

## NAME OF THE SUBJECT

**SCIENTIFIC RESEARCH METHODOLOGY**

MODULE	CONTENT	YEAR	TERM	CREDITS	TYPE
Optional		2º and 3º		6	Optional subject
LECTURER(S)			Postal address, telephone nº, e-mail address		
<ul style="list-style-type: none"> <li>Rafael Delgado Calvo-Flores</li> <li>Jesús Párraga Martínez</li> <li>Gabriel Delgado Calvo-Flores</li> <li>Juan Manuel Martín García</li> <li>Márquez Crespo, Rocío</li> </ul>			Dpto. Edafología y química Agrícola, 1ª planta, Facultad de Farmacia. Despachos nº 183, 184, 185, 186 y CIC (Farmacia). Correo electrónico: <a href="mailto:rdelgado@ugr.es">rdelgado@ugr.es</a> , <a href="mailto:jparraga@ugr.es">jparraga@ugr.es</a> , <a href="mailto:gdelgado@ugr.es">gdelgado@ugr.es</a> , <a href="mailto:jmmartingarcia@ugr.es">jmmartingarcia@ugr.es</a> , <a href="mailto:semfarma@ugr.es">semfarma@ugr.es</a>		
DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT					
Degree in Human Nutrition and Dietetics (HND)					
PREREQUISITES and/or RECOMMENDATIONS (if necessary)					
Have passed at least the first year of the Degree to have an elementary knowledge of what is a science.					
BRIEF ACCOUNT OF THE SUBJECT PROGRAMME (ACCORDING TO THE DEGREE)					
Concept and History of Science. The Scientific Method and its application to HND. Reports and Research Papers. Dissemination of them. Development and Scientific Innovation. Social responsibility of scientists.					
GENERAL AND PARTICULAR ABILITIES ( <a href="https://farmacia.ugr.es/guiasdocentes/docu/CompGrNHD.htm">https://farmacia.ugr.es/guiasdocentes/docu/CompGrNHD.htm</a> )					
<b>Basic abilities</b> CB1, CB2, CB3, CB4 and CB5. <b>Cross-disciplinary abilities</b> CT1, CT2, CT3.					



**General abilities**

CG2, CG3, CG5, CG6, CG7, CG10, CG29,

**Specific abilities**

CE5, CE14, CE44, CE46, CE54.

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

- Provide the fundamental concepts to investigate in NHD following the scientific method.
- Search for information sources. Interpretation, preparation and writing of reports and research papers.
- Knowledge of the best way to disseminate reports and research papers.
- To know the development and scientific innovation as well as its economic aspects.

**DETAILED SUBJECT SYLLABUS****THEORY CLASSES:**

- Unit 1.- Concept of Science and scientific knowledge
- Unit 2.- Evolution of Scientific Research
- Unit 3.- The Scientific Method
- Unit 4.- Observation, Measurement and Experimentation as source data to Science
- Unit 5.- Introduction to research in Human Nutrition and Dietetics
- Unit 6.- Reports and research papers
- Unit 7.- Dissemination and visibility of reports and research papers
- Unit 8.- Research, Development and Scientific Innovation (R + D + i)
- Unit 9.- Social responsibility of the scientists
- Topic 10.- Postgraduate studies and research centers

**READING**

- Bernabeu, J., Wanden-Berghe, C., Sanz, J., Castiel, L.D., landaeta, M., Anderson, H. (1997). Investigación e Innovación Tecnológica en la Ciencia de la Nutrición. Editorial Club Universitario, Alicante.
- Bunge, M. (2004). La investigación científica: su estrategia y su filosofía. Siglo XXI, Mexico.
- Castelló, M (coord.), Miras, M., Solé, I., Teberosky, A. Iñesta, A. Y Zanotto, M. (2007). Escribir y comunicarse en contextos científicos y académicos: conocimientos y estrategias. Editorial Grao, Barcelona.
- Cegarra, J. (2004). Metodología de la investigación científica y tecnológica. Ediciones Díaz de Santos, Madrid.
- Gauch, H.G. (2003). Scientific method in practice. Cambridge University Press, UK.
- Gómez, M.M. (2006). Introducción a la metodología de la investigación científica. Editorial Brujas, Buenos aires.
- Insight Media. (2010). How to Read and Understand a Research Study; Research Design: The Experiment; Research



Design: The Survey; Research Ethics. DVDs of Science. Insight Media, New York, US.  
Miján de la Torre, A. (ed.) (2002). Técnicas y Métodos de Investigación en Nutrición Humana. Editorial Glosa, Barcelona.  
National Academy of Sciences (U.S.). Committee on the Conduct of Science, National Academy of Engineering (1995). On being a scientist: responsible conduct in research. National Academies Press, Washington DC.  
Ordóñez, J., Sánchez Ron, J.M., Navarro Brotóns, V. (2007) Historia de la Ciencia. Espasa-calpe, Madrid.

Ortiz, F.G. (2003). Diccionario de metodología de la investigación científica. Editorial Limusa, Mexico.  
Rozakis, L. (1999). Schaum's quick guide to writing great research papers. McGraw-Hill Professional, New York.  
Tamayo, M. (2005). Metodología formal de la investigación científica. Editorial Limusa, Mexico.  
Wilson, E.B. (1991). An introduction to scientific research. McGraw-Hill, New York.

#### **Complementary Reading**

Greenfield, H., Southgate, D.A.T. (2006). Datos de Composición de Alimentos: Obtención, Gestión y Utilización. FAO, Roma.  
Serra, L., Aranceta, J. (2006). Nutrición y Salud Humana: Métodos, Bases Científicas y Aplicaciones. Elsevier-Masson, Barcelona.

#### **RECOMMENDED INTERNET LINKS**

-Scientific Method: <http://emotionalcompetency.com/sci/booktoc.html>  
-Science Fair Project Ideas: [http://www.sciencebuddies.org/](http://www.sciencebuddies.org/http://www.sciencebuddies.org/science-fair-projects/project_scientific_method.shtml)  
[http://www.sciencebuddies.org/science-fair-projects/project\\_scientific\\_method.shtml](http://www.sciencebuddies.org/science-fair-projects/project_scientific_method.shtml)  
-An Introduction to Science: Scientific Thinking and the Scientific Method: <http://www.freeinquiry.com/intro-to-sci.html>  
-Introduction to the Scientific Method: [http://teacher.nslr.rochester.edu/phy\\_labs/AppendixE/AppendixE.html](http://teacher.nslr.rochester.edu/phy_labs/AppendixE/AppendixE.html)  
-The Scientific Method: A helpful guide by Science Made Simple:  
[http://www.sciencemadesimple.com/scientific\\_method.html](http://www.sciencemadesimple.com/scientific_method.html)

