1. OVERVIEW

Subject Area	Endocrinology and Nutrition
Degree	Bachelor's Degree in Human Nutrition and Dietetics
School/Faculty	Faculty of Biomedical Sciences
Year	4th year
ECTS	6 ECTS
Type	Optional
Language(s)	Spanish
Delivery Mode	On-campus and blended
Semester	7th semester
Coordinating professor	Dr Joaquin Figueroa Alchapar

2. INTRODUCTION

'Endocrinology and Nutrition' (6 ECTS credits) is an optional subject area in Module 4 of Nutrition, Dietetics and Health Sciences (36 ECTS credits) within the Bachelor's Degree in Human Nutrition and Dietetics at Universidad Europea de Madrid (UEM).

It is delivered in the **4th year** in the **7th semester** of the whole degree and has the following objectives:

- Learn about the aetiology, symptomatology, diagnosis, prognosis and prevention of endocrine system diseases.
- Provide guidance on how to collect relevant patient information in order to draw up a clinical history (anamnesis and physical examination).
- Know the main endocrine disorders and be able to draw up a correct nutritional and dietary pattern in situations of illness.
- Consider and propose appropriate preventive measures for different clinical situations.

3. SKILLS AND LEARNING OUTCOMES

Key Skills (CB, by the acronym in Spanish)

- **CB2**: Students can apply their knowledge to their work professionally and possess the necessary skills, usually demonstrated by forming and defending opinions, as well as resolving problems within their study area.

- **CB3**: Students have the ability to gather and interpret relevant data (usually within their study area) to form opinions which include reflecting on relevant social, scientific or ethical matters.
- **CB4**: Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.
- **CB5**: Students have developed the learning skills necessary to undertake further study in a much more independent manner.

General Skills (CG, by the acronym in Spanish)

- **CG12**: Know about nutrients, their role in the body, bioavailability, requirements and recommendations, as well as the bases of energy and nutritional balance.
- **CG16**: Interpret a nutritional diagnosis, assess the nutritional aspects of a patient's medical record and implement a diet plan.
- **CG18**: Participate in the organisation, management and implementation of different methods of feeding patients and providing nutritional support in hospitals, as well as of outpatient dietary/nutritional treatment.

Cross-curricular skills (CT, by the acronym in Spanish)

- **CT1**: Communication: ability to engage in active listening, ask questions and respond in a clear and concise way, as well as to effectively express ideas and concepts. This includes concise and clear written communication.
  CT5: Initiative: ability to undertake difficult or risky actions with resolve.
- **CT6**: Problem solving: ability to solve an unclear or complex issue or situation which has no established solution and requires skill to reach a conclusion.
- **CT9**: Ability to put knowledge into practice, using the skills acquired in the classroom to mock situations based on real life experiences that occur in the relevant profession.

Specific Skills (CE, by the acronym in Spanish)

- **CE105:** Be familiar with the interaction between the endocrine, nervous and immune systems.
- **CE106**: Know about hormonal disorders: thyroid, parathyroid, adrenal glands, reproductive glands, sex hormones, multiple endocrine neoplasia, diabetes, dyslipidaemia.

Learning Outcomes (RA, by the acronym in Spanish)

- **RA1**: Know the foundations of endocrinology.
- **RA2**: Be familiar with major hormone disorders: thyroid, parathyroid, adrenal glands, reproductive glands, sex hormones, etc.
- **RA3**: Know the main endocrine diseases.
- **RA4**: Understand the relationship between nutrition and diabetes.
- **RA5**: Understand the relationship between nutrition and dyslipidaemia.
- **RA6**: Endocrine regulation of body weight.

