

MODULE OUTLINE DIT10

1. GENERAL INFORMATION

SCHOOL	SCHOOL OF SOCIAL SCIENCES		
PROGRAM COURSE	TOURISM MANAGEMENT		
LEVEL OF STUDY	UNDERGRADUATE		
MODULE CODE	DIT10	YEAR OF STUDY	1 st (1 st semester)
MODULE TITLE	QUANTITATIVE METHODS IN TOURISM MANAGEMENT		
INDEPENDENT TEACHING ACTIVITIES <i>in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits</i>		HOURS	CREDITS
Weekly teaching hours (22 hours) * 13 weeks		286	10 ECTS
Module TYPE <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i>	Background, Obligatory		
PREREQUISITE MODULES:	There are no prerequisites for this module.		
LANGUAGE OF INSTRUCTION AND EXAMS	Greek		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	YES		
MODULE WEBSITE(URL)	https://www.eap.gr/en/undergraduate/tourism-administration/tourism-administration-topics/#dit10 Each module has its own space in the Learning Management System of the Hellenic Open University (https://courses.eap.gr), with controlled access (use of code) for students and teaching staff.		

2. LEARNING OUTCOMES

Learning Outcomes

- The module learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the module, are described in detail. It is necessary to consult:

Upon completion of this module, students are expected to be able to:

- Solve linear univariate equations, of 1st degree, 2nd degree and polynomial equations which describe tourism topics.
- Design graphs from univariate functions which describe tourism topics.
- Use univariate functions in problems of tourism economics and tourism management.
- Become acquainted with the concept of calculus.
- Calculate derivatives of simple, complex, implicit and inverse functions.
- Understand the concept of elasticity in tourism business economics and tourism economics based on derivative functions.
- Calculate the limit of functions.
- Solve problems of univariate function maximization with 1st and 2nd degree derivatives.
- Be acquainted with the Lagrange function concept and use it to solve simple problems.
- Design a function graph, knowing the maximum, minimum and other elements of concavity and convexity.
- Understand the concepts of the interest rate, the interest and the present value and solve problems on simple topics of tourism finance.
- Be acquainted with the definition and the topics of Statistics and their role in tourism economics and tourism management.
- Be acquainted with the data description measures such as central tendency, dispersion,

asymmetry and kurtosis.

- Calculate all these measures in educative exercises also with the usage of excel files.
- Be acquainted with the concept of probability as well as principles of probability theory.
- Understand and use basic concepts of combinatorics (combinations, transpositions, permutations)
- Solve problems on tourism management topics based on probability theory.
- Distinguish discrete from continuous distributions.
- Be acquainted with the normal distribution and to measure deviations from it.
- Solve problems with discrete distributions and binomial distribution.
- Understand the concept of linear regression and solve problems with simple and multiple regression.
- Estimate the coefficients of linear regression and the rest of statistical results accompanying the regression with excel software
- Comment on the regression residuals, visually and based on statistical techniques and recommend solutions

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,

Adapting to new situations

Decision-making

Individual/Independent work

Group/Team work

Working in an international environment

Working in an interdisciplinary environment (Other.....citizenship, spiritual freedom, social awareness, altruism etc.)

Project planning and management

Respect for diversity and multiculturalism

Environmental awareness

Social, professional and ethical responsibility and sensitivity to gender issues

Critical thinking

Development of free, creative and inductive thinking

.....

Search for, analysis and synthesis of data and information by the use of appropriate technologies

Adapting to new situations

Decision-making

Individual/Independent work

Project planning and management

Critical thinking

Development of free, creative and inductive thinking

3. MODULE CONTENT

The main purpose of its Module is to empower students in the subject of mathematical and statistical background so that they can delve deeper into some of the following Modules.

The subject of module DIT10 is analyzed below by educational week:

- Functions of one variable.
- Definitions of limit and derivative and elasticity function.
- Optimization of functions of one variable and graphics.
- Lagrange Function
- Integrals
- Basic elements of Financial Mathematics
- Descriptive Statistics.
- Combinatorics
- Basic elements of probability theory.
- Distinct distributions (mainly binomial distribution).
- Continuous distributions (mainly Normal distribution).
- Linear Regression and its residual analysis.
- Application of all the above in business administration.

4. TEACHING METHODS - ASSESSMENT

MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i>	Distance education with three (3) Group Counseling Meetings (OSS) during the academic semester on weekends.												
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i>	We use : • Remote meetings tools (webex) • Presentation software (e.g. power point) Additionally, the students use EXCEL for making calculations.												
MODULE DESIGN <i>Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc</i> <i>The study hours for each learning activity as well as the hours of selfdirected study are given following the principles of the ECTS.</i>	<table border="1"> <thead> <tr> <th>Activity</th><th>Semester Workload</th></tr> </thead> <tbody> <tr> <td>3 OSS (* 4 hours)</td><td>12</td></tr> <tr> <td>Preparation of Assignments (2 short assignments * 15 hours and 1 semester assignment * 30 hours)</td><td>60</td></tr> <tr> <td>Examination</td><td>3</td></tr> <tr> <td>Individual study</td><td>211</td></tr> <tr> <td>Total module workload (hours)</td><td>286</td></tr> </tbody> </table>	Activity	Semester Workload	3 OSS (* 4 hours)	12	Preparation of Assignments (2 short assignments * 15 hours and 1 semester assignment * 30 hours)	60	Examination	3	Individual study	211	Total module workload (hours)	286
Activity	Semester Workload												
3 OSS (* 4 hours)	12												
Preparation of Assignments (2 short assignments * 15 hours and 1 semester assignment * 30 hours)	60												
Examination	3												
Individual study	211												
Total module workload (hours)	286												
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures.</i> <i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i> <i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students</i>	a1. Two (2) Short Written Assignments (SWA) with a weighting factor of 10% each in the final grade of the module. a2. One (1) Semester Assignment (SA) with a weighting factor of 20% on the final grade of the module. The written assignment score is activated only with a score equal to or above the pass mark (≥ 5) in the final or retake exams. a3. Final or repeated written examinations (FE) with a weighting factor of 60% on the final grade of the final examination. The Final Grade (FG) of each subject, on a scale of 10, is calculated as follows: Final grade $FG = (SWA1 \times 0,1) + (SWA2 \times 0,1) + (SA \times 0,2) + (FE \times 0,6)$ Eligibility for the final examinations: The right to participate in the final examinations is secured by obtaining at least 50% of the sum of the potential pass mark out of the total number of assignments assessed, i.e. 20 points out of 100, on the basis of the weighting factors mentioned in points a1 and a2 above. All the criteria are posted, both in each written assignment, as well as in the general regulation of the Hellenic Open University at: https://www.eap.gr/education/study-regulations/.												

5. SUGGESTED BIBLIOGRAPHY

- Suggested bibliography:

Haeussler, E.F., Paul, R.S., Wood, R.J. (2014). *Introductory Mathematical Analysis for Business, Economics and the Life and Social Sciences*. (13th edition). Canada: Pearson New International Edition PDF ebook, e-ISBN: 978-129-203-438-6, pp. 864,