

Syllabus

Subject

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| Subject / Group | 10275 - Nutrition and Pathology / 1 |
| Degree | Master's in Nutrigenomics and Personalised Nutrition |
| Credits | 3 |
| Period | 2nd semester |
| Language of instruction | Spanish |

Professors

| Lecturers | Office hours for students | | | | | |
|---|---------------------------|----------------|-----|------------|----------|---|
| | Starting time | Finishing time | Day | Start date | End date | Office / Building |
| Paula Oliver Vara paula.oliver@uib.es | | | | | | You need to book a date with the professor in order to attend a tutoring session. |
| Mariona Palou March mariona.palou@uib.cat | | | | | | You need to book a date with the professor in order to attend a tutoring session. |

Context

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

General knowledge on Biology and Nutrition.

Skills

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

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- * 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.

Range of topics

- 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 metabolic 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
 - * Detoxifiers 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
 - * 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

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* Nutritional treatment of diabetes. Intake of low glycemic index food. Induction of a fasting metabolic state

Teaching methodology

Workload

In-class work activities (0.56 credits, 14 hours)

| 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 theoretical 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 Aula Digital platform.

Distance education tasks (2.44 credits, 61 hours)

| 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 allow to evaluate de acquired knowledge. | 33 |
| 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 |
| 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 |

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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

Frau en elements d'avaluació

In accordance with article 33 of Regulation of academic studies, "regardless of the disciplinary procedure that may be followed against the offending student, the demonstrably fraudulent performance of any of the evaluation elements included in the teaching guides of the subjects will lead, at the discretion of the teacher, a undervaluation in the qualification that may involve the qualification of "suspense 0" in the annual evaluation of the subject".

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 argued. The exam should have a minimum mark of 4.5. |

Final grade percentage: 50%with a minimum grade of 4.5

Comments of articles

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| 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 essence of the commented article. |

Final grade percentage: 20%

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Bibliographic work

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|---------------------|--|
| 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 | <p>It will be valued the work of bibliographic compilation, the inclusion 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).</p> <p>The work should have a minimum mark of 4.5. The mark will be weighed for each student with the mark given by his/her group partners (because of the team work).</p> |

Final grade percentage: 30%with a minimum grade of 4.5

Resources, bibliography and additional documentation

Basic bibliography

The topics related to nutrition and health are continuously 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>)

