics and Applied Mathematics (6 cr)	Physics and Physical Chemistry (6 cr)
Cell Biology and Genetics (6 cr)	Molecular Biology and Genomics (6cr)

First Course | Second Course | Third Course | Fourth Course

EHEA's bachelor degree in Human Nutrition and Dietetics

Second Course	
First Semester	Second Semester
Bromatology I (6cr)	Dietetics and Nutrition (6cr)
Amplification of Human Physiology (6cr)	Regulation of Metabolism (6cr)
Microbiology and Parasitology (6cr)	Bromatology II (6cr)
Basic Nutrition (6cr)	Diet Tools and Strategies (6cr)
Food Law and Ethics (6cr)	Culinary Techniques (6cr)

EHEA's bachelor degree in Human Nutrition and Dietetics

Third Course	
First Semester	Second Semester
Nutritional Pathology and Dietotherapy (6cr)	Cardiovascular Pathology and Dietotherapy (6cr)
Public Health (6cr)	General Pathology and Dietotherapy (9cr)
Food Security (6cr)	Common Nutrition and Nutritional Epidemiology (9cr)
Psychology and Therapeutic Education (6cr)	Optional Subject (3cr)
Collective Restauration (6cr)	Optional Subject (3cr)

EHEA's bachelor degree in Human Nutrition and Dietetics

Fourth Course	
First Semester	Second Semester
Quality and Management of Food Industry (6cr)	**Traineeships supervised (6cr)**
Molecular Nutrition (6cr)	**Final Grade Work (6cr)**
Hospital Nutrition and Artificial Feeding (6cr)	
Diet Complements and Functional Foods (6cr)	
Optional Subject (3cr)	
Optional Subject (3cr)	

First Course | Second Course | Third Course | Fourth Course

EHEA's bachelor degree in Human Nutrition and Dietetics

Optional Subjects
Phytotherapy (3cr)
Nutrition and Physic Activity (3cr)
Food – Drug Interactions (3cr)
Plants for food use (3cr)

First Course | Second Course | Third Course | Fourth Course

General and Inorganic Chemistry (6 cr): Structure, compounds and chemical reactions. Matter properties. Atomic structure and periodic table. Periodic properties. Chemical bound. Stoichiometry. Equilibrium. Descriptive inorganic chemistry. Thermodynamics. Chemical kinetics.

Organic Chemistry (6cr): Structure of organic molecules. Reactions of organic compounds as acids or bases. Sterioisometry. Fundamentals of reactivity. Reactions of aromatic and carbonilic compounds. Molecules of biological interest: carbohydrates, aminoacids, peptides, proteins and lipids.

Biochemistry (6 cr): Structure of proteins and enzymatic catalysis. Aminoacids. Relationship between structure and function of proteins. Regulation of enzymatic activity. Metabolism. Hormonal control of metabolism. Biosignalling. Integration of metabolism.

Biostatistics and Applied Mathematics (6 cr): Geometry in 2D and 3D. Differential and integral calculus. Functions of one variable. Multivariable equations. Differential equations. Biostatistics. Descriptive statistics. Probability and distribution of probability. Sampling techniques. Parameter estimation. Hypothesis contrast with proportions and means.

Cell Biology and Genetics (6 cr): Cellular organization. Procariotic and eucariotic cells. Intracellular compartments. Plasmatic membrane. Mechanism of transportation. Cellular organelles. Endoplasmatic reticle. Golgi apparatus. Vacuoles. Endocytosis. Lysosomes. Peroxysomes. Cytosol. Nucleus. Ribosomes. Mitochondria and plasts. Citoskeleton. Cells and environtment. Cellular cycle and inheritance. Fundamentals of genetics.

Laboratory experimentation (6 cr): Quality control of the laboratory. Rules of security in the laboratory. Good enviromental praxis. Basic operations of laboratory. Laboratory classes on Inorganic and General Chemistry, Cellular Biology, Organic Chemistry, Biochemistry, Human Physiology, Physics and Physical Chemistry, and Molecular Biology and Genomics.

