

Nutrition I

| MODULE | CONTENT | YEAR | TERM | CREDITS | TYPE |
|--|-------------|------|--|---------|-----------------|
| Science Diet and health | NUTRITION I | 2º | 1º | 6 | TRUNK MANDATORY |
| LECTURER(S) | | | Postal address, telephone nº, e-mail address | | |
| <ul style="list-style-type: none"> • Herminia Lopez Garcia de la Serrana g.C • Javier Montilla Gomez g.E | | | Dpto. Nutricion y Bromatologia, 3ª planta, Facultad de Farmacia. Despachos nº 316 y 317. Correo electrónico: herminia@ugr.es y jmont@ugr.es | | |
| | | | Martes, Jueves y viernes de 10h 30min a 12h 30min (Prof. Garcia de la Serrana). Martes y Jueves de 8h 30min a 11h 30min. (Profesor Montilla). | | |
| DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT | | | | | |
| Degree in Human Nutrition and Dietetics | | | | | |
| PREREQUISITES and/or RECOMMENDATIONS (if necessary) | | | | | |
| Having studied the subjects of Chemistry, Biochemistry, Food Science | | | | | |
| BRIEF ACCOUNT OF THE SUBJECT PROGRAMME (ACCORDING TO THE DEGREE ¿??) | | | | | |
| With this address student discipline and field meet important content of Nutrition such as: - The nutritional needs of the human body, their energy expenditure, the relationship between food and nutrient transformation and fate of nutrients. The several nutrients, their functions, metabolic utilization as well their nutritional concern in the field of food. - To study the basis of energy balance and nutritional regulation. It will be able to evaluate and calculate the nutritional requirements in health status at any stage of the life cycle. | | | | | |
| GENERAL AND PARTICULAR ABILITIES | | | | | |
| GENERAL - To know the nutrients, their function in the body, their bioavailability, needs and recommendations. To learn the influence on the basis of energy balance and nutrition. - To integrate and evaluate the relationship between food and nutrition in health and in situations pathological. | | | | | |
| SPECIFIC | | | | | |



- To know the nutrients, their functions and metabolic utilization. Learning of the basics of balance nutritional and regulation.
- To assess the nutritional requirements in health and disease status at any life cycle stage.
- To identify the foundation of a healthy diet (adequate, balanced, varied and adapted).

OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)

- Knowing the nutrients, their functions and metabolic utilization.
- Learning the basics of nutrition and energy balance and its regulation.
- Assessing and control of nutritional requirements in health status at any stage of the cycle vital.
- Knowing the early detection, quantitative evaluation and qualitative deviations of balance energy and nutrition

DETAILED SUBJECT SYLLABUS

THEORETICAL PROGRAM:

Item 1. Nutrition. Objectives. Current status and prospects. Concept of food and nutrient. Spanish food law. Role of the Diploma in Nutrition and Dietetics Professional Nutrition.

Item 2. Energy requirements of the human organism. Basal metabolism. Determinant factors of energy expenditure. Nutrients as a source of energy.

Item 3. Nutritional recommendations. Dietary Reference Intakes. Recommended dietary allowances.

Item 4. Mechanisms for the nutrition of the human organism. Food utilization and fate of nutrients.

Item 5. Organs and tissues involved in nutrition.

Item 6. Carbohydrates. Classification. Functions. Utilization. Sources of nutritional and dietary recommendations.

Item 7. Fibre. Classification. Functions. Sources of nutritional and dietary recommendations.

Item 8. Lipid Classification. Functions. Utilization. Sources of nutritional, AGE and dietary recommendations.

Item 9. Protein Classification. Functions. Utilization. Sources of nutritional and dietary recommendations.

Item 10. Integration of the three nutrient metabolism, major organs and hormones involved.

Item 11. Water soluble Vitamins. Classification. Functions. Utilization. Sources of interest nutritional and dietary recommendations.

Item 12. Lipid soluble Vitamins. Classification. Functions. Utilization. Sources of interest nutritional and dietary recommendations.

Item 13. Minerals. Classification. Macro- and micro- minerals. Functions. Utilization. Sources nutritional value and dietary recommendations.

Item 14. Water. Body fluids and electrolyte balance. Nutritional importance of water. Needs and sources.



