VNIVERSITAT DE VALÈNCIA

Course Guide
33983 Bromatology

COURSE DATA

Data Subject	
Code	33983
Name	Bromatology
Cycle	Grade
ECTS Credits	10.5
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	2	Annual

Subject-matter

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	11 - Bromatology	Obligatory

Coordination

Name	Department
BARBERA SAEZ, REYES	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

SUMMARY

This subject has two blocks:

-Basic concepts related to: a) Terminology of the subject: Bromatology, food-nutrient, feeding-nutrition, nutritional value; b) Types of foods: functional, new foods and food supplements; c) Quality of foods and legislative aspects

-Study of the different food groups (animal and plant origin, beverages and others) regarding the following aspects: composition, properties and quality parameters.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

Biology, General and Organic Chemistry and Biochemistry
To enrol simultaneously other subject of module of Food Sciences such as Food Chemistry and Food Technology.

OUTCOMES

1103 - Degree in Food Science and Technology

- Capacidad de interpretar datos relevantes.
- Develop skills to undertake further study.
- The ability to transmit ideas, problems and solutions within this study area and to communicate the knowledge acquired.
- Know how to apply that knowledge to the professional world contributing to the development of human rights, democratic principles, the principles of equality between women and men, solidarity, protection of the environment and promotion of the culture of peace, from a gender perspective.
- Poseer y comprender los conocimientos en el área de Ciencia y Tecnología de los Alimentos.
- Be familiar with discipline-specific terminology.
- Know the definition and classification of different food products according to national, European and international legal standards.
- Know the composition of the different food groups.
- Know the technological, nutritional and health properties of foodstuffs.
- Acquire capacity to assess the impact of the consumption of food on the health of the population.
- Know the general and specific parameters of quality for each food group.
- Adquirir capacidad de utilizar adecuadamente las fuentes de información y comunicación disponibles.

LEARNING OUTCOMES

- Familiarization with and correct use of the terminology of the subject.
- Capacity to compare composition and properties (nutritional, technological and beneficial) of the different food groups, using the food composition tables and databases.
- Nutritional evaluation of any food, based on its composition or general or nutritional labeling,

allowing integration within the food-health binomial.

- Knowledge of when, where and how to control food quality.

- Knowledge and capacity to use the basic and specialized literature sources, as well as some electronic sources addressing topics related to Bromatology.

- Capacity to adequately synthesize and organize information from different sources.

- Capacity to correctly express the knowledge gained and relate it to previously acquired data.

- Acquisition of a critical and creative approach (initiative and autonomy), combined with scientific rigor, to evaluate and resolve problems.

- Cooperation in the context of teamwork, for the exchanging of experiences.

- Capacity to apply / develop the acquired knowledge and skills with a personal perspective promoting the development of human rights.

DESCRIPTION OF CONTENTS

1. GENERAL

Subject 1.-Food Science. Concept .Academic guidelines
Subject 2.-Concept of food and nutrient. Nutrition value of foods. Food groups.
Subject 3.-Functional foods. Novel foods. Food complements.
Subject 4.- Books and food composition date bases
Subject 5.-Quality of foods.Criteria of quality.Alteration of foods
Subject 6.- Food information: food labeling

2. Animal foods

Subject 7- Meat and meats products. Classification. Composition and nutritional value. Characteristics of quality
Subject 8.- Fish, products of the finish and derivates. Classification. Composition and nutritional value. Characteristics of quality
Subject 9.-Eggs and derivates. Composition and nutritional value. Characteristics of quality
Subject 10.-Milk and dairy products. Classification. Composition and nutritional value. Characteristics of quality

3. Vegetal foods

Subject 11.-Fats of vegetal origin. Modified fats.Fat substitutes. Quality parameters
Subject 12.-Cereals and derivates.Classifications .Wheat and rice:structure and grain composition.Flour:composition. Bread. Bakery products.Composition and nutritional value. Breakfast cereals.Quality parameters
Subject 13.-Vegetables.Classification.Composition and nutritional value.Criteria of quality
Subject 14.-Tubercles. Composition and nutritional value
Subject 15.- Vegetables and derivates .Classification. Composition and nutritional value. Commercial presentations. Criteria of quality
Subject 16.-Fruits and derivates. Classification.Composition and nutritional value. Commercial presentations.Criteria of quality

