



Academic year	2014-15
Subject	10284 - Functional Foods
Group	Group 1, 2S
Teaching guide	A
Language	English

## Subject identification

<b>Subject</b>	10284 - Functional Foods
<b>Credits</b>	0.4 de presencials (10 hours) 2.6 de no presencials (65 hours) 3 de totals (75 hours).
<b>Group</b>	Group 1, 2S
<b>Teaching period</b>	2nd semester
<b>Teaching language</b>	English

## Professors

Lecturers	Horari d'atenció alumnes					
	Starting time	Finishing time	Day	Start date	Finish date	Office
Lluís Arola Ferrer	09:00h	10:00h	Monday	02/03/2015	30/04/2015	109
Ana María Rodríguez Guerrero <a href="mailto:amrodriguez@uib.es">amrodriguez@uib.es</a>	15:30h	16:30h	Monday	01/10/2014	31/07/2015	Q.11 (Mateu Orfila)

## Contextualisation

### PROFESSORS:

Prof. Lluís Arola is the responsible for this subject. He is a full professor of the University Rovira i Virgili (URV) and the head of the Nutrigenomics group of the Department of Biochemistry and Biotechnology of the URV. He is also the General Manager of the Technology Centre of Nutrition and Health which is a scientific and technological institution that provides to the food companies scientific support to the functional foods and nutraceuticals design innovative process. He has also participated on several panels, boards and advisory committees on nutrition and health research for many companies and institutions. He has a long-standing experience in the field of metabolism modulation by nutrients, mainly phenolic compounds and he is author of more than 200 publications providing important contributions on the health effects and mechanistic role of flavonoid compounds, particularly procyanidins, on cardiovascular health.

Francesc Puiggròs holds a PhD in Biochemistry Sciences, achieved by developing his thesis in the field of the health effects of polyphenolic compounds on the oxidative metabolism. Since 2008 he has been the Scientific Coordinator at the CTNS where his scientific and management background is aimed at assessing the food industry and providing technological services and carrying out RDI activities throughout the value chain of functional food production and the assessment of biological effect of bioactive compounds to get scientific evidence according to the EFSA criteria. His research activity focuses on joining market trends to ensure successful functional food design with knowledge about biological efficacy assessment and biological mechanisms' description. He works mainly on new nutritional markers of functional foods and new methodologies for evaluating the effect of bioactive ingredients on genetic material using functional genomics.

### SUBJECT

Functional foods is a subject aimed at providing a global view of all those issues related with the food products that bear health and nutritional claims. Functional foods, nutraceuticals, dietary supplements and





other all have in common health messages linked to their consumption, so the scientific data behind them are critical in terms of consumer confidence, safety and ethical issues. Furthermore, legal frameworks have been evolved along with the growing demand of these products. Nowadays, food industry faces new challenges to adapt healthy products to the European and worldwide different regulations.

## Requirements

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### Skills

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#### GENERAL SKILLS

To know the use of functional foods as a strategy to improve the human wellness and quality of life.

#### Specific

- \* To know the main physiological mechanisms and nutritional intervention of most relevant chronic pathologies in occidental societies..
- \* To know the bioactive compounds naturally occurring in foods..
- \* To know the strategies for substantiating health and nutritional claims made on foods in the European Union..

#### Basic

- \* You may consult the basic competencies students will have to achieve by the end of the Master's degree at the following address: [http://estudis.uib.cat/master/comp\\_basiques/](http://estudis.uib.cat/master/comp_basiques/)

## Content

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General course about functional foods

### Theme content

1. Theme 1  
Functional food concept and their scientific assessment
2. Theme 2  
Legal issues on functional foods in the European Union
3. Theme 3  
Bioactive compounds of functional foods  
Cardiovascular disease  
Bone health  
Physical Performance and Fitness  
Body weight regulation, insulin sensitivity and diabetes risk





Cancer  
Mental state and performance  
Gut health and immunity  
Miscellany

4. Theme 4

Marketing and economic issues, ethics and the consumer view towards functional foods.

### Teaching methodology

At the beginning of the semester, it will be available the subject schedule throughout UIB digital platform. This schedule will include at least the dates of exam, the continuous tests dates and the delivery dates of the work. Furthermore, the teacher will advise to students when the work plan is developed through schedule or, otherwise, using alternative paths, such as the Campus Extens platform

### In-class work activities

Modality	Name	Typ. Grp.	Description	Hours
Theory classes		Large group (G)	Exam not needed in case of performing oral presentation 40% of mark	10

At the beginning of the semester a schedule of the subject will be made available to students through the UIBdigital platform. The schedule shall at least include the dates when the continuing assessment tests will be conducted and the hand-in dates for the assignments. In addition, the lecturer shall inform students as to whether the subject work plan will be carried out through the schedule or through another way included in the Campus Extens platform.

### Distance education work activities

Modality	Name	Description	Hours
Individual self-study	Individual work	All students should perform individually a written work related with theme 3 that it will be evaluated. The work must consist of a critical report about a today marketed functional food. It can be chosen more than one food but only a one risk factor of a given pathology. Max. length: 10 pages. 60% of mark	32.5
Group self-study	Collective work	Oral presentation by video-conference (only in Palma de Mallorca and Tarragona) that will be evaluated. This presentation should consist of an explanation and discussion of a positive scientific opinion delivered by EFSA under articles 13 or 14. To be done by pairs of students 40% of mark	32.5





### Specific risks and protective measures

The learning activities of this course do not entail specific health or safety risks for the students and therefore no special protective measures are needed.

### Student learning assessment

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All students should perform individually a written work related with theme 3 that it will be evaluated. The work must consist of a critical report about a today marketed functional food. It can be chosen more than one food but only a one risk factor of a given pathology. Max. length: 10 pages. 60% of mark

Additionally students can select:

**Oral presentation by video-conference** (in Palma de Mallorca or Tarragona) that will be evaluated. This presentation should consist of an explanation and discussion of a positive scientific opinion delivered by EFSA under articles 13 or 14. To be done by pairs of students. 40% of mark

or

**Short answers tests** (retrievable) 40% of mark

### Theory classes

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Modality	Theory classes
Technique	Short-answer tests ( <b>retrievable</b> )
Description	Exam not needed in case of performing oral presentation 40% of mark
Assessment criteria	
Final grade percentage:	40% for the training plan A
Final grade percentage:	0% for the training plan B

### Individual work

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Modality	Individual self-study
Technique	Student internship dissertation ( <b>non-retrievable</b> )
Description	All students should perform individually a written work related with theme 3 that it will be evaluated. The work must consist of a critical report about a today marketed functional food. It can be chosen more than one food but only a one risk factor of a given pathology. Max. length: 10 pages. 60% of mark
Assessment criteria	
Final grade percentage:	60% for the training plan A
Final grade percentage:	60% for the training plan B





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### Collective work

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Modality	Group self-study
Technique	Oral tests ( <b>non-retrievable</b> )
Description	Oral presentation by video-conference (only in Palma de Mallorca and Tarragona) that will be evaluated. This presentation should consist of an explanation and discussion of a positive scientific opinion delivered by EFSA under articles 13 or 14. To be done by pairs of students 40% of mark
Assessment criteria	
Final grade percentage: 0% for the training plan A	
Final grade percentage: 40% for the training plan B	

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### Resources, bibliography and additional documentation

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