The following table shows how the skills developed in the subject area match up with the intended learning outcomes:

Skills	Learning outcomes
• **CB2, CB3, CB4, CG12, CT1, CT6, CE105, CE106**	**RA1:** Know the foundations of endocrinology.
• **CB2, CB3, CB4, CB5, CG16, CG18, CT5, CT6, CT9, CE106**	**RA2:** Be familiar with major hormone disorders: thyroid, parathyroid, adrenal glands, reproductive glands, sex hormones, etc.
• **CB2, CB3, CB4, CB5, CG12, CG16, CT1, CT9, CE105**	**RA3:** Know the main endocrine diseases.
• **CB2, CB3, CB5, CG12, CG16, CT6, CT9, CE105, CE106**	**RA4:** Understand the relationship between nutrition and diabetes.
• **CB2, CB3, CB5, CG12, CG16, CT1, CT5, CT6, CT9, CE105, CE106**	**RA5:** Understand the relationship between nutrition and dyslipidaemia.
• **CB2, CB3, CB4, CB5, CG12, CG16, CG18, CT1, CT5, CT6, CT9, CE105, CE106**	**RA6:** Endocrine regulation of body weight.

4. CONTENTS

The subject area 'Endocrinology and Nutrition' covers a total of **14 topics** within **2 learning units (UA, by the acronym in Spanish)**, each containing 7 topics.

Below are the details of the topics contained in each learning unit.

Unit 1. Basic Clinical Endocrinology

- **Topic 1.** Physiology of the endocrine system.
- **Topic 2.** Hypothalamic-pituitary disorder.
- **Topic 3.** Growth hormone and reproductive gland disorders.
- **Topic 4.** Adrenal gland disorders.
- **Topic 5.** Thyroid disorders.
- **Topic 6.** Parathyroid disorders.
- **Topic 7.** Miscellaneous endocrine disorders.

Unit 2. Diabetology, Metabolism and Nutrition

- **Topic 8.** The endocrine pancreas.
- **Topic 9.** Insulin resistance and prediabetes.
- **Topic 10.** Diabetes.
- **Topic 11**. Obesity.
- **Topic 12**. Dyslipidaemia.
- **Topic 13**. Metabolic syndrome.
- **Topic 14**. Miscellaneous metabolic and nutrition disorders.

5. TEACHING/LEARNING METHODS

The types of teaching/learning methods are as follows:

- Lectures
- Collaborative learning
- Case studies
- Problem-based and project-based learning
- Learning based on workshops/labs

6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

On campus

Learning activity	Number of hours
Lecture	50
Independent working	25.5
Case studies	10.5
Group activities	10.5
Written reports and strategies	10.5
Workshops and/or lab work	18
Tutorials	18
Knowledge test	5
TOTAL	**150**

Blended learning

Learning activity	Number of hours
Reading of content	13h
Online seminars	13 h
Case studies	10.5 h
Workshops and/or lab work	19 h
Group activities	10 h
Online tutorials	19 h
Independent working	49 h
Written reports and strategies	10.5 h

Knowledge test	5h

7. ASSESSMENT

The assessment methods, together with their respective weighting towards the final grade for the subject, are as follows:

On campus

Assessment method	Weighting
Knowledge tests	40%
Laboratory work	20%
Submission of reports and essays	15%
Participation in debates	15%
Performance observation	10%
TOTAL	**100%**

Blended learning

Assessment method	Weighting
Knowledge tests	40%
Laboratory work	20%
Submission of reports and essays	15%
Participation in debates	15%
Performance observation	10%
TOTAL	**100%**

On the Virtual Campus, when you open the subject area, you can see all the details of your assessment activities, including the deadlines and assessment procedures for each activity.

8. BIBLIOGRAPHY

The reference works for this subject area are:

- **Gardner DG & Shoback D (2020)**. Greenspan Endocrinología Básica y Clínica (10ª ed). *Editorial McGraw-Hill*.
- **Melmed S et al (2011)**. Williams Tratado de Endocrinología (13ª ed). *Editorial Elsevier.*

- **Ortega Anta RM & Requejo Marcos AM (2015)**. Nutriguía. Manual de Nutrición Clínica (2ª ed). *Editorial Panamericana.*
- **Pallardo Sánchez LF et al (2010**). Endocrinología Clínica (2ª ed). *Editorial Díaz de Santos.*
- **Tresguerres JAF et al (2000).** Tratado de Endocrinología Básica y Clínica. *Editorial Síntesis.*