Anthropology and Psychology of Feeding Behavior (6 cr): Feeding as a system of socio-cultural adaptation. Feeding and social differentiation. Feeding behavior. Psychology of feeding behavior. Biological and psychological processes in the regulation of feeding behavior. Perception of flavors. Adquisition of taste aversions and preferences.

Human Physiology (6cr): Function and structure of the human body. Levels of organization. Homeostasis and regulation. Fundamentals of tissue physiology. Bone tissue and skeletal system. Muscular tissue and contraction. Neuronal tissue, conduction and synapses. Nervous system. Endocrine system. Blood and cardiovascular system. Lymphatic system and immunity. Respiratory system. Digestive system. Urinary system. Reproductive system.. Bone tissue. Function and structure of organic systems. Immune system.

Physics and Physical Chemistry (6 cr): Intermolecular forces. Gaseous state. Condensed states of matter. Energy and balance. Dissolutions, phase and reaccionant systems balance. Colloidal systems. Kinetics. Catalysis.

Molecular Biology and Genomics (6cr): Function and structure of nucleic acids. Flow mechanisms of genetic information. Genome replication. Mutations and DNA repair. Transcription initiation. Synthesis and processing of RNA. Post-traductional processing. Regulation of the genoma activity. Analysis of gene expression. Basic techniques of molecular biology.

Bromatology I (6cr): Definition of food and basic concepts. Technological functions of the components of food. Water. Carbohydrates. Proteins. Lipids. Minerals. Vitamins. Food additives. Modifications and alterations of food. Fundamentals of food technology. Food preservation.

Amplification of Human Physiology (6cr): Physiology of sport. Impact on health. Physiology at different stages of development: pregnancy, perinatal, puberty, and aging. Digestive system. Regulation of intake, digestion and absorption. Integrated vision of intestinal function.

Microbiology and Parasitology (6cr): Introduction to Microbiology. Basical microbiology techniques. Microbial ecology in food. Effects and control of microorganisms in food. Introduction to Parasitology. Parasites associated to food. Health and economic interests associated to the presence of parasites in food.

Basic Nutrition (6cr): Basis of nutrition. Nutritional needs and recommendations. Scientific research in nutrition. Immediate principles. Energy balance. Carbohydrates. Fiber. Proteins and aminoacids. Lipids. Vitamines. Minerals and water. Metabolism of other bioactive compounds.

Food Law and Ethics (6cr): Concept of bioethics, law and ethics. Relation to nutrition and dietetics. Bioethics and medical practice. Human rights and bioethics. Ethics committees. Sustainable Food. Right to privacy and confidentiality. Privacy. Codes of ethics. Legislation and regulation of the profession. National and international legislation regarding food and organisms involved.

Dietetics and Nutrition (6cr): Healthy eating. Recommended dietary intakes and nutritional requirements. Assessment of nutritional status. Estimation of intake. Sociocultural factors in feeding. Nutrition during pregnancy, lactation and menopause. Nutrition in newborns, first year of age, before school, at school and teenagers. Nutrition in aged people and disabilities. Diet and exercise.

Regulation of metabolism (6cr): Metabolic relationship between organs and tissues. Hormonal regulation. Metabolism after feeding. Colesterol metabolism. Proteic nutrition and metabolism. Metabolic adaptations to extreme situations. Control of corporal weight.

Bromatology II (6cr): Food classification. Meat and derivatives. Seafood. Eggs and derivatives. Milk and derivatives. Edible oils and fats. Cereals and derivatives. Legumes and tubers. Vegetables. Fruits and derivatives. Natural sweeteners and derivatives. Coffee, tea and cocoa. Alcoholic beverages, waters, and soft drinks.

Diet Tools and Strategies (6cr): Eating pattern. Description and identification of measures homemade, regular consumption of servings, ingredients and recipes. Basis for the preparation and processing of a prescription diet. Interpretation, application and management tools necessary to design diets (tables of food composition, recommended intake, nutritional goals ...). Quantitative and qualitative method to adjust diets. Planning menus. Specific dietary advice at different stages and situations. Using computer software to calculate nutrition.

