

Academic year	2015-16
Subject	11264 - Master's Thesis
Group	Group 1, AN
Teaching guide	A
Language	English

Subject identification

Subject	11264 - Master's Thesis
Credits	0.52 de presencials (13 hours) 5.48 de no presencials (137 hours) 6 de totals (150 hours).
Group	Group 1, AN (Campus Extens)
Teaching period	Annual
Teaching language	Spanish

Professors

Lecturers	Horari d'atenció als alumnes					
	Starting time	Finishing time	Day	Start date	Finish date	Office
Andreu Palou Oliver andreu.palou@uib.es	14:00	16:00	Monday	01/09/2015	31/07/2016	Q.30 i Q.31
Ana María Rodríguez Guerrero amrodriguez@uib.es	15:30	16:30	Monday	14/09/2015	29/07/2016	Q.11 (planta baixa, edifici Mateu Orfila)

Contextualisation

The students must successfully complete a practical/placement subject (Practicum), where the students have to carry out a significant piece of training work under the direction of a tutor: a lecturer from the master with the grade of PhD in the case of profile 2A students, and a tutor from one of the collaborating Food Enterprises together with a lecturer with the grade of PhD (who will follow the student's development in the business enterprise) in the case of profile 2B students. The Practicum is tightly linked to this subject of final project, the Final Master's Work (both subjects form together the compulsory module of "Final Master's Work", the assessment of which includes the presentation of a report of the work carried out in the practicum, including results and a scientific discussion of them). This report will be defended in public before an examining board approved by the Master's management committee and made up by doctors from the course and, if necessary, external staff from the entrepreneurial field and invited doctors. The examining board will assess the student report and its public defence, which will be considered in the final mark.

Learning results:

- Integrating the knowledge acquired with the rest of the Master's subjects by elaborating a written report related with the field of research and development in the field of Nutrigenomics.
- Elaborating a scientific report, complete and of quality.
- Defending the elaborated report by examination with a specialized board and in public defence.

Lecturers:

- Dr. Andreu Palou is Professor in Biochemistry and Molecular Biology of the University of the Balearic Islands; with six six-year research expertise stretches recognized by the Spanish Government and wide teaching and research experience. He is the co-Director of the Master in Nutrigenomics and Personalised

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Nutrition. He is also the Director of the Laboratory of Molecular Biology, Nutrition and Biotechnology of the UIB and has led several coordinated international research projects as Principal Investigator, having more than three-hundred research papers, different patents and having received various research prizes.

- Dr. Ana M. Rodríguez is PhD in Biochemistry and associate professor of the University of the Balearic Islands; with two six-year research experience stretches recognized by the Spanish Government and sixteen years of teaching experience at the University. She is the co-Director of the Master in Nutrigenomics and Personalised Nutrition. She is also an active researcher; at present, her research is focused in the field of gene-nutrient interactions and the relationship of nutrients and early nutritional interventions with the prevention of metabolic disorders associated to energy control, obesity and associated disorders, including the effect on adipose tissue, skeletal muscle and brain health. She has participated in numerous international cooperative research projects.

Requirements

To be able to do the final part of the subject, i.e. the public defence with an examining board of the Final Master's Work, it is necessary the student has passed all the rest of the subjects of the Master.

Skills

Specific

- * E10 – Knowing the last advances in the field of Nutrigenomics, Personalised Nutrition and Molecular Nutrition and acquiring the abilities necessary for being in constant actualization..

Generic

- * G1 – Capacity to apply critical, logic and creative thinking in their work..
- * G10 – Capacity to articulate the knowledge in oral and written presentations..
- * G11 – Advanced comprehension of the global context where the speciality area is developed..
- * G13 – Knowing the capacities and possibilities of TIC (Technologies of Information and Communication) in the area of the discipline..
- * G15 – Ability to analyse the risk/benefit balance of a new development (or innovation)..
- * G3 – Capacity to work in an autonomous way, with initiative, and to solve problems in an effective way..
- * G5 – Ability to analyse data and to get conclusions from the research results..
- * G7 – Respect for the intellectual ethics and integrity..
- * CB9 – The students must know how to communicate their conclusions, and the knowledge and ultimate reasons which support them, to specialised and non-specialised publics in a clear way without ambiguity..
- * CB10 – The students must have the abilities for learning necessary for them to continue studying in a way mainly self-directed and autonomous..
- * CB8 – The students must be able to integrate knowledge and to face the complexity of formulating judgements from information which, although being incomplete or limited, includes reflexions about the social and ethic responsibilities linked to the application of their knowledge and judgements..
- * CB6 – Having and comprehending knowledge giving a base or opportunity for being original in the development and/or application of ideas, often in a context of research..
- * G6 – Capacity for working in an interdisciplinary way..
- * G4 – Capacity to formulate hypotheses and to design suitable studies for their verification..
- * G2 – Knowing how to incorporate the scientific advances to the own professional field..

