

# KES COLLEGE'S RESPONSE TO EXTERNAL EVALUATION COMMITTEE'S REPORT IN REGARDS TO THE PROGRAMME OF STUDY

"GARDENING" (2 Years/120 ECTS, DIPLOMA)"

April 2019

### **Table of Contents**

	Subject	Page
1.	Response of KES College to External Evaluation Committee's Report	5
2.	Annex "1" – Modified Course Structure "Gardening" (2 years/120 ECTS, Diploma)	9
3.	Annex "2"- Course Curricula in the new form	12

## 1. FINDINGS OF THE EXTERNAL EVALUATION COMMITTEE

#### PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS

**1.1.** The content of the program's modules can be improved in addressing sustainability issues in landscape design more widely (green waste management, water conservation, selection of native, drought tolerant species) (page 6).

#### Actions taken by KES College

Please see College's response to paragraph 2.2.

**1.2.** The evaluation and accreditation committee recommends that teaching and administrative staff is encouraged to participate in the Erasmus+ programme (page 7).

#### Actions taken by KES College

The Erasmus + department of the College promotes and announces training opportunities for all members of the teaching and administrative staff, while at the same time it encourages any form of initiative for mobility activities.

Furthermore, the College, during the training sessions with the staff which take place in an annual basis, informs them about the benefits of the Erasmus + and of the opportunities that exist. It encourages the staff to participate in staff mobility programmes in similar or relevant organizations which offer similar to the College's Programmes of Study.

At the moment, there is a scheduled visit of three members of the teaching staff for the purposes of the Erasmus+ programme to one of the partner countries. The teaching staff is part of the School of the Environmental Studies such as the particular programme. In addition, there is a planned visit of nine students, including one student of the under evaluation programme, for intership purposes within the Erasmus+ programme.

# 2. CONCLUSIONS AND SUGGESTIONS OF THE EXTERNAL EVALUATION COMMITTEE

**2.1.** An international dimension is in place with student exchanges with similar institutions in other countries. This should be extended to mobility of teaching and administrative personnel. (page 8).

#### Actions taken by KES College

Please see paragraph 1.2 for our response

**2.2.** Sustainability (green waste management, recycling, water reclamation and conservation, selection of native, drought tolerant plants) and climate change topics should be strengthened and become an integral part of the programme. (page 8).

#### Actions taken by KES College

Based on the recommendations of the External Evaluation Committee, we have proceeded to additions relevant to the Content, Expected Learning Outcomes and the Bibliography of the Programmes of Study of the following modules, which now have new assigned codes due to the modifications being made:

- ENVR105/ Ecology
- GRLN104/Introduction to Pedology and Fertilizers
- GRLN114/ Introduction to Botany
- GRLN113/Gardening and Floriculture : Annual, Biennial, Perennial, Bulbs, Tubers and Phizomes
- GRLN115 Gardening and Floriculture : Hedges, Bushes, Trees and Climbing Plants.
- GRLN116 Grasses, Turfs and Mosaic Plants
- GRLN217 Automatic Irrigation Systems
- GRLN223 Urban Gardening

The codes for the above courses have been modified in regards to the initial application due to the additions being made to the curriculum. The modified structure of the program with the new codes is indicated in Annex "1".

The additions being made to the curriculum are relevant to the following topics:

- The sustainable resource management (such as water management, use of recycled water and green waste)
- Climate change adaptation issues such as sustainable urban landscape design and the knowledge and use of native plant species adapted to the Mediterranean climate.

Please see Annex "2" for the listed additions made to the curriculum of the specific Program of Study, which are indicated in yellow highlighted colour.

# 3. JUSTIFICATION OF NUMERICAL EVALUATIONS TO THE QUALITY STANDARDS AND INDICATORS

#### **3.1.** Point 1.2.7

The online teaching platform (Moodle) is excellent. The following issues should be considered: the menu on the welcome page of the platform should not just be about E-learning; it should be redesigned to include personalized student and staff issues for: email, modules, ECTS credits, registration or de-registration procedures, announcements, e-learning functionality, and access to open source software (page 13).

#### Actions taken by KES College

The College is currently under a tender procedure with other companies for upgrading the current version of the Moodle online platform from version 2.8 to version 3.6, which is inclusive of all of the above.

The Moodle e-learning platform upgrading process of the KES College is expected to be completed in the next few months.

#### 3.2. Point 2.2

The content of the program's modules can be improved in addressing sustainability issues more explicitly (green waste management, water conservation) (page 16)

#### Actions taken by KES College

Please see our response in paragraph 2.2.

#### 3.3 Point 2.4

There is a practical training of 4 weeks duration at the end of the second and fourth semester, each worth 2 ECTS credits. Students also receive extensive practical training in many modules during the duration of the semester. Practical training is not taking place outside of Cyprus. The ECTS credits of the 4-week practical training could be increased (page 18)

#### Actions taken by KES College

The ECTS credits for both courses of Summer Practical Training I and II were increased from 2 to 4 respectively, with corresponding minor modifications to other courses, as indicated in the modified structure of the program in Annex "1" and they were given a new code :

- PRCT 107 / Practical Training I

- PRCT 219 / Practical Training II

### 4. FINAL REMARKS-SUGGESTIONS

**4.1** An international dimension is in place with student exchanges with similar institutions in other countries. This should be extended to mobility of teaching and administrative personnel (page 26).

#### Actions taken by KES College

Please see our response in paragraph 1.2

**4.2.** Sustainability (green waste management, recycling, water reclamation and conservation) and climate change topics should be enforced and become an integral part of the programme, rather than being part of elective modules (page 26).

### Actions taken by KES College

Please see our response in paragraph 2.2. and Annex "2" for the additions made to the curricula of the particular Program of Study and the enhancement of the topics based on the suggestions of EEC. The additions made are indicated in yellow highlighted colour.

## ANNEX "1"

# Modified Course Structure "Gardening" (2 years/120 ECTS, Diploma)

## Table 2: Course Distribution Per Semester

No	Course Type	Course Name	Course Code	Periods per week	Period duration	No of weeks/ Academic	Total periods/ Academic	Number of ECTS
	<u>.                                    </u>			-		semester	semester	
			Seme	ester 1				
1.	Compulsory	Health and Safety in Gardening	HESF109	2	55'	14	28	4
2.	Compulsory	Ecology	ENVR105	2	55'	14	28	4
3.	Compulsory	Introduction to Chemistry	CHEM112	2	55'	14	28	4
4.	Compulsory	Introduction to Garden History	GRLN103	2	55'	14	28	4
5.	Compulsory	Introduction to Pedology and Fertilizers	GRLN104	3	55'	14	42	6
6.	6. Compulsory Introduction to Botany		GRLN114	5	55'	14	70	8
Tota	al :			16				30
		·	Seme	ester 2			<u> </u>	
1.	Compulsory	Design Process in Gardening	GRLN110	3	55'	14	42	4
2.	Compulsory	Professional English	ENGL128	2	55'	14	28	3
3.	Compulsory	Computer Science	COMP137	2	55'	14	28	2
4.	Compulsory	Gardening and Floriculture : Annual, Biennial, Perennial, Bulbs, Tubers and Phizomes	GRLN113	3	55'	14	42	5
5.	Compulsory	Gardening and Floriculture : Hedges, Bushes, Trees and Climbing Plants.	GRLN115	3	55'	14	42	6
6.	Compulsory	Grasses, Turfs and Mosaic Plants	GRLN116	3	55'	14	42	6
7.	Compulsory	Practical Training I	PRCT106	-	55'	14	-	4
Tota	Total : 17 3							30

# Modified Course Structure "Gardening" (2 years/120 ECTS, Diploma) (cont.)

## Table 2: Course Distribution Per Semester

No	Course Type	Course Name	Course Code	Periods per week	Period duration	No of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
			Seme	ster 3				
1.	Compulsory	Arboriculture	GRLN219	3	55'	14	42	6
2.	Compulsory	Ornamental Trees, Shrubs and Bushes	GRLN214	3	55'	14	42	5
3.	Compulsory	Management of Enemies, Diseases and Weeds	GRLN205	2	55'	14	28	4
4.	Compulsory	Introduction to Computer Aided Design	COMP224	3	55'	14	42	5
5.	5. Compulsory Garden Constructions I		GRLN215	2	55'	14	28	4
6.	Compulsory	Garden and Landscaping Drawing Plan	GRLN216	4	55'	14	56	6
Total	-			17				30
			Seme	ster 4				
1.	Compulsory	Automatic Irrigation Systems	GRLN217	2	55'	14	28	4
2.	Compulsory	2D Computer Aided Landscaping Design	GRLN221	3	55'	14	42	4
3.	Compulsory	Urban Gardening	GRLN223	2	55'	14	28	3
4.	Compulsory	Garden Constructions II	GRLN222	3	55'	14	42	<mark>3</mark>
5.	Compulsory	Tree Surgery and Basic Pruning Techniques	GRLN218	2	55'	14	28	3
6.	Compulsory	Final Project I	PROJ209	3	55'	14	42	<mark>5</mark>
7.	Elective	Elective		2	55'	14	28	4
8.	8. Compulsory Practical Training II			0	55'	14	-	<mark>4</mark>
Total				17				30

# Modified Course Structure "Gardening" (2 years/120 ECTS, Diploma) (cont.)

## LIST OF ELECTIVE COURSES

No	Course Type	Course Name	Course Code	Periods per week	Period duration	No of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
1.	Elective	Introduction to Environmental Science	ENVR111	2	55'	14	28	4
2.	Elective	Viticulture - Oenology	BIPR210	2	55'	14	28	4
3	Elective	Solid and Liquid Waste Management	ENVR204	2	55'	14	28	4
4.	Elective	Nutrition and Diet	CBPA326	2	55'	14	28	4
5.	Elective	Food and Society	CBPA325	2	55'	14	28	4
6.	Elective	Introduction to Marketing	MRKT205	2	55'	14	28	4

