

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

Code	34170
Name	Ordinary differential equations
Cycle	Grade
ECTS Credits	9.0
Academic year	2022 - 2023

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
MARCO MONTORO, LUIS	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 los métodos de búsqueda formal de soluciones y, muy particularmente, la resolución de ecuaciones y sistemas diferenciales lineales.

Por otra parte, se impartirán métodos para obtener información sobre soluciones no calculadas y sobre cuestiones de estabilidad. 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.

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
Preparation of evaluation activities	28,00	0
Preparing lectures	51,00	0
Preparation of practical classes and problem	45,00	0
TOTAL	214,00	

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

- Referencia b1: Boyce, E. W., DiPrima, R.C. Elementary differential equations and Boundary value problems. John Wiley & sons, Inc. 1992.
- Referencia b2: Braun, M. Ecuaciones Diferenciales y sus aplicaciones. Grupo Editorial Iberoamérica. 1990.
- Referencia b3: Jiménez López, V. Ecuaciones Diferenciales. Universidad de Murcia. 2000

Additional

- Referencia c1: Piccinini, L.C., Stampacchia, G., Vidossich, G. Ordinary Differential Equations in $\mathbb{R}^n$. Springer-Verlag, 1984.
- Referencia c2: Sotomayor, J., Lições de equações diferenciais ordinarias. Instituto de Matematica



VNIVERSITAT ID VALÈNCIA

Course Guide 34170 Ordinary differential equations

Pura e Aplicada. Rio de Janeiro, 1979