4. Beverages

Subject 17.-Water.Potable water. Packaged drink waters. Parameters of quality
Subject 18.-Alcoholic beverages .Classification. Composition and nutritional value. Parameters of quality
Subject 19.-Non- Alcoholic beverages .Classification. Composition and nutritional. valueParameters of quality

5. Others

Subject 20.- Coffee, tea, cacao and derivates .Composition and nutritional value
Subject 21.- Natural sweeteners: Sugar and honey.Composition and nutritional value. Parameters of quality

6. Laboratory and informatic sessions

Five laboratory sessions(4h/sesión)
1.- Oils: Degree of acidity, peroxide index, UV absorption
2.-Fruit juices : vitamin C, density, Brix degree. Milk: Dry extract, ashes,humidity
3.-Vegetal caned foods: net and slipped weigth, pH, acidity, chlorides
4.- Coffee: cafein determination. Non-alcoholic beverages: Quinine determination
5.-Eggs:Traceability.Quality parameters. Cholesterol determination

Two informatic sessions (2x 2,5 h):
Foods comparisons: Composition and nutritional values. Uses of food composition base dates
Evaluation and food labeling

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	65,00	100
Laboratory practices	25,00	100
Seminars	5,00	100
Tutorials	4,00	100
Development of group work	25,00	0
Study and independent work	100,00	0
Preparation of evaluation activities	20,00	0
Preparation of practical classes and problem	12,50	0
TOTAL	**256,50**	

TEACHING METHODOLOGY

EVALUATION

REFERENCES

Basic

- BELITZ H.D., GROSCH W. Química de los alimentos. 3ª ed. Acribia Zaragoza. 2012
  BELLO GUTIÉRREZ J. Ciencia bromatológica. Principios generales de los alimentos. Díaz de Santos. 2013.

  GIL HERNANDEZ A. Tratado de Nutrición. Tomo 3. Composición y Calidad Nutritiva de los alimentos .Editorial Médica panamericana . Madrid. 2017
  ORDOÑEZ J.A. (Editor). Tecnología de los Alimentos. Vol 1 y 2. Alimentos de origen animal. Síntesis. Madrid. 1998.
  PRIMO YÚFERA, E. Química de los Alimentos. Síntesis. Madrid. 1997
- VALERO GASPAR T, RODRÍGUEZ ALONSO P, RUIZ MORENO E, ÁVILA TORRES jm VARELA MOREIRAS G. La alimentación española. Características nutricionales de los principales alimentos de nuestra dieta. Ministerio de Agricultura, Pesca y Alimentación y Fundación Española de la Nutrición. Madrid 2018. Disponible: https://www.fen.org.es/storage/app/media/imgPublicaciones/2018/libro-la-alimentacion-espanola.pdf

- FENNEMA, O.R.: Química de los Alimentos. y 4º ed., Ed. Acribia. Zaragoza, (2019).

Additional

- Cuadernos CDTI. Tecnología de los Alimentos. Departamento de estudios y documentación del Centro para el desarrollo tecnológico industrial. Madrid.1993.

  CESNID (Centre dEnsenyament Superior de Nutrició I Dietética) Tablas de composición de alimentos. Ed. Universitat de Barcelona. Barcelona. España. 2002
  SOUCI SW. FACHMAN W. KRAUT H. Food composition and nutrition tables.. La composition des aliments: tableaux des valeurs nutritives. 6th revised and completed edition by Heimo Scherz und Friedrich Senser. Stuttgart: Medpharm: Boca Ratón (etc.): CRC. 2000.
- DE LAS CUEVAS INSA V. Trazabilidad básico. Ideas propias. Vigo. 2006
- ADRIAN P., POIFFAIT D. Análisis nutricional de los alimentos. Ed Acribia. Zaragoza. 2003.
- https://www.aesan.gob.es/AECOSAN/web/home/aecosan_inicio.htm
  http://www.consumer.es/
  https://fdc.nal.usda.gov/
  https://colvetjaen.com/recopilacion-legislativa-en-el-ambito-de-salud-alimentaria/
  http://www.mapa.gob.es/es/
  https://www.mapa.gob.es/es/alimentacion/legislacion/
  http://www.fao.org/fao-who-codexalimentarius/standards/en/
  http://www.alimentacion.es/
  https://www.agenda2030.gob.es/objetivos/home.htm