## **ANNEX "2"**

## Course Curricula in their new form

# $\underline{\alpha}$ ) List of Courses

No.	Code	Course	Page number
		Semester 1	
1.	HESF109	Health and Safety in Gardening	14
2.	ENVR105	Ecology	16
3.	CHEM112	Introduction to Chemistry	18
4.	GRLN103	Introduction to Garden History	20
5.	GRLN104	Introduction to Pedology and Fertilizers	22
6.	GRLN114	Introduction to Botany	24
		Semester 2	
7.	GRLN110	Design Process in Gardening	27
8.	ENGL128	Professional English	30
9.	COMP137	Computer Science	32
10.	GRLN113	Gardening and Floriculture : Annual, Biennial, Perennial, Bulbs, Tubers and Phizomes	34
11.	GRLN115	Gardening and Floriculture : Hedges, Bushes, Trees and Climbing Plants.	36
12.	GRLN116	Grasses, Turfs and Mosaic Plants	38
13.	PRCT107	Practical Training I	40

# List of Courses (continued)

No.	Code	Course	Page number				
	Semester 3						
14.	GRLN219	Arboriculture	41				
15.	GRLN214	Ornamental Trees, Shrubs and Bushes	43				
16.	GRLN205	Management of Enemies, Diseases and Weeds	45				
17.	COMP224	IP224 Introduction to Computer Aided Design					
18.	GRLN215	Garden Constructions I	50				
19.	9. GRLN216 Garden and Landscaping Drawing Plan		53				
		Semester 4					
20.	GRLN217	Automatic Irrigation Systems	55				
21.	GRLN221	2D Computer Aided Landscaping Design	57				
22.	GRLN223	GRLN223 Urban Gardening					
23.	GRLN222	Garden Constructions II	61				
24.	GRLN218	Tree Surgery and Basic Pruning Techniques	65				
25.	PROJ209	Final Project I	67				
26.	PRCT219	Practical Training II	69				

Elective courses					
27.	ENVR111	Introduction to Environmental Science	70		
28.	BIPR210	Viticulture - Oenology	72		
29.	ENVR204	Solid and Liquid Waste Management	74		
30	CBPA326	Nutrition and Diet	76		

# b) Course Syllabi

Course Title	Health and Safety in Gardening						
Course Code	HESF109						
Course Type	Theoretical and Practical						
Level	Diploma / Higher Diploma						
Year / Semester	1 <sup>st</sup> Year / 1 <sup>st</sup> Semester						
Teacher's Name	Hadjisymeou Panayiotis						
ECTS	4 ECTS 4 ECTS 4						
Course Purpose and Objectives	The main purpose of the course is to elevate the appropriate conditions for a safe and healthy working environment.						
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Recognize the usual dangers which relate to health and safety and the appreciation of risks</li> <li>Know risk management and improvement measures with regard to health, safety and protection</li> <li>Present processes for dealing with such incidents in the working environment</li> <li>Understand the importance of applying the respective rules and regulations within the working environment</li> <li>The following examples should be mentioned: <ul> <li>Health and safety (first aid)</li> <li>Personal equipment and security at work</li> </ul> </li> </ul>						
Prerequisites	None Prerequisites None						
Course Content	<ul> <li>Climatic conditions <ul> <li>Sun</li> <li>Ultraviolet radiation</li> <li>Heat conditions</li> <li>Clothing and protection from the sun</li> <li>Cold and frostbites</li> <li>Slippery surfaces</li> </ul> </li> <li>Equipment and tools <ul> <li>Training for the appropriate use</li> <li>Ways to protect equipment</li> <li>Sharp tools</li> <li>Electricity</li> <li>Maintenance</li> </ul> </li> <li>Actions and injuries <ul> <li>Back pain</li> <li>Injuries</li> <li>Hygiene for the hands</li> </ul> </li> </ul>						

	<ul> <li>Chemicals <ul> <li>Protection from the mixture of material</li> <li>Spraying</li> <li>Insecticides and fungicides</li> <li>Fertilizers</li> </ul> </li> <li>Reptiles and other animals <ul> <li>Tweaks from reptiles</li> <li>Tweaks from wasps, bees and spider</li> </ul> </li> <li>Seeking for help and vaccines</li> </ul>
Teaching Methodology	Lectures, demonstration, discussion, group exercises and assignments, education visits, guest presentations. The theoretical part will be accompanied by practical exercises and application in the appropriate gardening settings.
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Βλαχάκος, Πέτρος Κ. (2007), Ο θεσμός της αγροτικής ασφάλειας και της αγροφυλακής: Αρχαιότητα, βυζάντιο, νεότεροι χρόνοι, 1η έκδ., Σταμούλης Αντ., ISBN 978-960-6741-55-5.</li> <li>Σημειώσεις για το θέμα "Ασφάλεια και Υγεία", Παναγιώτης Χατζησυμεού, KES College 2013</li> <li>Οδηγός Πρώτων Βοηθειών-Τάγμα Αγίου Ιωάννη,Λευκωσία-2011</li> <li>English Bibliography:</li> <li>i. Hughes, Phil (2008), Easy guide to</li> </ul>
	health and safety, Elsevier, ISBN: 978-0-7506-6954-2.
Assessment	<ul> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Workshops, Projects, Tests: 40%</li> </ul> </li> <li>Final Written Exams: 50%</li> </ul>

Course Title	Ecology						
Course Code	ENVR105						
Course Type	Theoretical						
Level	Diploma / Higher Diploma						
Year / Semester	1 <sup>st</sup> Year / 1 <sup>st</sup> Semester						
Teacher's Name	Sarris Dimitrios						
ECTS	4 ECTS 4 ECTS 4						
Course Purpose and Objectives	The aim of the course is to introduce the students to the science of Ecology for understanding the relationships between the different organisms and the environment and the need for its improvement and protection from their sustainability. In addition, factors that threaten ecosystems and biodiversity, such as climate change, are mentioned to help students understand the phenomenon.						
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand what is the science of Ecology</li> <li>Understand the concept of the ecosystem</li> <li>Identify the types of biosystems</li> <li>Understand the need to maintain / manage biodiversity</li> <li>Understand the importance of sustainability in managing ecosystems</li> <li>Understand the impact of climate change on ecosystems and biodiversity</li> </ul>						
Prerequisites	Συναπαιτούμενα						
Course Content	<ul> <li>The science of ecology <ul> <li>Historical review</li> <li>Relationships with other sciences</li> </ul> </li> <li>Environmental deterioration <ul> <li>Causes</li> <li>Ways of improvement</li> </ul> </li> <li>Adaptation strategies</li> <li>Dynamics of populations and interactions</li> <li>The concept of the Ecosystem</li> <li>Ecological succession and natural selection</li> <li>Types of bio-systems <ul> <li>Differences and similarities between natural and man-made</li> </ul> </li> </ul>						

	<ul> <li>Biodiversity         <ul> <li>Preservation / management of biodiversity</li> <li>Sustainability of biodiversity and ecosystems</li> <li>Main causes of environmental pollution</li> <li>Potential Hazards for biodiversity and ecosystems caused by the climate change.</li> <li>Main causes of environmental pollution</li> </ul> </li> <li>Their role in destabilizing the environment</li> </ul>
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory demonstrations are also planned.
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Συλλογικό έργο (2012), Βασικές έννοιες οικολογίας, Κλειδάριθμος, ISBN 978-960-461-458-5.</li> <li>Κορφιάτης, Κωνσταντίνος (2010), Γενικές αρχές οικολογίας και ελληνικά φυσικά συστήματα, Δίσιγμα, ISBN 978-960-99048-2-7.</li> <li>Molles, Manuel C. (2009), Οικολογία: Έννοιες, εφαρμογές, Μεταίχμιο, ISBN 978-960-455-535-2.</li> <li>Βώκου, Δέσποινα (2009), Γενική οικολογία: Μια εισαγωγή, University Studio Press, ISBN 978-960-12-1769-7.</li> <li>Χατζημπίρος, Κίμων (2007), Οικολογία, οικοσυστήματα και προστασία του περιβάλλοντος, Συμμετρία, ISBN 978-960-266-121-5.</li> <li>English Bibliography:</li> <li>Michael L. Cain (2013), Ecology, Sinauer Associates, ISBN: 978- 0878939084.</li> <li>F Stuart Chapin (2011), Principles of Terrestrial Ecosystem Ecology, Springer, ISBN: 978-1441995025.</li> <li>Thomas E. Lovejoy, Lee Hannah, et al. (2018), Biodiversity and Climate Change: Transforming the Biosphere, ISBN: 978- 0300206111.</li> </ul>
Assessment	<ul> <li>Continuous Assessment:         <ul> <li>Attendance and Participation: 10%</li> <li>Written Assignments / Projects: 20%</li> <li>Mid-term examination: 20%</li> </ul> </li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