Culinary techniques (6cr): Culinary terminology. Culinary preparations prior to cooking. Cooking methods: modifications of the organoleptic and nutritional value, and changes in weight / volume produced by the firings. Culinary applications of fresh and processed foods. Composition of regular consumption of meals. Culinary strategies to modify the nutritional value. Seasoning. Resources and gastronomic alternatives: alternative foods and textures. Machinery.

Nutritional Pathology and Dietotherapy (6cr): Introduction to Human Pathology. Interpretation of basic analyses. Clinical history. Dietetic history. Estimation of nutritional needs. Evaluation of nutritional status. Alcohol. Anemies. Osteoporosis. Adverse reactions to food: congenital metabolic disorders, allergies and food intolerances. Eating disorders. Introduction to Pharmacology. Introduction to cancer disease.

Public Health (6cr): Introduction to Epidemiology. Public Health. Preventive medicine. Statistics. Sanitary Demography. Descriptive and analytical epidemiology. Health education and life styles. Epidemiology and prevention of the main chronical diseases in our society. Food channeled diseases.

Food Security (6cr): Food security and risk analyses. Abiotic security of food. Concepts of Toxicology. Toxicokinetics and Toxicodynamics. Toxics bioactivation. Microbial Spurce Tracking. Rellevant pathogens and biotoxins. Risk characterization and evaluation.

Psychology and Therapeutic Education (6cr): Introduction to the bases of behavior. Study of motivation. Regulation of emotions. Extrinsic motivation of emotions. Motivation of expectations. Attribution. Healthy lifestyles. Feeding. Active lifestyle. Health education. Overweight and obesity. Feeding disorders. Instruments for evaluation.

Collective restauration (3cr): Characteristics and types of restauration. Organization and management of food services. General conditions of installations. Tasks of the dietist. Location of the differents areas in food services. Food hygiene in collective restauration. Quality control. Work organization.

Cardiovascular Pathology and Dietotherapy (6cr): Introduction to cardiovascular disease. Obesity. Diabetis. Dyslipidemia. Hypertension. Emerging risk factors. Peripheric vascular pathology. Cardiac pathology.

General Pathology and Dietotherapy (9cr): Pathophysiology, drug treatment and dietary alterations. Digestive diseases. Renal pathology. Respiratory pathology. Infectious diseases. Congenital alterations of metabolism. Pediatric dietotherapy. Pathologies of the nervous system.

Common Nutrition and Nutritional Epidemiology (9cr): Quantitative epidemiology. Feeding, nutrition and diseases in the community. Nutritional education. Community nutrition.

Phytotherapy (3cr): Active principles of medicinal plants. Administration forms. Quality of phytotherapic preparations. Security and efficacy. Legislation. Phytotherapy applied to the digestive system. Phytotherapy applied to metabolic alterations. Phytotherapy applied to special situations: pregnancy, pediatry and aging. Phytotherapy applied to other diseases.

Nutrition and Physic Activity (3cr): Benefits of physic activity. Structure and function of skeletal muscle. Muscular contraction. General adaptations (circulation, breathing, thermoregulation). Diet of athletes. Corporal composition. Diet and physical activity recommendations in several pathologies. Interpretation of biochemical parameters. Ergogenic help and doping.

Food - Drug Interactions (3cr): Basic concepts of food-drug interactions. Interest in Public Health. Effects of food on drugs. Effects of drugs on nutrients use. Interactions of the main drug groups with food. Interactions between alcohol, contaminants, tobacco, bioactive components and drugs. Interactions between medicinal plants and drugs. Interactions in enteral and parenteral nutrition. Prediction, prevention and surveillance in food-drug interactions.

Plants for food use (3cr): Morphology and histology. Vegetables. Cereals and pseudocereals. Oil plants. Sugar plants. Table fruits. Dried fruits. Spices and aromatic herbs. Plants used for the manufacture of beverages. Algae. Fungi.