COURSE DATA

Data Subject	
Code	43275
Name	Modeling
Cycle	Master's degree
ECTS Credits	3.0
Academic year	2018 - 2019

Study (s)

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

Subject-matter

Degree	Subject-matter	Character
2148 - M.D. in Biodiversity: Conservation and Evolution	12 - Techniques and tools for the study of ecosystems	Optional

Coordination

Name	Department
GUERRERO CORTINA, FRANCISCO	255 - Applied Mathematics

SUMMARY

English version is not available

Esta asignatura está incluida en el Máster de Biodiversidad dentro del conjunto de asignaturas que proporcionan las herramientas básicas para el trabajo de un biólogo relacionado con sistemas complejos como los ecosistemas. En esta asignatura se amplían los conocimientos matemáticos del alumno en los aspectos más próximos al trabajo real, como son: métodos estadísticos, métodos numéricos, Teoría General de Sistemas, construcción de modelos matemáticos y simulación con ayuda de los mismos, con el fin de lograr estrategias cuasi-óptimas de control sobre la evolución de los ecosistemas.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

Se recomienda tener conocimientos básicos de Estadística y Probabilidad y de Cálculo.

OUTCOMES

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

- 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.
- 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.
- Favour intellectual curiosity and encourage responsibility for one's own learning.
- 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	10,00	100
Development of individual work	14,00	0
Study and independent work	10,00	0
Readings supplementary material	1,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	4,00	0
Preparation of practical classes and problem	4,00	0
Resolution of case studies	2,00	0
TOTAL	**75,00**	

TEACHING METHODOLOGY

English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Cuadras C M (1986) Problemas de Probabilidad y Estadística. Ed Anaya. Madrid.
- Aràndiga F, Mulet P (2008) Càlcul numèric. Publicacions Universitat de València PUV.
- Amat S, Aràndiga F, Arnau JV, Donat R, Mulet P, Peris R (2002) Aproximació numérica. Publicacions Universitat de València PUV.
- Aracil J. Introducción a la Dinámica de Sistemas. Alianza Editorial.
- López L, Martínez S (2000) Iniciación a la Simulación Dinámica. Ariel Economía. Barcelona.
- RuizMaya Pérez L,MartínPliego López FJ (2005) Thomson Paraninfo. Madrid.

Additional

- Spiegel M R (1987) Teoría y Problemas de Probabilidades y Estadística. Mac Graw-Hill. México.
- Aubanell A, Benseny A, Delsbams A (1993) Útiles básicos de Cálculo Numérico. Ed. Labor.
- Hannon B, Ruth M (1997) Modeling Dynamic Biological Systems. Ed. Springer Verlag. New York.