Course Title	Introduction to Chemistry						
Course Code	CHEM112						
Course Type	Theoretical						
Level	Diploma / Hig	her Diploma					
Year / Semester	1 <sup>st</sup> Year / 1 <sup>st</sup> S	Semester					
Teacher's Name	Theocharous	Spyros					
ECTS	4	ECTS	4	ECTS	4		
Course Purpose and Objectives	The aim of the course is to provide students with basic principles of General and Inorganic Chemistry, which are considered necessary for the understanding and consolidation of the knowledge that the Gardening professional must possess						
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Describe atomic theories</li> <li>Distinguish the various chemical elements and identify the main features associated with them</li> <li>List the similarities, differences and peculiarities between acids, bases and salts</li> <li>Analyze the main properties and characteristics of chemical solutions</li> <li>Understand and apply the theoretical background governing molecules and the formation of molecular bonds</li> <li>Explain the chemical structure and properties of water</li> <li>Understand and explain the chemical basis of water pollution.</li> <li>a) Name organic compounds and distinguish the different functional</li> </ul>						
Prerequisites	None	Pro	erequisites	None			
Course Content	<ul> <li>1. The atom and its structure:</li> <li>Atomic models</li> <li>Individual and mass number</li> <li>Modern Atomic theories</li> <li>Chemical elements, chemical compounds, mixtures</li> <li>2. Periodic table:</li> <li>Characteristics of the periodic table (groups, periods)</li> <li>Use of the periodic table (metals – non-metals, chemical electric charge, chemical activity, electronegativity) - experimental demonstration of Sodium in water.</li> <li>3. Stoichiometry:</li> <li>Solutions - Solubility (experimental dilution demonstrations)</li> <li>Mass - Volume - Mole</li> <li>Ways of expressing chemical content</li> <li>4. Molecules - Chemical Bonds - Chemical Reactions</li> </ul>						

	• Ion				
	Ionic and covalent bond				
	Hydrogen bond				
	Inorganic compounds nomenclature				
	Chemical reactions (experimental ignition (NH4) 2Cr2O7)				
	5. Acids - Bases - pH				
	Acids (Nomenclature, examples from everyday life, classification, chemical				
	reactions, experimental demonstration of metal-acid reaction)				
	• pH (methods of measurement - markers - buffers, experimental pH				
	calculation and neutralization reaction)				
	6. Water:				
	Chemical structure of water				
	Water categories				
	Water pollution				
	• Methods of water softening (experimental demonstration of distillation				
	method)				
	7. Organic Unemistry:				
	Characteristics of coal				
	Nomencialure     Typical groups of organic compounds				
	The content of this course will be taught through: PowerPoint presentations				
Teaching	the use of a board guided discussions with the active participation of				
Methodology	the use of a board, guided discussions with the active participation of				
	students, individual and team work on the part of students, and the USE of a				
	variety of visual and other teaching aids as required for the delivery of each				
	unit. Laboratory demonstrations are also planned.				
	Crock Dibliggrouphy				
Bibliography	Greek Bibliography:				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε. ISBN 978-660-351-751-1</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας Σταμούλης Α.Ε. ISBN:978-960-351-836-5</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Γαακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction,</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, Exclosed 40.054507.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> <li>Continuous Assessment:</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978- 1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> <li>Continuous Assessment:</li> <li>Attendance and Participation: 10% Writton Assignments( Projector: 209/</li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> <li>Continuous Assessment: <ul> <li>Attendance and Participation: 10%</li> <li>Written Assignments/ Projects: 20%</li> </ul> </li> </ul>				
Bibliography	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, inorganic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> <li>Continuous Assessment: <ul> <li>Attendance and Participation: 10%</li> <li>Written Assignments/ Projects: 20%</li> <li>Mid-term examination: 20%</li> </ul> </li> </ul>				
Bibliography Assessment	<ul> <li>Θεοχάρους, Σπύρος (2014) Ανόργανη χημεία: KESCollege, Λευκωσία.</li> <li>Ebbing, Darrell D., Gammon, StevenD., (2014) Σύγχρονη Γενική Χημεία: αρχές και εφαρμογές, 10η έκδοση, Εκδόσεις Τραυλός, ISBN 978-618-5061-02-9.</li> <li>Σπηλιόπουλος, Ιωακείμ (2008) Βασική οργανική χημεία, Σταμούλης Α.Ε., ISBN:978-960-351-751-1.</li> <li>Σπηλιόπουλος, Ιωακείμ (2010) Εργαστηριακές τεχνικές και πειράματα οργανικής χημείας, Σταμούλης Α.Ε., ISBN:978-960-351-836-5.</li> <li>English Bibliography:</li> <li>Timberlake, Karen (2015) Chemistry: an introduction to general, organic and biological chemistry, Global Edition, 12<sup>th</sup> edition, Pearson, ISBN: 978-1292061320.</li> <li>Graham, Patrick (2017) Organic Chemistry: a very short introduction, Oxford University Press, ISBN: 978-0198759775.</li> <li>Housecroft, CatherineE (2006), Chemistry: An introduction to organic, and physical chemistry, Pearson Prentice Hall, Harlow, England, ISBN: 0-13-1257567-4.</li> <li>Continuous Assessment: <ul> <li>Attendance and Participation: 10%</li> <li>Written Assignments/ Projects: 20%</li> <li>Mid-term examination: 20%</li> </ul> </li> </ul>				

Course Title	Introduction to Garden history						
Course Code	GRLN103						
Course Type	Theoretical						
Level	Diploma / Higher Diploma						
Year / Semester	1 <sup>st</sup> Year / 1 <sup>st</sup> Semester						
Teacher's Name	Kordatos Charalambos						
ECTS	4 ECTS 4 ECTS 4						
Course Purpose and Objectives	The main purpose of the course is to introduce the students to the basic evolution and development of gardening in history, help them to become capable to locate this evolution and development through the appropriate lens and historical prospect and introduce them to the aesthetics of cultural development						
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand how gardening has developed from the Roman years until today</li> <li>Understand the value of preserving the cultural legacy in relation to parks and gardens</li> <li>Recognize and develop the appropriate design for a contemporary garden</li> <li>Extent their knowledge beyond the historical context under study and present contemporary garden designs</li> <li>Locate contemporary gardening within the historical representation of gardening throughout time</li> <li>Understand the role of a contemporary garden and the need to</li> </ul>						
Prerequisites	None Prerequisites None						
Course Content	<ul> <li>Introduction</li> <li>Prehistory – until the 6<sup>th</sup> century A.C.         <ul> <li>Cosmological landscapes</li> <li>Ancient gardens</li> <li>Landscapes and architecture</li> <li>Genious Loci: the atmosphere and spirit of a garden</li> </ul> </li> <li>6<sup>th</sup> century A.C. – 15<sup>th</sup> century A.C.</li> <li>Western Europe</li> <li>Spirits and gardens</li> <li>Mauritius Spain: indelible gardening effect</li> <li>China: the magnificence of nature in gardens</li> <li>Japan: the spirit of gardens</li> <li>15h century A.C.</li> <li>Japan: the time of the Mouromachi</li> <li>China: the Ming dynasty</li> </ul>						

	<ul> <li>Central Asia: the gardens of the Timourides cities         <ul> <li>Italy: awkward spirits and widened sights</li> </ul> </li> <li>16<sup>th</sup> century A.C.         <ul> <li>Italy: Rome's renaissance</li> <li>Renaissance of gardens in France and Britain</li> <li>The early botanical garden: an encyclopedia of plants</li> <li>The early botanical garden: an encyclopedia of plants</li> <li>Japan: the time of the Momoyama</li> </ul> </li> <li>17<sup>th</sup> century A.C.         <ul> <li>Japan: the time of the Edo</li> <li>The Mughal dynasty: sacred symmetries</li> <li>The Persian gardens of heaven</li> <li>The Italian style of barroc</li> <li>The blooming of Dutch landscaping</li> <li>English gardens: a limited mixture of European styles</li> <li>French classical garden in France</li> <li>Ghina: an impressive illustration of the Gialong gardens</li> <li>Early American gardens: traditional house gardens</li> <li>If<sup>th</sup> century A.C.</li> <li>England: the Victorian gardens and their plants</li> <li>France: democracies and empires</li> <li>The architecture of gardening in America</li> </ul> </li> <li>20<sup>th</sup> century A.C.</li> <li>Quiet time: extremes of wealth and poverty</li> <li>The new aesthetic of modernism</li> <li>The environmental ant: nature as a tool</li> <li>Artistic trends in gardening design</li> <li>Environmental and ecological design</li> <li>Post-modern gardening</li> </ul>				
Teaching Methodology	The course is theoretical, with lectures, presentations and video clips from very famous gardens as well as on the spot visits to different gardens.				
Bibliography	<ul> <li>Greek Bibliography:         <ul> <li>Σπαντιδάκης, Ιωάννης Γ. (2008), Ελληνικός κήπος: Ιστορία, αισθητική, σχεδιασμός, κατασκευή, 1η έκδ., Αθήνα, Σταμούλη Α.Ε., ISBN 978-960-351-732-0</li> </ul> </li> <li>English Bibliography:         <ul> <li>Turner, Tom (2004), Garden History: Philosophy and Design 2000 BC - 2000 AD, Routledge, ISBN: 978-0415317481.</li> </ul> </li> </ul>				
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Workshops, Projects, Tests: 40%</li> <li>Final Writton Exams: 50%</li> </ul>				
Language	Greek				

L

Course Title	Introduction to Pedology and Fertilizers					
Course Code	GRLN104					
Course Type	Theoretical and Practical					
Level	Diploma / Higher Diploma					
Year / Semester	1st Year / 1st Semester					
Teacher's Name	Bolla Androniki					
ECTS	6 Lectures / week 2 Laboratories / 1 week					
Course Purpose and Objectives	Soil is the only natural means for growing plants and this is why its importance in Gardening is enormous. The aim of the course is to teach students the basic functions of the soil (physicochemical properties) and how it can be fertilized for the healthy growth of plants and shrub trees. In addition, students are expected to gain an understanding of the importance of maintaining soil sustainability and the challenges posed to soils due to climate change					
Learning Outcomes	<ul> <li>Climate change.</li> <li>Upon successful completion of the course, the students will be in a position to: <ul> <li>Identify the components of soils</li> <li>Understand the classification of soils</li> <li>Identify the composition of an ideal soil type</li> <li>Understand the importance of soils in plant growth and development</li> <li>Diagnose problematic soils with the help of laboratory analysis,</li> <li>Understand the main categories of fertilizers and the correct use of each category</li> <li>Improve problematic soils with the use of suitable fertilizers to improve fertility</li> <li>Interpret the chemical and mechanical analysis of the soil</li> <li>maintain the sustainability of the soil and protect it against any pollution (eg nitrate pollution etc.)</li> <li>describe the impacts of climate change on soils and be aware of</li> </ul> </li> </ul>					
Prerequisites Course Content	None         Required         None           • Introduction to Soil Science         Introduction to Soil Science         Introduction to Soil Science					
	<ul> <li>What is soil</li> <li>Formation of Soils</li> <li>Effect of exogenous factors on the lithosphere</li> <li>Soil components</li> <li>Colloidal systems</li> <li>Minerals of clay</li> </ul>					

