

1. BASIC INFORMATION

Course	Mathematics for Tourism
Degree program	Tourism & Leisure Management
School	Social Sciences
Year	First
ECTS	6
Credit type	Mandatory
Language(s)	English
Delivery mode	On-site
Semester	First
Academic year	2024-25
Coordinating professor	María Jesús Gadea Moya

2. PRESENTATION

Mathematics for Tourism is a subject that will provide tools to analyze economic problems. Throughout this course the student will be able to review and learn the basic concepts and tools in order to follow other courses of the degree. For instance, one cannot study Accounting, Taxation or Analysis of the Tourism Market without a solid knowledge of functions or linear algebra, their properties and the way they can be combined to build an economic model.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB1: That students have demonstrated to possess and understand knowledge in an area of study that is based on general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.
- CB3: That students have the ability to gather and interpret relevant data (usually within their study area) to make judgments that include a reflection on relevant social, scientific or ethical issues.
- CB4: That students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.

Cross-curricular competencies:

- CT02: Autonomous learning: A set of skills to select strategies for searching, analyzing, evaluating and managing information from various sources, as well as to learn and independently put into practice what has been learned.

- CT05: Analysis and problem solving: Being able to critically evaluate information, decompose complex situations into its constituent parts, recognize patterns, and consider other alternatives, approaches and perspectives to find optimal solutions and efficient negotiations.

Specific competencies:

- CE8: Ability to perform measurement techniques to interpret data and analyze the impacts generated by tourist and leisure activities.

Learning outcomes:

- LO1: Understanding of basic concepts related to linear algebra, differential calculation and operational research applied to the resolution of business problems.
- LO2: Analysis and realization of problems related to linear algebra, differential calculus and operational research that demonstrate the understanding of the theoretical concepts discussed
- LO3: Understand the positive and negative impacts and externalities generated by business and economic activity.

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competencies	Learning outcomes
LO1	Understanding of basic concepts related to linear algebra, differential calculation and operational research applied to the resolution of business problems.
LO2	Analysis and realization of problems related to linear algebra, differential calculus and operational research that demonstrate the understanding of the theoretical concepts discussed
LO3	Understand the positive and negative impacts and externalities generated by business and economic activity.

4. CONTENT

1. Elements of Linear Algebra: Systems of Equations and Matrix Analysis
2. Probability and distributions
3. Index numbers and time series
4. Hypothesis contrast.

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

Learning outcomes	Learning activity	Type of educational activity	Content
LO1, LO2, LO3	ACT1, ACT2	AF1, AF2, AF4, AF5, AF6, AF7	Topic 1 – Elements of Linear Algebra: Systems of Equations and Matrix Analysis
LO1, LO2, LO3	ACT1, ACT2	AF1, AF2, AF4, AF5, AF6, AF7	Topic 2 – Probability and distributions
LO1, LO2, LO3	ACT1, ACT2, ACT3	AF1, AF2, AF4, AF5,, AF7	Topic 3- Index Numbers and time series
LO1, LO2, LO3	ACT1, ACT2, ACT3	AF1, AF2, AF4, AF5, AF6, AF7	Topic 4 – Hypothesis contrast

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
AF1 Master lessons (synchronous + asynchronous)	50 h
AF2 Autonomous work	25 h
AF3 Oral presentations	0 h
AF4 Case study and problem solving	40 h
AF5 Team based activities	20 h
AF6 Knowledge tests	5 h
AF7 Tutoring	10 h
AF8 Report and Project thesis	0 h
TOTAL	150 h

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Campus-based mode:

Assessment system	Weight
Knowledge test	50%
Case analysis and problem solving	30%
Performance observation (evaluation through observation of the practices or work carried out)	20%

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. Ordinary Call

To pass the subject in the ordinary examination, you must obtain a grade greater than or equal to 5.0 out of 10.0 in the final grade (weighted average) of the subject.

In any case, it will be necessary for you to obtain a grade greater than or equal to 5.0 in the final exam so that it can be averaged with the rest of the activities.

The European University of Valencia establishes continuous assessment as the evaluation system for the knowledge, skills, and basic, general, transversal, and specific competencies of the Tourism and Leisure Management degree program, in accordance with the provisions of the Degree Program Assessment Regulations. In this regard, and for the purpose of using examination attempts, the student should be aware that if any evaluation system specified in the Learning Guide is used, in the ordinary examination, the student will receive an overall grade for the subject, thus consuming an examination attempt.

According to the afore mentioned Regulations, students enrolled in on-site degree programs are required to justify at least 50% of their class attendance as a necessary part of the evaluation process. In the case of theoretical or practical classes specified as mandatory by the teacher in the subject schedules, the student must record a 90% attendance, whether the absence is justified or not. Failure to provide documentation through the means proposed by the University will empower the teacher to grade the subject as failed in the ordinary examination, following the grading system.

7.2. Extraordinary Examination

To pass the subject in the extraordinary examination, you must obtain a grade greater than or equal to 5.0 out of 10.0 in the final grade (weighted average) of the subject.

In any case, it will be necessary for you to obtain a grade greater than or equal to 5.0 in the final exam so that it can be averaged with the rest of the activities.

Uncompleted activities from the ordinary examination must be submitted after receiving the corresponding corrections from the teacher, or those that were not submitted.

The European University of Valencia establishes continuous assessment as the evaluation system for the knowledge, skills, and basic, general, transversal, and specific competencies of the Tourism and Leisure Management degree program, in accordance with the provisions of the Degree Program Assessment Regulations. In this regard, and for the purpose of using examination attempts, the student should be aware that in the extraordinary examination, the Objective Knowledge Test (POC) will determine whether an examination attempt is used or not. In the exceptional case where the student only needs to pass evaluation systems other than the POC, they will be considered "NP" if they do not present them and will receive a numerical grade if they present at least one of them.

According to the afore mentioned Regulations, students enrolled in on-site degree programs are required to justify at least 70% of their class attendance as a necessary part of the evaluation process. In the case of theoretical or practical classes specified as mandatory by the teacher in the subject schedules, the student must record a 90% attendance, whether the absence is justified or not. Students who, due to non-compliance with this requirement, must take the extraordinary examination, must complete whatever activities the teacher determines to recover this part.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Introduction to Maths (presentation + excel)	1st - 6th week
Economic application of graphs and equations	8th week
Economic application of probabilities and distributions	11th week

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

The main reference work for this subject is:

- ALEGRE, P. 1993. Ejercicios resueltos de matemáticas empresariales 2. UEV Library signature: QA43 .E35 1993
- ALEGRE, P. 1991. Ejercicios resueltos de matemáticas empresariales 1. UEV Library signature: QA43 .E35 1993
- DOWLING, EDWARD T. 1992. Schaum's outline of theory and problems of introduction to mathematical economics. UEV Library signature: HB135 .D68 2012
- HAEUSSLER, ERNEST F. 2008. Matemáticas para la administración y economía. UEV Library signature: QA40 .T3618 2008

The recommended Bibliography is:

- GARCÍA PINEDA, M. P., Nuñez del Prado, J. A., & Sebastián Gómez, A.. (2007). Iniciación a la matemática universitaria. Curso 0 de matemáticas. Editorial Paraninfo.
- TAN, S. T., HERNANDEZ, M. R. (1998). Matemáticas para administración y economía (No. 513.93 T357M.). International Thomson Editores

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa.uev@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.