COURSE GUIDE FOR
ADVANCED BROMATOLOGY

Academic year 2020-2021
(Date last update: 5/07/2020)
(Date approved in Department Council: 6/07/2020)

MODULE	SUBJECT MATTER	YEAR	SEMESTER	CREDITS	TYPE
Food Science	ADVANCED BROMATOLOGY	2nd	2st	6.0	CORE

TEACHING STAFF[1]	ADDRESS, TELEPHONE NUMBER, EMAIL, ETC. DIRECCIÓN COMPLETA DE CONTACTO PARA TUTORÍAS
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	TIMETABLE FOR TUTORIALS OR LINK TO WEBSITE
	http://www.ugr.es/~nutricion/pdf/tutorias2021.pdf

BELONGS TO UNDERGRADUATE DEGREE PROGRAMME	AND ALSO TO OTHER UNDERGRADUATE DEGREE PROGRAMMES
Degree in Human Nutrition and Dietetics Degree in Science and Food Technology Double Degree in Human Nutrition and Dietetics and Food Science and Technology	

PREREQUISITES OR RECOMMENDATIONS (where applicable)

General Chemistry, Biochemistry, Physiology, Biology, Chemistry and Biochemistry of food, Commodity Production, Basic Operations in Industry (possible subjects taken at university)

BRIEF DESCRIPTION OF CONTENT (ACCORDING TO OFFICIAL VALIDATION REPORT)

[1] Consult any updates in Acceso Identificado > Aplicaciones > Ordenación Docente
(∞) This course guide should be filled in according to UGR regulations on assessment of student learning: (http://secretariageneral.ugr.es/pages/normativa/fichasugr/ncg7121/!)

• Classification and descriptive study of the composition, properties and nutritional value of foods of vegetable origin.
• Composition and properties of other foods: canned, ready-cooked food, water and beverages

GENERAL AND SPECIFIC COMPETENCES

• CT1. Ability to communicate successfully in Spanish within disciplinary field.
• CT2. Problem-solving capacity
• CT3. Teamwork.
• CT4. Ability to apply theoretical knowledge in a particular way.
• CT7. Capacity for analysis and synthesis.
• CT8. Critical Thinking.
• CT9. Develop skills to initial research.
• CT10. Motivation for quality.
• CT11. Capacity for organization and planning.
• CT12. Ability to manage information.
• CT14. Sensitivity to environmental issues.

SPECIFIC

• CE2. Knowing the food production models, its composition and physical properties, physico-chemical and chemical to determine its nutritional value and functionality.
• CE3. Learn the techniques and food analysis to ensure optimal conditions for human consumption.
• CE15. Information, training and legal advice, scientifically and technically to the public, the food industry and consumers to design intervention strategies and training in the field of science and food technology.

OBJECTIVES (EXPRESSED AS EXPECTED LEARNING OUTCOMES)

- To use the knowledge related to chemical composition and properties of foods, food analysis, detection of the alterations and fraud, processing, preservation and evaluation of food quality
- Ability to describe and explain the changes of processes due to food processing, preservation and deterioration.

DETAILED SYLLABUS

THEORY:

- Item 1. - Food lipid. Dietary fats. Definitions. Classification. Edible Vegetable Fats: Olive oil, oil seeds oil: Preparation, composition, nutritional value, obtaining technological treatments. Other vegetable fats. Technological process of collection, storage and marketing. Legal Criteria analytical and health. Animal fats: Butter. Processes. Composition. Nutritional value. Other animal fats. Legal criteria, analytical and health. Modified Fats: Margarine, Minarinas, synthetic fats. Composition. Processes. Legal criteria, analytical, health and quality.
- Item 2. - Cereal food. Wheat: Grain structure, composition, nutritional value. Alterations and conservation. Other food grains. Flour: wheat flour, collection, composition, technological properties (baking capacity), nutritional value). Legal criteria, sensory, analytical and health.

Derivatives of cereals: bread and pasta: Definitions. Obtaining. Properties. Composition and nutritive value types. Other cereal products (biscuits, breakfast cereals, infant) technology, nutritional, analytical criteria and sanitary and quality.