	Reaction and soil texture						
	<ul> <li>Sampling: soil analysis (mechanical, chemical, biological)</li> </ul>						
	Porosity / color / soil consistency						
	Moving soil material						
	Soil Types						
	Fertilizers						
	<ul> <li>Sustainability of soil and tackling soil pollution and degradation</li> </ul>						
	<ul> <li>Impact of climate change on soils and counter measures</li> </ul>						
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Practical training in the Soil Laboratory will also be performed and educational visits at places/organizations of interest.						
	Greek Bibliography						
	<ul> <li>Αναλογίδης, Δημήτριος Α. (2000), Έδαφος θρεπτικά στοιχεία και φυτική παραγωγή, 1η έκδ., Αθήνα, ΑγροΤύπος ΑΕ, ISBN 960-7667- 15-8</li> </ul>						
	<ul> <li>Προδρόμου, Κωνσταντίνος Π. (2011), Εφαρμοσμένη εδαφολογία: Γένεση εδαφών, 1η έκδ., Θεσσαλονίκη, Ζήτη, ISBN 978-960-456-301- 2</li> </ul>						
Bibliography	<ul> <li>Πασχαλίδης, Χρήστος (2006), Λιπασματολογία: Εργαστηριακές ασκήσεις: Γονιμότητα εδαφών, θρέψη φυτών, φυλλοδιαγνωστική, λιπάσματα, ποιοτικά χαρακτηριστικά σοδειάς, Αθήνα, Έμβρυο, ISBN 960-8002-41-9,</li> </ul>						
	<ul> <li>Πασχαλίδης, Χρήστος (2005), Εδαφολογία: Εργαστηριακές ασκήσεις, 1η έκδ., Αθήνα, Έμβρυο, ISBN 960-8002-38-9</li> </ul>						
	<ul> <li>Brady, Nyle. C. (2015), Εδαφολογία: Η φύση και οι ιδιότητες των εδαφών, Έμβρυο, ISBN 978-960-8002-62-3.</li> </ul>						
	English bibliography						
	<ul> <li>Munoz, Maria Angeles; Zornoza, Raúl (2018), Soil Management and Climate Change: Effects on Organic Carbon, Nitrogen Dynamics, and Greenhouse Gas Emissions, ISBN: 978-0128121283.</li> </ul>						
	<ul> <li>Rakshit, Amitava; Sarkar, Binoy; Abhilash, Purushothaman (2018), Soil Amendments for Sustainability: Challenges and Perspectives, ISBN-13: 978-0815370772.</li> </ul>						
	Continuous Assessment:						
	- Participation: 10%						
Assessment	- Written Assignments / Tests: 30%						
	- Practical examination: 10%						
	Final Written Exams: 50%						
Language	Greek						

Course Title	Introduction to Botany					
Course Code	GRLN114					
Course Type	Theoretical and Practical					
Level	Diploma / Higher Diploma					
Year / Semester	1st Year / 1st Semester					
Teacher's Name	Kordatos Charalambos					
ECTS	8 Lectures / week 3 Laboratories / 2 week					
Course Purpose and Objectives	The aim of the course is to introduce students to the basic concepts of Botany, the characteristics of living and non-living organisms and the internal phenomena of plant life. The course deals initially with the external and internal Morphology of Plants and further on with the Physiology of Plants. The students will learn about the mechanisms and structures the plants develop in order to cope with climate change.					
Learning Outcomes	<ul> <li>develop in order to cope with climate change.</li> <li>Upon successful completion of the course, the students will be in a position to: <ul> <li>Understand the basic concepts of Botany</li> <li>Identify the characteristics of living and non-living organisms and their properties</li> <li>Understand the basic traits of plant organisms</li> <li>Describe the main categories of plants</li> <li>Distinguish the cells, tissues and organs of the plants</li> <li>Understand the fertilization process of plants and the anomalies that may occur</li> <li>Describe the structure of the cell</li> <li>Understand the process of photosynthesis</li> <li>Understand the process of plant growth and development</li> <li>Experiment with plants and draw the right conclusions regarding phototropism, photoperiodism, heredity and production of new species</li> </ul> </li> </ul>					
Prerequisites Course Content	NoneRequiredNone1. Elements of Plant Morphology• Living and non-living organisms, properties• Traits of plant organisms• Categories of plants• Plant cytology• Histology of plants• Plant organography• Reproductive organs of plants• Eruits and seeds, fertilization					

	<ul> <li>Plant life cycle and genetic abnormalities</li> <li>2. Elements of Physiology</li> <li>Living and behavioural conditions of plants</li> <li>Recycling of matter in plants</li> <li>The cell as an osmotic system</li> <li>Intake-secretion-movement of substances</li> <li>Nutrients</li> <li>Photosynthesis</li> </ul>					
	Composition of organic substances     Transpiration					
	Nutrition of heterophytes (saprophytes, parasites)					
	Physiology of growth and movement					
	Diversification and formation of plants     Periodicity					
	Growth and development					
	Heredity     Mutations, generation of new species					
	Plant Mechanisms to Address Climate Change.					
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Practical training in the Botany Laboratory and in other suitable facilities of KES College will also be performed.					
Bibliography	Greek bibliography					
	<ul> <li>Ελευθερίου, Ε. Π. (2007), Βοτανική: Βιολογία φυτικού κυττάρου και ιστολογία φυτών, 1η έκδ., Θεσσαλονίκη, University Studio Press, ISBN 978-960-12-1584-6.</li> <li>Μποζαμπαλίδης, Αρτέμιος (2011), Βοτανική: Μορφολογία και ανατομία φυτών: Εργαστηριακές ασκήσεις, 1η έκδ., Θεσσαλονίκη, University Studio Press, ISBN 978-960-12-2048-2.</li> <li>Γεννάδιος, Π. Γ. (2005), Λεξικόν φυτολογικόν, Αθήνα, Δαμιανός.</li> <li>Συλλογικό έργο (2005), Γενική βοτανική: Η μορφολογία, η ανατομία και η φυσιολογία των ανώτερων φυτών, 1η έκδ., Αθήνα, Έμβρυο, ISBN 960-8002-34-6.</li> <li>Συλλογικό έργο (μετάφραση Παναγιώτης Αποστολάκος, Κωνσταντίνος Βλαχονάσιος, Βασίλειος Γαλάτης, Κυριάκος Γεωργίου, Γεώργιος Γραμματικόπουλος, κ.ά.) (2012), Φυσιολογία φυτών, Πέμπτη αμερικάνικη έκδοση, 1η έκδ., Αθήνα, Utopia, ISBN 978-960-98123-9-9.</li> <li>Τσέκος, Ιωάννης Β. (2004), Φυσιολογία φυτών: Το κύτταρο ως ενεργητικό σύστημα: Φαινόμενα μεταφοράς: Μεταβολισμός: Αύξηση και ανάπτυξη: Μοριακή φυσιολογία, 2η έκδ., Θεσσαλονίκη, Κυριακίδη Αφοί, ISBN 960-343-771-9.</li> <li>Τσέκος, Ιωάννης Β. (2006), Εισαγωγή στη φυσιολογία φυτών, 1η έκδ., Θεσσαλονίκη, Κυριακίδη Αφοί, ISBN 960-343-771-9.</li> <li>Ιrene Ridge, μετάφραση Γιάννης Μανέτας (2005), Φυσιολογία φυτών, 1η έκδ., Αθήνα, 1υς ISBN 960-343-771-9.</li> </ul>					
	<ul> <li>Andjelkovic, Violeta (2018), Plant, Abiotic Stress and Responses to</li> </ul>					
Assessment	Climate Change, ISBN: 978-1-78923-123-6.					
7.0000011011						

	<ul> <li>Participation: 10%</li> <li>Written Assignments / Tests: 30%</li> <li>Practical examination: 10%</li> </ul>
	Final Written Exams: 50%
Language	Greek

Course Title	The Design Process in Landscaping Design						
Course Code	GRLN110						
Course Type	Theoretical and Practical						
Level	Diploma / Higher Diploma						
Year / Semester	1 <sup>st</sup> Year / 2 <sup>nd</sup> Semester						
Teacher's Name	Panayiotou Eleni						
ECTS	4 ECTS 4 ECTS 4						
Course Purpose and Objectives	Through a variety of creative and practical activities, students are taught the knowledge, understanding and skills needed to engage in an iterative process of landscape designing leading towards making. This course is designed to build and enhance student's 'Designer Thinking' allowing them to produce detailed and of high quality, novel design proposals, presented in a professional manner. From a more practical perspective, the course guides students to create an exemplar, high quality, complete professional portfolio layout which can form the basis for the development of their life-long design portfolio.						
	The course is designed to enhance 4 main skills: (1) collecting information, validating their authority and conducting in-depth analysis of existing landscaping designs and relevant issues; (2) using their newly gained knowledge, to create a <b>range of different</b> , <b>innovative</b> , <b>new ideas</b> taking under consideration technical and practical requirements; (3) supporting a constant evaluation and modification process throughout their work, allowing them to learn from each experience and always aim for progression and development (life-long learning); (4) follow simple guidelines to build a quality digital portfolio using Microsoft Power Point.						
Learning Outcomes	<ul> <li>develop realistic design proposals as a result of the exploration of design opportunities and users' needs, wants and values;</li> <li>use imagination, experimentation and synthesis when designing a range of different, innovative, new ideas;</li> <li>develop the skills to critique and refine their own ideas whilst designing and making;</li> <li>communicate their design ideas and decisions using different free hand media and techniques, as appropriate for different audiences at key points in their designing;</li> <li>develop decision making skills;</li> <li>develop an understanding that there is a broad amount of different materials, components and technologies and practical skills available to develop high quality, imaginative and functional prototypes and/or ideas/products;</li> </ul>						