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- * G14 – Knowing in depth the ambit of the Scientific Research and its repercussion in the society..
- * G12 – Capacity to develop their work in English (lingua franca of the discipline)..

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 alumni have to write a report, corresponding the Final Master's Work, related with their participation in a research work (basic or applied) or research and development work.

The corresponding instructions for the writing of the report will be given to the students at the beginning of the academic year. The alumni will be tutored by a PhD lecturer of the Master in the elaboration of the Final Master's Work. Once the report is finished and after having the permission of the tutor, the alumni will be able, by following the UIB normative, to do the necessary procedures for the public defence of the Final Master's Work and their assessment by an expert board approved by the direction of the Master which will include PhD lecturers of the master and, when appropriate, external staff from the professional entrepreneurial sector or invited lecturers. For each student, the corresponding board will do an assessment of the delivered report and its defence, which will determine the final mark. This constitutes the final step necessary for getting the Master degree.

There are different research lines associated to the FMW, also associated with the practicum. At the beginning of the academic year, the students will be informed about these lines (and the tutors associated to them) in order they can manifest their preferences (by filling a survey form). The applications will be evaluated by the Academic Commission of the Master and its members will make the assignments, taking into account the preferences of the students. In case a same line/tutor is chosen by more than one student, the Academic Commission, together with the corresponding tutor, will make the assignment considering the CV and the academic marks of the previous studies of the students (in case it is considered necessary, also a personal interview can be done). The list with the assignment of students to the lines/tutors will be sent to the Centre of Postgraduate Studies.

At the present moment of publication of this teaching guide (June 2015), the offer of research lines and tutors is the list given below, although it can suffer modifications and the definitive list will be given to the students at the beginning of the lessons:

For students enrolled in profile 2A:

- New nutrigenomic biomarkers and health claims on food (Andreu Palou, lecturer at the UIB)
- Molecular nutrition and obesity (Andreu Palou, lecturer at the UIB)
- Nutrients able to affect metabolic programming and gene expression, study of molecular basis (IMDEA Alimentación (tutor institució + Ana M. Rodríguez, lecturer at the UIB) (placement under specific agreement)
- Molecular and nutrigenomic basis of the health effects of physical activity and the function of muscle cells (Ana M. Rodríguez, lecturer at the UIB)
- Nutrigenomic/nutrigenetic testing (Francisca Serra, lecturer at the UIB)
- Perinatal programming of obesity: mechanisms, development of strategies for their reversion, and identification of early biomarkers (Catalina Picó, lecturer at the UIB)
- Proteomic techniques: analysis of biomarkers in cancer (Francisca Barceló, lecturer at the UIB)

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- Metabolomics in the research of biomarkers (Lluís Arola, lecturer at the URV)
- Development of an integrated food to maintain body weight (Lluís Arola, lecturer at the URV)
- Phytochemicals in the regulation of circadian rhythms (M^a Cinta Bladé, lecturer at the URV)
- Illegitimate signaling of fruit consumption and obesity pathogenesis (M^a Cinta Bladé, lecturer at the URV)
- Bioactive compounds for the control of hypertension.(Begoña Muguera, lecturer at the URV)
- Research on bioactive peptides from food proteins (Begoña Muguera, lecturer at the URV).
- Molecular nutrition and nutriepigenetics related to the control of adiposity (M. Luisa Bonet, lecturer at the UIB)
- Role of the cell cycle regulator proteins in the control of energy metabolism and adiposity (M. Luisa Bonet, lecturer at the UIB)
- Use of blood cells for the identification of suitable biomarkers to be used in studies of nutrition and obesity (Paula Oliver, lecturer at the UIB)
- Study of the treatment of obesity and its complications by remodelling the white adipose tissue into brown (Paula Oliver, lecturer at the UIB)
- Molecular and physiological characterization of animal models with healthy metabolic phenotype (Joan Ribot, lecturer at the UIB)
- Bioactive and functional components of food on the control of cellular adiposity. Molecular Mechanisms (Joan Ribot, lecturer at the UIB)
- Effect of protein quality (and supplementation with aminoacids) of diet y the use and regulation of N in the metabolic syndrome and obesity (José A. Fernández, lecturer at the UB)
- Identification of primary markers of pathology risk (Manuel Suárez, lecturer at the URV)
- Study of the sex-associated differences in the molecular response to nutrients and diets in animal models (Teresa Priego, lecturer at the UIB)
- Effects of maternal overfeeding during gestation and/or lactation on the future predisposition to disease in the progeny (Juana Sánchez, lecturer at the UIB)
- Omic techniques in the identification of early biomarkers predictive of a healthy phenotype (Juana Sánchez, lecturer at the UIB)
- Every academic year, there is also the possibility to arrange a practicum and the subsequent FMW in collaboration with one of the laboratories of the research network CIBERObn, after the request of the student and the acceptance of the receipt laboratory.

