VNIVERSITAT DE VALÈNCIA

Course Guide
34170 Ordinary differential equations

COURSE DATA

Data Subject	
Code	34170
Name	Ordinary differential equations
Cycle	Grade
ECTS Credits	9.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1107 - Degree in Mathematics	Faculty of Mathematics	2	Second term

Subject-matter

Degree	Subject-matter	Character
1107 - Degree in Mathematics	12 - Differential equations	Obligatory

Coordination

Name	Department
DONAT BENEITO, ROSA MARIA	363 - Mathematics
JORNET SANZ, MARC	363 - Mathematics
LOPEZ UREÑA, SERGIO	363 - Mathematics

SUMMARY

English version is not available

Se introducirá al estudiante en los conceptos básicos sobre EDO, a partir del problema de Cauchy. Se estudiarán métodos analíticos y numéricos de soluciones y, muy particularmente, la resolución de ecuaciones y sistemas diferenciales lineales. Se propondrán ejemplos de aplicación a las ciencias.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

Las nociones básicas necesarias para el inicio de esta asignatura se habrán cursado en las asignaturas previas de Análisis Matemático, Álgebra Lineal y Geometría, Matemática Discreta, y Herramientas Informáticas.

OUTCOMES

1107 - Degree in Mathematics

- Capacity for analysis and synthesis.
- Capacity for organization and planning.
- Capacity for criticism.
- Solve problems that require the use of mathematical tools.
- Ability to work in teams.
- Learn autonomously.
- Adapting to new situations.
- Possess and understand the mathematical knowledge.
- Expressing mathematically in a rigorous and clear manner.
- Reason logically and identify errors in the procedures.
- Capacity of abstraction and modeling.
- Knowing the time and the historical context in which occurred the great contributions of women and men in the development of mathematics.
- Visualize and interpret the solutions obtained.

LEARNING OUTCOMES

English version is not available

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	45,00	100
Classroom practices	19,00	100
Computer classroom practice	15,00	100
Other activities	11,00	100
Development of group work	10,00	0
Preparation of evaluation activities	28,00	0
Preparing lectures	41,00	0
Preparation of practical classes and problem	42,00	0
Resolution of online questionnaires	3,00	0
TOTAL	**214,00**	

TEACHING METHODOLOGY

English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Braun, M. Ecuaciones Diferenciales y sus aplicaciones. Grupo Editorial Iberoamérica. 1990.
- Ecuaciones Diferenciales con Aplicaciones y Notas Históricas, F. Simmons. Mc Graw Hill.
- Introduction to Differential Equations with Applications, F. Brauer, J.A. Nohel. Harper & Row Publishers, New York.

Additional

- Boyce, E. W., DiPrima, R.C. Elementary differential equations and Boundary value problems. John Wiley & sons, Inc. 1992.