	<ul> <li>be ambitious and open to explore and take design risks in order to stretch the development of design proposals, avoiding clichéd or stereotypical responses;</li> <li>consider the costs, commercial viability and marketing of their ideas/products;</li> <li>demonstrate their understanding of safe working practices in the design and making of their ideas;</li> <li>use key landscaping design terminology including those related to: designing, innovation and communication; plants, materials and technologies; making, manufacture and production; critiquing, values and ethics;</li> <li>Understand and be able to use simple graphic design tips to presenting their work;</li> <li>Develop good working skills of the Microsoft Power Point Publication software.</li> </ul>					
Prerequisites	None	Prerequisites	None			
Course Content	Develop good working skills of the Microsoft Power Point Publication software.         None       Prerequisites       None         The design process. What each stage is, when it is needed and methods for their successful completion. This includes the following stages: <ul> <li>design problem</li> <li>design specification</li> <li>design analysis (minimum of 6 examples)</li> <li>initial ideas (minimum of 8 novel ideas)</li> <li>development of ideas (minimum of 2 different ideas)</li> <li>final idea (minimum of 1 novel idea)</li> <li>plan of making and costing</li> <li>prototype</li> <li>evaluation</li> </ul> <li>Freehand and Technical drawing techniques</li> <li>creating generalised free hand sketches (initial ideas)</li> <li>showing details using zoomed in balloons</li> <li>annotating free hand sketches</li> <li>isometric freehand 3D sketching of basic shapes</li> <li>rendering 3D isometric shapes</li> <li>orthographic drawings</li> <li>Creating a computer-based portfolio (using PowerPoint or Publisher)</li> <ul> <li>basic elements of the overall design layout/ template</li> <li>colours, fonts, sizes, consistency</li> <li>use of images and colours</li> </ul> <li>Making of a prototype         <ul> <li>Correct transfer of idea into a prototype</li> <li>Accuracy</li> <li>Quality of final product/ idea/ implementation</li> </ul> </li>					

	Suggestions for improvements						
	Maintenance plan						
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit.						
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Γεωργιάννου, Β. Ν. (2000), Χρήση γεωτεχνικών οργάνων, οργανομετρήσεις, Παρισιάνου Μαρία Γρ., ISBN 960-340-170-6, ISBN- 13 978-960-340-170-4.</li> <li>English Bibliography:</li> <li>Reid G., 2002. Landscape Graphics: Plan, Section, and Perspective Drawing of Landscape Spaces Revised ed. Edition.</li> <li>Norman K. Booth and James E. 2018. Hiss, Residential Landscape Architecture: Design Process for the Private Residence (7th Edition) (What's New in Trades &amp; Technology), 7th Edition</li> </ul>						
Assessment	<ul> <li>Class Participation: 10%</li> <li>Individual Project/ portfolio: 35%</li> <li>Presentation: 15%</li> <li>Written Test: 40%</li> </ul>						
Language	Greek						

Course Title	Professional English						
Course Code	ENGL131						
Course Type	Theoretical						
Level	Diploma / Higher Diploma						
Year / Semester	1º Year / 2º Semester						
Teacher's Name	Panteli Maria						
ECTS	3	Lectures / week	2	Laboratories / week			
Course Purpose and Objectives	The aim of the course is to demonstrate how English is used in real-life situations of Gardening and Landscaping professionals. It encourages students to use English in meaningful professional contexts. It is designed to build students' ability to communicate their ideas, both orally and in writing, with carefully selected content to motivate students and stimulate learning. This course adopts a communicative approach to language learning, offering students extensive practice in developing their competence in the language. It uses an integrated approach to three-language skills (reading, speaking and writing) combining functions, structures, vocabulary, intonation and communication skills.						
Learning Outcomes	<ul> <li>Upon successful completion of the course, students will:</li> <li>have gained knowledge and abilities to interact with others in English</li> <li>gain the vocabulary needed to further progress in their learning</li> <li>be able to write short papers with the necessary skills to communicate their ideas clearly.</li> <li>be able to express themselves orally with confidence.</li> <li>be able to understand reading texts and recognize different approaches to writing.</li> <li>be able to demonstrate proof-reading skills in short essays</li> </ul>						
Prerequisites		Requi	ired				
Course Content	Grammar:  Present Simple Vs Present Continuous Past Simple Vs Past Continuous Passive Voice Possessive Adjectives and Pronouns Modal Verbs Vocabulary: Verbs and Expressions						

	<ul> <li>Expressions related to meetings</li> <li>Words and Verbs related to communication</li> <li>Adjectives and Expressions</li> <li>Gardening and Landscaping language and ter</li> <li>Verbs and Expressions</li> <li>Expressions related to Gardening and Landscaping</li> <li>Words and Verbs related to Gardens, Landscaping</li> </ul>	ms aping reviews aping and nurseries
	<ul> <li>Writing skills:</li> <li>Reviewing the Parts of Speech</li> <li>English Communication</li> <li>The Writing Process, The Shape of Writing</li> <li>Telling a Story</li> <li>Working with Descriptive Details</li> <li>Using Examples, Comparing and Contrasting</li> <li>Organizing your Thinking</li> <li>Writing Introductions and Conclusions</li> <li>Using Transitional Expressions</li> <li>Revising Word Choice</li> <li>Persuasive Writing about food and Restaurants</li> <li>Using and Citing Sources</li> </ul>	
Teaching Methodology	The course consists of lectures, discussions and practice for the course, as well as online and other visual and other aids.	using the main text er types of teaching
Bibliography	<ul> <li>English Bibliography</li> <li>Neil O' Sullivan, James D. Libbin (2011), Career Express Publications, ISBN: 978-1-78098-378-3.</li> </ul>	Paths: Agriculture,
Assessment	<ul> <li>Participation (Individually and Combined effort)</li> <li>Assignments, Tests</li> <li>Midterm Exams</li> <li>Final Exams</li> </ul>	10% 30% 10% 50%
Language	Greek	

Course Title	Computers I		
Course Code	COMP137		
Course Type	Theoretical - Laboratories		
Level	Diploma		
Year / Semester	1 <sup>st</sup> Year / 2 <sup>nd</sup> Semester		
Teacher's Name	Georgiades Michalis		
ECTS	2 ECTS 2 ECTS 2		
Course Purpose and Objectives	The main purpose of the course is to introduce students to the basic computer functions, skills and applications.		
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Use the computers and complete some of the basic functions</li> <li>Understand the structure and definitions of computers</li> <li>Understand the operating system of computers</li> <li>Create, open, store, locate and copy files</li> <li>Use the basic functions of electronic files</li> <li>Apply, use and adapt electronic files</li> </ul>		
Prerequisites	None Prerequisites None		
Course Content	Course outline  Basic computer knowledge  Introduction to the basic concepts of computers  Computer parts  Computing machinery and equipment  Software  Programs  'In' and 'out' devices  Memory (ram, rom)  Files and their basic functions (creation, storage, transfer)  Functional systems, windows and the windows environment  Using windows, menus, explorer, find, help, print, shortcuts  Basic internet knowledge  Internet communication  Different parts of the internet  How to read internet addresses (URL – Uniform Resource Locator)  How to read email addresses  Connection		

Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory demonstrations are also planned.	
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Χρήστου, Χρήστος (2011), Το ολοκληρωμένο βιβλίο διδασκαλίας ECDL, 9η έκδοση, EduCYBER CC Co Ltd, ISBN: 9789963888085.</li> <li>Νεγρεπόντης, Νικόλας (2001), Ψηφιακός κόσμος, Εκδόσεις Καστανιώτη, ISBN: 9600314616.</li> </ul>	
Assessment	<ul> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Workshops, Projects, Tests: 40%</li> <li>Final Written Exams: 50%</li> </ul> </li> </ul>	
Language	Greek	

Course Title	Gardening and Floriculture: Annual, Biennial, Perennial, Bulbs, Tubers and Phizomes		
Course Code	GRLN113		
Course Type	Theoretical and Practical		
Level	Diploma / Higher Diploma		
Year / Semester	1st Year / 2nd Semester		
Teacher's Name	Antoniou Efrosini		
ECTS	6 ECTS 6 ECTS 6		
Course Purpose and Objectives	The aim the course is to is to provide students with the basic knowledge and skills regarding the cultivation, preservation and protection of various ornamental plants, harvested flowers, bulbs, tubers and rhizomes and for grooming gardens and parks		
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand the correct way of planting and placing for annual spring and summer plants as well as perennial herbs</li> <li>Understand the correct way of planting and placing for bulbous, tuberous and rhizomatous plants according to their planting season</li> <li>Distinguish the different types of indoor plants and be able to maintain them</li> <li>Familiaze themselves with indigenous and Mediterranean-grown plants belonging to this category.</li> </ul>		
Prerequisites	GRLN108 Prerequisites GRLN108		
Course Content	<ul> <li>Annual spring plants</li> <li>Annual summer plants</li> <li>Perennial herbaceous plants</li> <li>Bulbs, tubers and rhizomes</li> <li>Indoor Plants</li> <li>Annual Spring, Thermae, Perennial Perennial, Bulbous, Perennial, Rhizomatous: indigenous and those adapted to the Mediterranean climate.</li> </ul>		
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory demonstrations are also planned. Training visits will also take place to places where students can observe the plants, identify them, and take care of their maintenance		
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Καρράς, Γιώργος (2006), Ετήσια, πολυετή και βολβώδη: Η παραγωγή, η φροντίδα και η χρήση τους στην κηποτεχνία, 1η έκδ., Αθήνα, ΑγροΤύπος ΑΕ, ISBN 960-7667-25-5.</li> <li>Waite, Ray, μετάφραση Θανάσης Παπούλιας (2003), Ανθοκομία: Σε γλάστρες και ζαρντινιέρες, Αθήνα, Ψύχαλος, ISBN 960-7920-15-5.</li> </ul>		