- Item 3. - Edible legumes: Definition. Its importance in the diet. Species most frequently consumed. Derivatives. Composition: toxic and anti-nutritional compounds. Analytical criteria sanitary and quality. Derivatives trading: soy.
- Item 4. - Vegetables, vegetables and fruits. Their role in nutrition. Classification and study of the species most used. Composition and nutritional value. Negative factors for use. Technological processes of maturation, storage and marketing. Major derivatives (juices, frozen, canned, etc..): Technology, nutritional significance. Commercial preparations. Edible Fungi. Legal criteria, analytical, health and quality.
- Item 5. - Food Sweeteners. Their role in nutrition. Sugar plants: sugar beet and sugar cane. Manufacturing, refining and commercial types. Honey: definition and properties. Syrups. Honey: Definition. Types. Analytical, health and quality criteria
- Item 6. - Food stimulants definition. Their role in nutrition. Coffee: seed preparation. Roasted coffee preparation and composition. Roasted coffee. Imitations. Derivatives of coffee. Substitutes. Cacao. Definition. Seed preparation. Cocoa derivatives. Imitations. Analytical determinations. Tea: definition and preparation. Composition and commercial classes.
- Item 7. - Condiments and spices: Definition, classification action. Vinegars. Salt. Saffron. Paprika. Other spices.
- Item 8. - Water: Definition. Importance in food. Drinking water: Purification. Bottled drinking water. Soft Drinks: Definition. Classification. Role in food. And carbonated soft drinks: Soda water. Soft. Fruit drinks and fantasy. Tiger nut milk drink. Analytical, health and quality criteria.
- Topic 9. - Alcohol: Its nutritional value. Wines: Definition, composition and classification. Development. Features. Analytical and health criteria. Other alcoholic beverages: cider, beer, spirits and liqueurs: Definition, composition, processing and features. Analytical health and quality criteria,.

PRACTICE:
Seminars/Workshops

- Autonomous work on one of the seminar topics and another on a free topic. […]

Laboratory work
B.1. PRACTICAL FOOD PROGRAM:
FOOD LIPID OILS
* ACIDITY
* INDEX peroxides
* REFRACTIVE INDEX
* ABSORBANCE IN UV
* FATTY ACIDS BY GAS CHROMATOGRAPHY
Hydrocarbon FOOD: MEALS

* PERCENTAGE OF HUMIDITY
* DETERMINATION OF ASH
* GLUTEN DETERINACION
* MEJORANTES PRESENCE (Bromates, iodate, persulfate)
SPIRITS: WINE
* Total acidity, VOLATILE AND FIXED
* ALCOHOL
* INDICES colorimetric
B.2. SENSORY ANALYSIS STUDY PROGRAM (3 hours):
• Basic principles of sensory analysis of virgin olive oil. Foundation. Importance as a quality parameter. Sensory attributes. Specific vocabulary.
• Basic principles of sensory analysis of wines. Foundation. Importance in oenology. Sensory attributes. Specific vocabulary.
C. FIELD INTERNSHIP PROGRAM and TRAVEL
They will schedule a visit to various industries related to the subject in the area of influence of the University of Granada.

Field work
Visit an oil mill and winery and / or a brewery companies
Visit a cereal milling plant

BIBLIOGRAPHY

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RECOMMENDED LINKS

http://europa.eu.int/index_es.htm.
http://mapya.es/
http://www.ine.es
http://www.consumo-inc.es/home/home.htm
http://www.seguridadalimentaria.org
http://www.fao.org
http://www.fns.usda.gov/fns/
http://www.cytali.org/tiki/tiki-index.php
http://agrovia.com/
http://www.us.es/acta/
http://www.institutohuevo.com/scripts/index.asp
http://geocities.com/paris/9282/cerveza.html
http://elvino.com
http://www.molineriaypanaderia.com/
http://www.mercasa.es/
http://seenweb.org/
http://www.pulevasalud.com/ps/index.jsp
http://www.puleva.es/pf/index.html
http://www.EFSA.com

TEACHING METHODOLOGY

- Master class
- Oral presentation of specific ítems assigned to the student
- Learning based on the resolution of practical cases.
- Practical classes in the laboratory.
- Field practices