Universitat de les Illes Balears

Academic year	2017-18
Subject	10275 - Nutrition and Pathology
Group	Group 1, 2S
Syllabus	B
Language	English

Syllabus

Subject

Name 10275 - Nutrition and Pathology
Credits 0.56 in-class (14 hours) 2.44 distance (61 hours) 3 total (75 hours).
Group Group 1, 2S (Campus Extens)
Period Second semester
Language Spanish

Lecturers

Lecturers	Office hours for students					
	Starting time	Finishing time	Day	Start date	End date	Office
Paula Oliver Vara paula.oliver@uib.es	You need to book a date with the professor in order to attend a tutorial.					
Juana Sánchez Roig joana.sanchez@uib.es	12:00	13:00	Monday	04/09/2017	27/07/2018	Q14. Edifici Mateu Orfila

Context

Teaching staff: Paula Oliver, PhD in Biochemistry with European Doctor Mention (2000). Associate professor of Biochemistry and Molecular Biology in the UIB. She is a member of the "European NutriGenomics Organisation" (NuGO) and of the Spanish research network of excellence "CIBER of Physiopathology of Obesity and Nutrition" (CIBEROBN). She conducts her research in the Laboratory of Molecular Biology, Nutrition and Biotechnology of the UIB. She has three research sections ("sexenios") recognized by the Spanish Ministry of Education and three teaching sections ("quinquenios") recognized by the UIB.

Subject: This subject is aimed to emphasise the importance of diet as a cause of and protection against common illnesses that are currently affecting to our society.

Requirements

Essential requirements

General knowledge on Biology and Nutrition.

Skills

The list of the skills related to the subject are listed below.

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Specific

* E3 - To apply the knowledge of the discipline to health promotion.
* E4 - Conocer los componentes bioactivos y funcionales de los alimentos.

Generic

* G10 - Ability to articulate knowledge in oral and written presentations.
* G11 - Advanced understanding of the global context in which the area of speciality is developed.
* G6 - Ability to work inter-disciplinary.
* G9 - Ability to collect, organize and critically analyze research and professional bibliography of the discipline.
* CB10 - To possess learning skills that allow to continue studying mainly in an autodirected or autonomous manner..
* CB9 - To know how to communicate conclusions and knowledge and reason which support them to specialized and non-specialized audience clearly and without ambiguity.
* G8 - Capacity to assess and to participate in team works.

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/

Content

The theoretical part of the subject is divided in six topics, their contents are detailed below.

Theme content

Topic 1. Introduction to the relationship between nutrition and disease

Topic 2. Oxidative stress and risk of disease
* Reactive types of oxygen and antioxidant defence systems
* Oxidative stress and implication in illnesses: cardiovascular disease, carcinogenesis and neuro-degenerative diseases
* Nutritional options for the modulation of oxidative stress
* Potential effects of antioxidant enrichment

Topic 3. Fiber and health
* Dietary fiber: definition and chemic composition
* Physico-chemical properties and metabolical effects of fiber
* Dietary fiber and health
* Fiber in functional food

Topic 4. Nutrition and cancer
* Role of diet on carcinogenesis
* Epidemiological and experimental studies
* Dietary carcinogens
* Detoxificators of carcinogens
* Dietary promoters and antipromoters
* Dietary recommendations

Topic 5. Nutrition and cardiovascular disease
* Etiology of atherosclerosis
* Factors involved in atherosclerosis appearance: importance of dietary fat

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* Effects of the different types of fats on the risk of atherosclerosis
* Plant sterols: effects on cholesterol metabolism
* Supplementation of food with plant sterols
* Dietary recommendations

Topic 6. Nutrition and diabetes

* Glycemic index and glycemid load. Relation with metabolic risk and insulin resistance. EFSA opinion
* Nutritional treatment of diabetes. Intake of low glycemic index food. Induction of a fasting metabolic state

Teaching methodology

Workload

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In-class work activities

Modality	Name	Typ. Grp.	Description	Hours
Theory classes	Theoretical presential classes	Large group (G)	The list of topics will be developed in expositive and participative classes.	11
ECTS tutorials	Tutorials for the control and follow up of the written works	Small group (P)	Tutorials will be carried out to assess the students in the choice and in the development of the bibliographic work and in the development of the article comments. Tutorials will be also developed to solve any doubt related with the theorical classes or with any other content of the subject.	2
Assessment	Exam	Large group (G)	Test exam to evaluate knowledge acquired in the theoretical classes.	1

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	Comments of articles	The student will develop comments of articles indicated by the teacher that will complement the topics studied in the theoretical classes.	10

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Modality	Name	Description	Hours
Individual self-study	Study for the final exam	The student will study the topics given in the theoretical classes with the objective to perform a final test exam (true/false) that will alow to evaluate de acquired knowledge.	33
Group or individual self-study	Bibliographic work	The student will develop a bibliographic work (ideally working in group) on a pathology and its relation with nutrition, making reference to preventive/ therapeutic aspects and to the mechanisms of action involved.	18

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

Assessment will take into account students' learning, relating this to subject-specific skills, and students' ability to develop, communicate and use this knowledge.

For the evaluation the following items will be taken into account:

* Final exam (test exam of the contents explained in the theoretical classes)- 50% of the mark
* Bibliographic work of an specific pathology and its relation with nutrition- 30% of the mark
* Comments to articles complementary to the topics of the program- 20% of the mark

Exam

Modality	Assessment
Technique	Short-answer tests **(retrievable)**
Description	Test exam to evaluate knowledge acquired in the theoretical classes.
Assessment criteria	The exam will be test type (true/false), in which an incorrect answer will subtract half correct answer. Some of the questions could be asked to be argumented.

Final grade percentage: 50%

Comments of articles

Modality	Individual self-study
Technique	Student internship dissertation **(non-retrievable)**
Description	The student will develop comments of articles indicated by the teacher that will complement the topics studied in the theoretical classes.
Assessment criteria	It will be valued the skill of the students to capture, in a clear and concise way, the esence of the commented article.

Final grade percentage: 20%

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Bibliographic work

Modality	Group or individual self-study
Technique	Student internship dissertation **(retrievable)**
Description	The student will develop a bibliographic work (ideally working in group) on a pathology and its relation with nutrition, making reference to preventive/therapeutic aspects and to the mechanisms of action involved.
Assessment criteria	It will be valued the work of bibliographic compilation, the iniclusion of current bibliography, as well as the structure and clarity of the written work. It will be also valued the explanation of the mechanisms of action of the nutrients (in the case that they are already known). The work should have a minimum mark of 4.5 to average with the other evaluation items. The mark will be weighed for each student with the mark given by his/her group partners (because of the team work).

Final grade percentage: 30%

Resources, bibliography and additional documentation

Basic bibliography

The topics related to nutrition and health are continuosly being updated, so there is no good book or manual to follow the subject; so the students are encouraged to search for up-to-date bibliography in Internet using searchers as for example *PubMed*.

Other resources

PubMed (http://www.ncbi.nlm.nih.gov/sites/entrez)

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