

**COURSE DATA****Data Subject**

Code	43271
Name	Conservation and management of ecosystems
Cycle	Master's degree
ECTS Credits	6.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
2148 - M.D. in Biodiversity: Conservation and Evolution	Faculty of Biological Sciences	1	Annual

Subject-matter

Degree	Subject-matter	Character
2148 - M.D. in Biodiversity: Conservation and Evolution	10 - Evaluation and management of ecosystems	Optional

Coordination

Name	Department
BARBA CAMPOS, EMILIO	275 - Microbiology and Ecology
RODRIGO ALACREU, MARIA ANTONIA	275 - Microbiology and Ecology

SUMMARY**English version is not available**

El “Master en Biodiversidad: conservación evolución” se constituye como programa de postgrado dirigido a la formación de profesionales e investigadores dedicados al mantenimiento de la diversidad biológica. La formación previa de los ingresados les debe haber proporcionado los conocimientos, habilidades y destrezas que sirven como base a los desarrollos más especializados que se realizan en este Master.

La conservación y recuperación de la biodiversidad va ligada a la de los hábitats ocupados por los seres vivos. En esta asignatura se pretende formar al estudiante en los conocimientos y capacidades que le permitan dedicarse profesionalmente a la gestión y restauración de los ecosistemas. La asignatura incluye desde las bases ecológicas de la restauración hasta las técnicas más habituales empleadas en la gestión y restauración de ecosistemas, desarrolladas desde una perspectiva holista en la que el mantenimiento o la



recuperación de la funcionalidad de los ecosistemas sea la garantía principal del mantenimiento de las especies que albergan.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

OUTCOMES

2148 - M.D. in Biodiversity: Conservation and Evolution

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- To acquire basic skills to develop laboratory work in biomedical research.
- Be able to make quick and effective decisions in professional or research practice.
- Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Be able to access to information tools in other areas of knowledge and use them properly.
- To be able to assess the need to complete the scientific, historical, language, informatics, literature, ethics, social and human background in general, attending conferences, courses or doing complementary activities, self-assessing the contribution of these activities towards a comprehensive development.
- Stimulate the capacity for critical reasoning and for argumentation based on rational criteria.
- Awaken interest in the social and economic application of science.
- Encourage ethical commitment and environmental awareness.



- Be able to communicate and disseminate scientific ideas.

LEARNING OUTCOMES**English version is not available****WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	20,00	100
Computer classroom practice	15,00	100
Laboratory practices	15,00	100
Classroom practices	10,00	100
Development of individual work	30,00	0
Preparation of evaluation activities	30,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	15,00	0
TOTAL	150,00	

TEACHING METHODOLOGY**English version is not available****EVALUATION****English version is not available****REFERENCES****Basic**

- Falk, D. A. & al. 1996 Restoring Diversity. Island Press. Washington.
- Ferson, S. & Burgman, M. 2000. Quantitative methods for conservation biology. Springer, New York.
- Groom, M. J.; G. K. Meffe, and C. R. Carroll 2006. Principles of Conservation Biology. Third Edition. Sinauer, Sunderland, MA.
- Hansson, L. 1992. Ecological principles of nature conservation: applications in temperate and boreal



habitats. Elsevier, London.

- Hunter M.L. and J. Gibbs 2007. Fundamentals of Conservation Biology. 3rd edition. Wiley-Blackwell.
- Maitland P.S. & Morgan N.C. 1997. Conservation and management of freshwater habitats: lakes, rivers and wetlands. Chapman & Hall-Kluwer. New York.
- Lockwood, M., Worboys, G. L. y Kothari, A. (eds.) (2006) Managing protected áreas: a global guide. Earthscan, London.
- Perrow, M. R. & Davy, A. J. 2002. Handbook of ecological restoration. Cambridge University Press, Cambridge.
- Pickett, S. T. A. 1997. The ecological basis of conservation: heterogeneity, ecosystems and biodiversity. Chapman & Hall, New York.
- Pimentel, D.; Westra, L. & Noss, R. F. 2000. Ecological integrity: integrating environment, conservation and health. Island Press, Washington
- Primack, R. B. & J. Ros. 2002. Introducción a la biología de la conservación. Ed. Ariel Ciencia. Barcelona
- Society for Ecological Restoration International Science & Policy Working Group. 2004. The SER Primer on Ecological Restoration. Society for Ecological Restoration International, Tucson, AZ
- Van Andel, J. & Aronson J. 2005. Restoration ecology. Blackwell, Oxford

Additional

- Briggs, M. K. 1996. Riparian ecosystem recovery in arid lands. The University of Arizona Press.
- Clewell A. F. & J. Aronson. 2007. Ecological Restoration: Principles, Values, and Structure of an Emerging Profession. Island Press. Washington, D.C.
- Dodds W. K. 2003. Freshwater Ecology. Academic Press.
- Eiseltová M. 1994. Restoration of lake ecosystems. A holistic approach. IWRB Publication 32. U.K.
- Faz Cano A.; A.R. Mermut, J.M Arocena.& R. Ortiz Silla. 2009: Land Degradation and Rehabilitation. Advances in Geoecology 40. Catena Verlag, Germany.
- González del Tánago M. & García de Jalón D. 1995. Restauración de ríos y riberas. Ed. Fundación Conde del Valle de Salazar. Madrid.
- González del Tánago, M. et al. 2008. Guía Metodológica para la elaboración de proyectos de restauración de ríos. Ministerio de Medio Ambiente, Madrid.



- Kalff, J. 2002. Limnology. Prentice Hall.
- Kumagai M. & Vicent W.F. 2003. Freshwater management. Global versus local perspectives. Springer.
- Lampert W. & Sommer, U. 1997. Limnology. Ecology of lakes and streams. Ed. Oxford University Press.
- Mitsch W. J & S. E. Jorgensen. 2004. Ecological engineering and ecosystem restoration. Wiley, Hoboken, NJ.
- Moss, B., Madgwick J. & Phillips G. 1996. A guide to the restoration of nutrient-enriched shallow lakes. Ed. Environmental Agency. Broads. UK.
- Moss, B. 1998. Ecology of fresh waters. Man and medium, past to future. Blackwell. Oxford.
- O'Sullivan P. E. & C. S. Reynolds (ed.).2005. The Lakes Handbook Vol 2: Lake restoration and rehabilitation. Blackwell.
- Petts G. & Calow P. 1996. River restoration. Blackwell Science. Oxford.
- Valle Tendero, F. & al. 2004. Modelos de restauración forestal. 4 vols. Junta de Andalucía, Consejería de Medio Ambiente, Sevilla.
- Wetzel, C. 2001. Limnology. Elsevier.
- Walkey, M., Swingland, I. R. y Russell, S. (eds.) (1999) Integrated protected area management. Kluwer, Dordrecht.
- Worboys, G. L., Lockwood, M. y De Lacy, T. (2005) Protected area management Oxford Univ. Press, Oxford.
- Worboys, G. L., Francis, W. L. y Lockwood, M. (eds.) (2010) Connectivity conservation management: a global guide. Earthscan, London.
- Wright, R. G. (ed.) (1999) National parks and protected areas: their role in environmental protection. Blackwell, Cambridge.