	<ul> <li>Δάρρας, Αναστάσιος (2010), Κήποι, βεράντες, οροφόκηποι: Ανθοκομία - Κηποτεχνία καλλωπιστικών Φυτών στο αστικό περιβάλλον, Έμβρυο, ISBN 978-960-8002-57-9.</li> </ul>
	<ul> <li>Τσιντίδης, Τάκης (1995), Τα Ενδημικά Φυτά της Κύπρου, ISBN: 9963- 42-052-4 / Αγγλική έκδοση: 9963-42-067-2.</li> </ul>
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments/ Tests: 30%</li> <li>Practical examination: 10%</li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

Course Title	Gardening and Floriculture: Hedges, Bushes, Trees and Climbing Plants	
Course Code	GRLN115	
Course Type	Theoretical and Practical	
Level	Diploma / Higher Diploma	
Year / Semester	1st Year / 2nd Semester	
Teacher's Name	Antoniou Efrosini	
ECTS	6 ECTS 6 ECTS 6	
Course Purpose and Objectives	The aim the course is to is to provide students with the basic knowledge and skills regarding the cultivation, preservation and protection of various ornamental plants, harvested flowers, bulbs, tubers and rhizomes and for grooming gardens and parks	
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand the correct way of planting and placing for annual spring and summer plants as well as perennial herbs</li> <li>Understand the correct way of planting and placing for bulbous, tuberous and rhizomatous plants according to their planting season</li> <li>Distinguish the different types of indoor plants and be able to maintain them</li> <li>Familiaze themselves with indigenous and Mediterranean-grown plants belonging to this category.</li> </ul>	
Prerequisites	GRLN108 Prerequisites GRLN108	
Course Content	<ul> <li>Annual spring plants</li> <li>Annual summer plants</li> <li>Perennial herbaceous plants</li> <li>Bulbs, tubers and rhizomes</li> <li>Indoor Plants</li> <li>Hedges, Bushes, Trees and Climbing Plants: indigenous and adapted to the Mediterranean climate</li> </ul>	
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory demonstrations are also planned. Training visits will also take place to places where students can observe the plants, identify them, and take care of their maintenance	
Bibliography	Greek Bibliography:	
	<ul> <li>Σάββας, Δημήτριος (2003), Γενική ανθοκομία / 1η έκδ., Έμβρυο, Αθήνα, ISBN 960-8002-15-Χ</li> <li>Τσιντίδης,Τάκης (1995), Τα Ενδημικά Φυτά της Κύπρου, ISBN: 9963-</li> </ul>	
	42-052-4 / Αγγλική έκδοση: 9963-42-067-2.	
Assessment	Continuous Assessment:     Participation: 10%	
	-	Written Assignments/ Tests: 30% Practical examination: 10%
----------	-------	---
	•	Final Written Exams: 50%
Language	Greek	

Course Title	Grasses, Turfs and Mosaic Plants			
Course Code	GRLN116			
Course Type	Theoretical and Practical			
Level	Diploma / Higher Diploma			
Year / Semester	1st Year / 2nd Semester			
Teacher's Name	Bolla Androniki			
ECTS	6 Lectures / week 2 Laboratories / 1 week			
Course Purpose and Objectives	The aim of the course is to give students the basic knowledge and skills regarding the creation, cultivation, protection and maintenance of Grasses, Turfs and Mosaic Plants			
Outcomes	<ul> <li>Identify the different types of grass and mosaic plants</li> <li>Identify the different types of grafts</li> <li>Identify the different types of grass seed mixtures</li> <li>Identify the different types of simple grass seeds</li> <li>Properly plant grasses, grow and maintain them</li> <li>Protect grass plants from various enemies and diseases</li> <li>Identify the different types of synthetic lawn</li> <li>Select the appropriate type of synthetic lawn and place it appropriately in the fitting place</li> <li>Understand the importance of selecting grass and soil cover that have lower water requirements.</li> </ul>			
Prerequisites	GRLN108 Required None			
Course Content	Lawns			

	Sandolina			
	• Carissa			
	Pelargonium			
	• Gazania			
Teaching	The content of this course will be taught through: PowerPoint presentations,			
Methodology	the use of a board, guided discussions with the active participation of			
	students, individual and team work on the part of students, and the use of a			
	variety of visual and other teaching aids as required for the delivery of each			
	unit. Laboratory demonstrations are also planned.			
Bibliography	Greek Bibliography			
	<ul> <li>Σάββας, Δημήτριος (2003), Γενική ανθοκομία / 1η έκδ., Έμβρυο, Αθήνα, ISBN 960-8002-15-Χ.</li> </ul>			
	<ul> <li>Pycraft, David (μετ. Θανάσης Παπούλιας) (1990), Γκαζόν: Φυτά εδαφοκάλυψης: Τα ζιζάνια και η καταπολέμησή τους, Ψύχαλος, ISBN 960-7920-25-2.</li> </ul>			
	<ul> <li>Stell, Elizabeth P. (2000), Τα μυστικά του γόνιμου εδάφους: Ο</li> </ul>			
	οδηγός οργανικής καλλιέργειας, λίπανσης και δημιουργίας υγιούς και			
	νόνιμου εδάφους για τον κήπο και το γκαζόν σας. Ψύγαλος, ISBN			
	960-7920-49-X.			
	English Bibliography			
	Ponick Dom (2012) Lown Concl: Low Maintonance, Sustainable			
	• Fellick, Fall (2013), Lawit Golle: Low-Maintenance, Sustainable,			
Accoccmont	Autocive Alternatives for Four Faid, 15DN 976-1-00774-514-5.			
Assessment	Continuous Assessment.     Derticipation: 10%			
	- Participation. 10%			
	- Whiten Assignments / Tests: 30%			
	- Practical examination: 10%			
	Final Written Exams: 50%			
Language	Greek			

Course Title	Practical Training I			
Course Code	PRCT107			
Course Type	Theoretical			
Level	Diploma / Higher Diploma			
Year / Semester	1 <sup>st</sup> Year / 2 <sup>nd</sup> Semester			
Teacher's Name	Kordatos Chalarambos			
ECTS	2 ECTS 2 ECTS 2			
Course Purpose and Objectives	The Practical Training course in gardening aims to consolidate the theoretical knowledge acquired by the students during the first year of their studies and help them build practical skills in the specialty of the gardener.			
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Practically apply the theories that they have been taught during the first year of their studies</li> <li>Acquire professional experience</li> <li>Acquire confidence as gardeners</li> <li>Develop communication skills with colleagues</li> <li>Consolidate their knowledge with regard to the subject of gardening</li> </ul>			
Prerequisites	None         Prerequisites         None			
Course Content	The students are employed by gardening companies and undertake tasks which are related to the subject of their studies and the learning outcomes of the different courses within the specific program of study.			
Teaching Methodology	The Practical Training I takes place within the space of 4 weeks during the summer months in an organization / company in the field of gardening and which is approved by the college. The teacher visits the students to the organization on a regular basis.			
	The students record the tasks they perform during their practical training, in the practical training handbook which is also the space where the teacher of the course and the company's supervisor write their assessment for the student's performance for the entire duration of the training.			
Bibliography				
Assessment	The assessment of the practical training is based on the visits that the teacher of the course makes to the organization / company, his or her comments on the practical training handbook as well as the report that the company's supervisor (of the student) writes for the student's presence, efforts and overall performance. The student is allocated a 'pass or fail'; in the case of a failure, the student has to repeat the practical training over the following academic year.			
Language	Greek			

Course Title	Arboriculture				
Course Code	GRLN219				
Course Type	Theoretical a	nd Practical			
Level	Diploma / Hig	her Diploma			
Year / Semester	2nd Year / 3r	d Semester			
Teacher's Name	Bolla Androni	ki			
ECTS	6	ECTS	6	ECTS	6
Course Purpose and Objectives	The aim of th Arboriculture of trees. The production of	ne course is to pro with regard to the g course also deals each fruit tree indi	vide students rowth, develop vith the origin, vidually.	with the general poment, propagation morphology, develo	orinciples of and fruition opment and
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand the morphology and anatomy of the tree</li> <li>Understand the relationship of the trees and water</li> <li>Understand the relationship of trees and temperature</li> <li>Determine the different ways of propagating trees</li> <li>Carry out the basic types of pruning</li> <li>Understand the different types of grafting</li> <li>Carry out grafting of trees and shrubs</li> <li>Properly fight enemies and tree diseases</li> <li>Identify various spraying solutions and their proportions</li> <li>Prepare spraying solutions and use them in an appropriate manner</li> <li>Recognize the different ways of harvesting fruit tree</li> <li>Recognize the appropriate storage conditions of fruits in a controlled anvironment</li> </ul>				
Prerequisites	None	Pre	equisites	None	
Course Content	<ul> <li>The tree and its parts</li> <li>Water, fruit trees and shrubs</li> <li>Nutrition, assimilation</li> <li>Flower formation, the effect of temperature on fruit trees</li> <li>Tree propagation</li> <li>Trees and their environment</li> <li>Establishment of orchards</li> <li>Cultivation systems</li> <li>Pruning methods for shaping trees and for fruit production</li> <li>Pollination- internal and external factors</li> <li>Fruit development</li> <li>Harvesting and storage of fruits</li> <li>Fighting enemies and diseases - spraving material</li> </ul>				

Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory as well as in appropriate gardening workshops in orchards, nurseries, etc. are planned.
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Gilman, Edward F μετάφραση Σωτηροπούλου Βασιλική (2001), Κλάδεμα δέντρων αστικού και προαστιακού τοπίου: Ένας εικονογραφημένος οδηγός, Αθήνα, Ίων, ISBN 960-411-133-7</li> <li>Prat, Jean – Yves (μετάφραση Αλεξάνδρα Δημητριάδη), (2008), Κλάδεμα καρποφόρων δέντρων και θάμνων: Ελιά, πυρηνόκαρπα, μηλοειδή, αμπέλι, ακρόδρυα, εσπεριδοειδή και λοιπά καρποφόρα: Ανά είδος, βήμα-βήμα, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 978-960- 8455-45-0</li> <li>Retournard, Denis (2010), Εμβολιασμοί δέντρων &amp; θάμνων: Αμπέλι, ελιά, πυρηνόκαρπα, μηλοειδή, εσπεριδοειδή, ακρόδρυα, τριανταφυλλιά, πεύκο, κυπαρίσσι και λοιπά καλλωπιστικά φυτά, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 978-960-8455-77-1</li> <li>Ζαχαρόπουλος, Ιγνάτιος Μ. (2003), Δεντροκομία, δεντροτεχνική: Γενική και ειδική, Αθήνα, Ψύχαλος, ISBN 960-7920-32-5</li> <li>Καϊλίδης, Δημήτριος Σ. (2000), Καλλωπιστικά δένδρα και θάμνοι που φυτεύονται στην Ελλάδα, Θεσσαλονίκη, Χριστοδουλίδη, ISBN 960- 7577-23-X</li> <li>Άλκιμος, Αναστάσιος (2007), Δέντρα και θάμνοι: Καλλωπιστικά είδη από την ελληνική φύση: Οικολογία, καλλιέργεια, χρήση, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 978-960-8455-38-2</li> <li>Αραμπατζής, Θόδωρος (2001), Θάμνοι και δέντρα στην Ελλάδα, η έκδ., Δράμα, Οικολογική Κίνηση Δράμας, τ.2, ISBN 960-85951-3-4</li> <li>Ποντίκης, Κωνσταντίνος Α. (2001), Ειδική δενδροκομία: Τροπικά φυτά, 1η έκδ., Σταμούλη Α.Ε., τ.5, ISBN 960-351-379-2.</li> <li>Κουτσός, Θεόδωρος Β. (2010), Η τέχνη του καλλιεργείν: Γεωργία, κηπουρική, δενδροκομία: Βιοκαλλιέργειες ελιάς, αμπελιού, εσπεριδοειδών, μηλιάς και αχλαδιάς, 1η έκδ., Ζήτη, ISBN 978-960- 456-189-</li> </ul>
Assessment	<ul> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Written Assignments/ Tests: 30%</li> <li>Practical examination: 10%</li> </ul> </li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

Course Title	Ornamental Tr	ees, Shrubs and B	ushes		
Course Code	GRLN214				
Course Type	Theoretical and Practical				
Level	Diploma / High	er Diploma			
Year / Semester	2 <sup>nd</sup> Year / 3 <sup>rd</sup> S	emester			
Teacher's Name	Bolla Androniki				
ECTS	5	ECTS	5	ECTS	5
Course Purpose and Objectives	The course introduces students to the concept of landscaping with various plants, shrubs and trees, and their right combination and placement in space to ensure consistency and enhance their beauty as living elements of the garden				
Learning Outcomes	<ul> <li>be and the construction of the course, the students will be in a position to:</li> <li>Understand the cultivation practices of the various aromatic plants and will be able to cultivate and maintain them</li> <li>Understand the cultivation and maintenance of the various annual, biennial and perennial plants</li> <li>Identify the different species of bulbous, tuberous and rhizomatous plants, and understand how they are planted and treated</li> <li>Understand the difference between aquatic and moisture loving plants, and how they are planted and treated</li> <li>Understand how they are planted and treated</li> <li>Distinguish the different types of ferns and be able to maintain them</li> <li>Construct a rock garden and combine it with the appropriate plants</li> <li>Select and plant the various plants in the appropriate containers</li> <li>Identify the different types of ornamental trees and shrubs, how they grow, and be able to cultivate and maintain them</li> <li>Distinguish between the different varieties and types of roses, their cultivation, pruning and propagation, and be able to demonstrate the practical application of such knowledge</li> <li>Distinguish between the various ornamental climbing plants and care for them</li> </ul>				
Prerequisites	None	Prere	quisites	None	
Course Content	<ul> <li>Herbs</li> <li>Annual</li> <li>aquatic</li> <li>Bulbous</li> <li>Roses</li> <li>Climbin</li> <li>Grass a</li> </ul>	, biennial and perer and moisture lovin s, tuberous and rhiz ng and bamboo	nnial ornamen g plants zomatous plan	tal plants	

	<ul> <li>Ferns, lawns, hedge plants, decorative trunks, rock gardens, plants in pots, etc.</li> </ul>			
	Coniferous trees and shrubs			
	Ornamental trees and shrubs			
	Criteria for combining the various decorative trees, plants and shrubs			
	for proper gardening			
Teaching Methodology	The content of this course will be taught through: PowerPoint presentations, the use of a board, guided discussions with the active participation of students, individual and team work on the part of students, and the use of a variety of visual and other teaching aids as required for the delivery of each unit. Laboratory as well as in appropriate gardening workshops are planned.			
Bibliography	Greek Bibliography:			
2.2	<ul> <li>Reiley, Edward H μετάφραση Ουρανία Κουτσιουρή (2008), Φυτά και στοιχεία αρχιτεκτονικής τοπίου, 1η έκδ., Αθήνα, Ίων, ISBN 978-960- 411-614-0</li> </ul>			
	<ul> <li>Αναστάσιος Δάρρας (2010), Κήποι, βεράντες, οροφόκηποι: Ανθοκομία - Κηποτεχνία καλλωπιστικών Φυτών στο αστικό περιβάλλον, Έμβρυο, ISBN 978-960-8002-57-9.</li> <li>Πάτλης, Ιωάννης (2003), Οδηγός καλλωπιστικών φυτών: Επιλέξτε</li> </ul>			
	<ul> <li>φυτά για το χώρο σας, Αθήνα, Σταμούλη Α.Ε., ISBN 960-351-435-7</li> <li>Crosbie, Colin, μετάφραση Μαρία Παΐζη (2011), Πρακτικό κλάδεμα για όλα τα φυτά: Θάμνοι, περιφράξεις, οπωροφόρα, αναρριχώμενα, καλλωπιστικά, 1η έκδ., Αθήνα, Ίριδα, ISBN 978-960-7926-75-3</li> </ul>			
	<ul> <li>Huntington, Lucy, μετάφραση Ιωάννης Βλαχάκης (2008), Καλλωπιστικά φυτά ταξινομημένα κατά χρώμα, 1η έκδ., Αθήνα, Κλειδάριθμος, ISBN 978-960-461-120-1</li> </ul>			
	<ul> <li>Donaldson, Stephanie - μετάφραση Αρετή Κοκκίνου (2003), Κρεμαστά καλάθια και διακόσμηση: Υπέροχες συνθέσεις, πολύχρωμα καλάθια, θεαματικοί συνδυασμοί, φανταστικές ιδέες, διακόσμηση χώρου, Αθήνα, Ίριδα, ISBN 960-7926-35-8</li> </ul>			
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments / Tests: 30%</li> </ul>			
	- Practical examination: 10%			
	Final Written Exams: 50%			
Language	Greek			

Course Title	Management of Plant Pests, Diseases and Weeds				
Course Code	GRLN205				
Course Type	Theoretical a	nd Practical			
Level	Diploma / Hig	gher Diploma			
Year / Semester	2 <sup>nd</sup> Year / 3 <sup>rd</sup>	Semester			
Teacher's Name	Bolla Andron	niki			
ECTS	4	ECTS	4	ECTS	4
Course Purpose and Objectives	<ul> <li>The aim of the course is to train students to recognize pests (insects, mites, nematodes), diseases (fungi, bacteria, viruses) and the various kinds of weeds (annual, biannual, perennial) and control them with the most appropriate method (chemical, physical, mechanical and biological).</li> <li>Upon successful completion of the course, the students will be in a position to: <ul> <li>Identify the pests and the diseases that infest plants</li> <li>Distinguish pests from plant diseases</li> <li>Identify the different types of weeds that may harm plants</li> <li>Identify the different types of weeds related to Gardening</li> <li>Recognize beneficial insects and be able to protect them</li> <li>Understand how to combat pests, diseases and weeds and be able to select and apply the most appropriate method for each case</li> <li>Understand the characteristics of agrochemicals (including herbicides) for pest, disease and weed control as well as their origin</li> <li>Select the right biocide at the right time and use the appropriate dosages according to each case</li> </ul> </li> </ul>				
Prerequisites	None		Prerequisites	None	
Course Content	<ul> <li>Course outline <ul> <li>Introduction to Entomology, Phytopathology and Weeds - basic principles and concepts</li> <li>Systematics of insects, mites and nematodes related to Gardening</li> <li>Beneficial insects and their protection</li> <li>Systematics of fungi, bacteria and viruses related to Gardening</li> <li>Systematics of weeds related to Gardening</li> <li>Systematics of weeds related to Gardening</li> <li>Methods for controlling plant pests, diseases and weeds (chemical, physical, mechanical or biological)</li> <li>Characteristics of biocides, their category and origin</li> </ul> </li> </ul>				
Teaching Methodology	The content of the use of a b students, indi	of this course w board, guided d vidual and tear	vill be taught throug liscussions with the m work on the part	h: PowerPoint pre active participatic of students, and th	sentations, on of ne use of a

