COURSE DATA

DATA SUBJECT

Code: 33976
Name: Mathematics
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1103 - Degree in Food Science and Technology	Facultat de Farmácia i Ciències de L'alimentació	1	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	Mathematics	BASIC

COORDINATION

FALCO BENAVENT FRANCISCO JAVIER

SUMMARY

Providing basic math skills needed in order to successfully deal with the degree in Science and Food Technology.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

Numerical Sets: natural numbers, integers, rational numbers and real numbers. Differences between each of the previous sets, properties and basic computing skills to operate with fractions and radicals without the use of the calculator.
Knowledge of the concept of function and related concepts: domain, path, algebraic expression, graphical representation of a function in a Cartesian system, symmetry, growth and decline, asymptotic behavior of a function , basic operations with functions, composition of fu

COMPETENCES / LEARNING OUTCOMES

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Acquire the knowledge needed to solve derivatives, integrals and differential equations.

Be able to set out problems with differential equations.

Know how to reason, structure and solve problems with a mathematical basis.

Saber interpretar resultados.

Saber utilizar estos esquemas de razonar, estructurar y resolver o tomar decisiones en otras cuestiones.

Soltura en cálculos básicos.

DESCRIPTION OF CONTENTS

1. Basic Concepts

Basic Concepts. Symbols and basic notation. Functions and Examples. Injective functions, surjective and bijective functions. Composition of functions and inverse functions. Concept of continuous function.

2. Differential Calculus

Concept of derivative. Geometric interpretation, tangent. Derivatives of elmentary functions. Algebraic properties of the calculus of derivatives, chain rule. Taylor polinomyal

3. Integral Calculus

Indefinite integration. Calculus of immediate primitives. Integration by parts. Integration by change of variable. Integration of rational functions. Definite integration. Applied calculus.

4. Ordinary Differential Equations

Basic concepts of Ordinary Differential Equations. Resolution of ODE by separation of variables. Linear ODE. Applications.

Basic Concepts of the Euclidean space R3, and of functions of several variables. Partial and directional

5. Functions of Several Variables

derivatives. Tangent plane.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Tutorials	4,00
Theory	40,00
Seminar	4,00
Computer classroom practice	8,00
Total hours	**56,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	10,00
Independent study and work	20,00
Preparation of lessons	35,00
Preparation for assessment activities	20,00
Resolution of case studies	0,00
Total hours	**85,00**

TEACHING METHODOLOGY

The teaching of the subject is taught with 40 hours of theory classes, 8 sessions of practical computer science classes, 4 seminar sessions, and 4 tutorias sessions that are part of working hours in the classroom by classroom planning adapted to EEES.

The distribution for each week is different.

The theory sessions are held throughout the class group and the exhibition will be devoted to the subject matter of the course: concepts, results, basic/intuitive demostrations, applications, examples and exercises.

The practical sessions will be devoted to computer science to solve exercises related to the

concepts given in the course and to visualize the results with the help of written symbolic calculation program.

Tutorias sessions will be devoted to discuss and resolve doubts and difficulties that arise when doing

exercises work. In the seminar we will do supplementary exercises and group work.

The activities of continuous assessment, which in this subject are practices, tutorials and seminars, are of MANDATORY ATTENDANCE and, therefore, NOT RECOVERABLE, in accordance with the provisions of Article 6.5 of the Regulation of Evaluation and Qualification of the UV for Bachelor and Master degrees. If it is not possible to attend any of these activities for justified reasons, it must be communicated in advance. In this way, the person in charge of the subject may assign the student a session in another group.

EVALUATION

Students will have the official exam for the evaluation. An exam may consist of questions of theoretical and problems according to the level of the imparted education. Coordinate Seminar influence 10%. Influence of the final exam: 70%. Influence of the practical sesions: 10%. The 10% remaining corresponds to a partial test to be hold in the middle of the semester. It will be necessary to obtain a minimum of 4.5 out of 10 in the final exam in order to pass the course. For other considerations about coordinate seminars see the rules of the CAT.

Evidence of copying or plagiarism in any of the assessable tasks will result in failure to pass the subject and in appropriate disciplinary action being taken. Please note that, in accordance with article 13. d) of the Statute of the University Student (RD 1791/2010, of 30 December), it is the duty of students to refrain from using or participating in dishonest means in assessment tests, assignments or university official documents.
In the event of fraudulent practices, the "**Action Protocol for fraudulent practices at the University of Valencia**" will be applied (ACGUV 123/2020): https://www.uv.es/sgeneral/Protocols/C83sp.pdf

REFERENCES

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- Larson, R.; Hostetler, R.P. y Edwards, B.H., Cálculo I, McGraw-Hill, 2006.
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- Salas, ; Hille ; Etgen, G.J.: Calculus. Una y varias variables. Ed. Reverté, 2002
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