For the students enrolled in profile 2B:

- * - Research and development in food enterprises: Biópolis S.L. (placement 1) (Joan Ribot + tutor of the enterprise)
- * - Research and development in food enterprises: Biópolis S.L. (placement 2) (Teresa Priego + tutor of the enterprise)
- * - Research and development in food enterprises: Grupo Leche Pascual (placement 1) (Ana M. Rodríguez + tutor of the enterprise)
- * - Research and development in food enterprises: Grupo Leche Pascual (placement 2) (Ana M. Rodríguez + tutor of the enterprise)
- * - Research and development in food enterprises: Bioseach Life (Puleva Biotech + Exxentia) (placement 1) (M. Luisa Bonet + tutor of the enterprise)

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- * - Research and development in food enterprises: Biosearch Life (Puleva Biotech + Exxentia) (placement 2) (M. Luisa Bonet + tutor of the enterprise)
- * - Research and development in food enterprises: UNILEVER España S.A. – Instituto FLORA (Catalina Picó + tutor of the enterprise)
- * - Research and development in food enterprises: CIBERObn (Oficina de proyectos) (placement 1) (Paula Oliver + tutor of the enterprise)
- * - Research and development in food enterprises: CIBERObn (Oficina de proyectos) (placement 2) (Paula Oliver + tutor of the enterprise)
- * - Research and development in food enterprises: ALIMENTÓMICA S.L. (placement 1) (Francisca Serra + tutor of the enterprise).
- * - Research and development in food enterprises: ALIMENTÓMICA S.L. (placement 2) (Juana Sánchez + tutor of the enterprise)
- * - Research and development in food enterprises: CTNS (1 placement) (Ana M. Rodríguez + tutor of the enterprise)
- * - Research and development in food enterprises: BIOIB (2 placements) (Ana M. Rodríguez + tutor of the enterprise)

Theme content

Final Master's Work. Written report

Teaching methodology

In-class work activities

Modality	Name	Typ. Grp.	Description	Hours
ECTS tutorials	Tutorial sessions with the tutor/s and coordinators	Small group (P)	Tutorial sessions with the tutor/s for guiding in the process of the elaboration of the Final Master's Work. Some sessions with the coordinators of the subject will be also necessary to know the correct procedures to follow.	12
Assessment	Public defence of the Final Master's Work	Large group (G)	Public defence of the Final Master's Work with an examining board.	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	Elaboration of the Final Master's Work	Preparation and writing of the report of the Final Master's Work (including the review of bibliography, its study and the data processing) and preparation of its defence.	137



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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

The guidelines for assessment of the Final Master's Work are given below. In brief: each student must deliver a written report following the instructions given by the coordinator of the subject (the guidelines for the writing and delivery of the report will be given to the students at the beginning of the academic year and will be available in Campus Extens), the report will be defended in public before an examining board, the composition of which will follow the rules given by the academic rules of the University. Also, there will be specific guidelines for the public defence of the FMW that will be given to the students at the beginning of the academic year.

Public defence of the Final Master's Work

Modality	Assessment
Technique	Oral tests (non-retrievable)
Description	Public defence of the Final Master's Work with an examining board.
Assessment criteria	A report of the work carried out in the practicum must be presented, including results and a scientific discussion of them. This report will be defended in public before an examining board approved by the Master's management committee and made up by doctors from the course and, if necessary, external staff from the entrepreneurial field and invited doctors. The examining board will assess the student report and its public defence, which will be considered in the final mark.

Final grade percentage: 100%

Resources, bibliography and additional documentation

Basic bibliography

All relevant bibliography, mainly based on papers from international scientific journals and scientific data bases, as well as specific bibliography given by the directors of the Final Master's Work.