PRACTICAL PROGRAM

LABORATORY PRACTICES

- 1 – Balance metabolic ratio (BMR) calculation.
- 2 - Calculation of energy expenditure.
- 3 - Use of food composition tables of food preparation.
- 4 - Case studies. Development and discussion

SEMINARS

- 1 – Nutritional education.
- 2 - Importance of nutrition in the prevention of disease.
- 3 - Vitamins, minerals and bioactive food compounds: topics prepared and submitted by the student.
- 4 - Other seminars given by the students.

READING

KEY REFERENCES:

- **Astiasaran I, Laceras B, Ariño A, Martínez A (2003)**. Alimentos y nutrición en la práctica sanitaria. Díaz de Santos. Madrid.
- **Cameron ME, Van Staveren WA (1988)** Manual on Methodology for food consumption studies, Oxford Medical Publications
- **Cervera P, Clapés J, Rigolfas R (2004)**. Alimentación y dietoterapia (Nutrición aplicada en la salud y la enfermedad). 4ª edición, Ed. Interamericana McGraw-Hill. México.
- **CESNID (2008)**. Tablas de composición de alimentos por medidas caseras de consumo habitual en España. Ed McGraw-Hill, Madrid.
- **Frayn KN (1998)**. Regulación del metabolismo, Una perspectiva humana Ed. Omega
- **Gil A (2010)**. Tratado de Nutrición (4 tomos). Ed. Panamericana. Madrid.
- **Groff JL, Gropper SS, Hunt SM (1995)** .Advanced Nutrition and Human Metabolism
- **Linder, M.C. (1992)**. "Nutrición. Aspectos Bioquímicos, Metabólicos y Clínicos". Ediciones Universidad de Navarra (Eunsa), Pamplona, España.
- **Mahan L.D. and Escott-Stump, S. (2009)**. "Nutrición y Dietoterapia de Krause". (12ª Edición). McGraw-Hill Interamericana, Ed. Elsevier, SL Barcelona.
- **Martínez, J.A. (2000)**. "Fundamentos Teórico-Prácticos de Nutrición y Dietética", McGraw-Hill. Madrid, España.
- **Mataix Verdu J (2009)**. Nutrición y alimentación humana (2 tomos). Ed. Ergen. Madrid.
- **Ministerio De Sanidad y Consumo (1995)**. Tablas de composición de alimentos españoles. Ed. Ministerio de Sanidad y Consumo. Secretaría General Técnica. Centro de Publicaciones, Madrid.
- **Muñoz M, Aranceta J, Garcia-Jalon I (2004)**. Nutrición aplicada y dietoterapia, 2ª ed. Ed. Eunsa. Pamplona.
- **Novartis**. Tablas de composición de los alimentos. (Última ed. 5º). Siempre disponible en fotocopiadora.
- **Requejo A, Ortega Rm (2000)**. Nutriguía. Manual de Nutrición clínica en atención primaria. Ed. Complutense. Madrid.
- **Salas-Salvado J, Bonada A, Trallero R, Saló Me, Burgos R (2008)**. Nutrición y Dietética Clínica. 2ª ed. Ed. Masson. Barcelona.
- **SENC (2004)**. Guías de la alimentación saludable. Edita Sociedad Española de Nutrición Comunitaria. Madrid.
- **Serra Majen L, Aranceta J (2006)**. Nutrición y salud pública: métodos, bases científicas y aplicaciones, 2ª ed. Ed. Masson, Madrid
- **Shils Me, Olson Ja, Shike M (2002)**. Nutrición en Salud y Enfermedad. 9ª ed. (2 tomos). McGraw-Hill. México.
- **Shils ME, Olson JA, Shike M, Ross C. (1999)** Nutrición en Salud y Enfermedad. Ed. Mc Graw Hill.
- **Willett, W. (1993)**. Nutritional epidemiology Oxford University Press



FURTHER READING:

Are recommended to all relevant Government agencies and professionals.

<http://www.uned.es/pea-nutricion-y-dietetica>

RECOMMENDED INTERNET LINKS

- ▶ Ingestas dietéticas de referencia (DRIs): <http://www.nal.usda.gov/fnic/etext/000105.html>
- ▶ Organización de Naciones Unidas para la agricultura y alimentación. www.fao.org
- ▶ Agencia española de seguridad alimentaria y nutrición: www.aesan.msc.es