	variety of visual and other teaching aids as required for the delivery of each unit together with laboratory training at the College's facilities.		
Bibliography	<ul> <li>Greek Bibliography:</li> <li>Δαρμής, Ιάκωβος (2003), Οδηγός φυτοπροστασίας: Ασθένειες φυτών, καταπολέμηση, φυτοφάρμακα, τρόποι χρήσεως, βιολογική καταπολέμηση, εταιρίες παραγωγής και εμπορίας, 2η έκδ., Αθήνα, Ψύχαλος, ISBN 960-7920-33-3</li> <li>Δημόπουλος, Βασίλης (2003), Φυτοπροστατευτικά προϊόντα: Εντομοκτόνα, ακαρεοκτόνα, ζιζανιοκτόνα, φυτορρυθμιστικές ουσίες, 2η έκδ., Αθήνα, Έμβρυο, ISBN 960-8002-16-8</li> <li>Ελευθεροχωρινός, Η. Γ. (2009), Ζιζανιολογία: Ζιζάνια, ζιζανιοκτόνα, περιβάλλον, αρχές και μέθοδοι διαχείρισης, 3η έκδ., Αθήνα, ΑγροΤύπος ΑΕ, ISBN 978-960-7667-34-2</li> <li>Καϊλίδης, Δημήτριος Σ. (2000), Εχθροί των καλλωπιστικών δέντρων και θάμνων, Θεσσαλονίκη, Χριστοδουλίδη, ISBN 960-7577-06-X</li> <li>Κάϊλίδης, Δημήτριος Σ. (2004), Φυτοπαρασιτικοί νηματώδεις, 1η έκδ., Αθήνα, ΑγροΤύπος ΑΕ, ISBN 960-7667-21-2</li> <li>Συλλογικό έργο (2012), Φυσιολογία καταπονήσεων των φυτών: Οι λειτουργίες των φυτών κάτω από αντίξοες συνθήκες περιβάλλοντος, 3η έκδ., Αθήνα</li> </ul>		
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments/ Tests: 30%</li> <li>Practical examination: 10%</li> <li>Final Written Exams: 50%</li> </ul>		
Language	Greek		

Course Title	Introduction to Computer Aided Design				
Course Code	COMP224				
Course Type	Practical				
Level	Diploma / Higher Diploma				
Year / Semester	2 <sup>nd</sup> Year / 3 <sup>rd</sup> Semester				
Teacher's Name	Panayiotou Eleni				
ECTS	5 ECTS	5 I	ECTS 5		
Course Purpose and Objectives	The main purpose of this co use of the Adobe Photoshop learn to use these tools with graphics and with AutoCAD design. Both are necessary related programs of study.	ourse is to get the s and AutoCAD desig Photoshop offering offering the oppor for the responding	tudents acquainted with the in software. The students will g the opportunity to process rtunity to create a technical to the design needs of the		
Learning	Upon successful completion	of the course, the s	students will be in a position		
Outcomes	to:				
	Know the possibilitie	es entailed in the	proper use of the Adobe		
	Photoshop and AutoCAD design software				
	Know the basic instru	ictions and toolboxe	s of the respective programs		
	Use the basic instruct	tions of these two p	rograms		
	Prepare designs with	the help of these tw	wo programs which will be in		
	accordance with relat	tive instructions and	print them in the analogous		
Prerequisites	None F	Prerequisites	None		
Course Content	<ul> <li>AutoCAD <ul> <li>Layers of design; their properties and conditions</li> <li>Creation of layers</li> <li>Choice of current layers, renaming them and the preparation of a current layer</li> <li>Deleting one or more layers, the choice of colour in one or more layers, the definition of a layer type, width and style</li> <li>Line type</li> <li>Line weight</li> <li>Design colour</li> <li>Adjusting the properties of the design</li> <li>Zoom function</li> <li>Line, circle, arc functions</li> <li>X lines</li> <li>Ray, pline, polygon, retang functions</li> <li>Erasing and restoring items</li> <li>Copying designed items</li> <li>Moving and cutting items</li> <li>Arraving and breaking items</li> </ul> </li> </ul>				

	- Joining and scaling items			
	- Rotating, stretching and dividing items			
	Adobe Photoshop			
	- Opening the software and other files			
	- Creation of a new file and adjustment of specifications			
	- Storing a picture in different file types			
	<ul> <li>An overview presentation of the program so that the user can learn to move within it</li> </ul>			
	<ul> <li>Menu, options, toolbox, panels</li> </ul>			
	- Panels of instructions			
	<ul> <li>Tool for minimizing and enlarging items</li> </ul>			
	- Navigation tools			
	<ul> <li>Image and canvas size instruction</li> </ul>			
	- Choice tools			
	<ul> <li>Feather and refine edge instructions</li> </ul>			
	- Tool for cropping items			
	<ul> <li>Using the text through appropriate characters and paragraphing</li> </ul>			
	- Layers: creating a new one, duplicating, deleting, group, copy, paste			
	<ul> <li>Layer styles: drop shadow, bevel, emboss, stroke</li> </ul>			
	<ul> <li>Design of basic shapes and colour filling</li> </ul>			
	- Moving items			
	- Creating colours			
	- Eyedropper tool			
	- Paintbrush and brushes			
	<ul> <li>Creating a brush with the define brush present instruction</li> </ul>			
	<ul> <li>Manu image: adjustments, levels, curves, brightness/contrast, variations</li> </ul>			
	<ul> <li>Menu image: adjustments, selective colour, match colour, colour balance, desaturate, vibrance, black and white, photo filter, replace colour, gradient map, threshold; the properties of all of these elements</li> <li>Hue/saturation and their properties</li> </ul>			
	- Overview presentation of filters			
	<ul> <li>Clone stamp tool, healing brush, patch tool, red eye tool, colour replacement tool</li> </ul>			
	- Pen tool (add, delete, convert, direct selection tool, path selection tool)			
	- Eraser tool and properties			
	<ul> <li>Gradient tool, paint bucket tool and their properties</li> </ul>			
	<ul> <li>Blue tool, sharpen tool, smudge tool and their properties</li> </ul>			
	Introduction of elements from different programs and their photoshop processing; creating, storing and printing files			
Teaching Methodology	Presentations and the use of the software programs, discussions, exercises, students' active participation and the use of different, various audio-visual equipment.			
	Greek Bibliography			
Bibliography	<ul> <li>Κάππος, Γιάννης Θ. (2017), Δουλεψτε Με Autocad 2017, Κλειδάριθμος, ISBN 978-960-461-730-2</li> </ul>			

	<ul> <li>Κάππος, Γιάννης Θ. (2015), Εισαγωγή στο AutoCAD 2015: Ό,τι χρειάζεται ο χρήστης που ξεκινά με τοAutoCAD, Κλειδάριθμος, ISBN 978-960-461- 646-6.</li> </ul>				
	<ul> <li>Σαμαρας Β. Γιαννης., (2012), Adobe Photoshop Cs6 Βημα Προς Βημα Γκιουρδας Μ. ISBN 978-960-512-646-9</li> </ul>				
Assessment	<ul> <li>Continuous assessment:</li> <li>Presence in lectures: 10%</li> <li>Individual and group assignments: 20%</li> <li>Mid-term practical examination: 20%</li> <li>Final practical exams: 50%</li> </ul>				
Language	Greek				

Course Title	Garden Constructions I			
Course Code	GRLN215			
Course Type	Theoretical and Practical			
Level	Diploma / Higher Diploma			
Year / Semester	2 <sup>nd</sup> Year / 3 <sup>rd</sup> Semester			
Teacher's Name	Panaviotou Eleni			
ECTS	6 Loctures / w	vook 2	Laboratorias / 2	
ECIS	8 Lectures / V		Laboratories / 2	
	This main purpose of this	s course is to introd	uce students to the different	
and Objectives	materials that are used in (	nardening constructio	ns describing their properties	
	and uses Moreover the	re is a sound descr	intion of the different typical	
	gardening constructions	pinpointing to their	design through the use of	
	appropriate design tools.	An important part of t	his course is the capture and	
	transfer of the design on f	ield, through an appro	opriate number of visits of the	
	students together with the	eir teacher in places	gardening construction takes	
	place.			
Learning	Upon successful completi	on of the course, the	students will be in a position	
Outcomes	to:			
	<ul> <li>Know the basic r</li> </ul>	naterial and their pr	operties which are used for	
	gardening constru	ctions, such as diffe	erent types of stone, bricks,	
	metal and concrete	9		
	<ul> <li>Prepare construct</li> </ul>	ion plans through the	ne use of appropriate tools,	
	Including views and	a sections for differer	it gardening types	
	<ul> <li>Know the basic ga</li> </ul>	rdening elements, su	ch as entrance, gate, different	
	and the way of cor	structing all of them	types, different paved paths	
		es of constructing dif	forent gardening types on the	
	field and based on	the relative gardenin	a planning	
Prerequisites	GRI N110	Required	None	
rioroquioitoo	CILENTIO	litequireu		
Course Content	<ul> <li>Introduction to garde</li> </ul>	en constructions		
	- I raditional construct	ions		
	- Globalisation			
	- Sustainability of mat	erial		
	Material properties f	or gardening construc	ctions	
	- Special weight			
	- Thermal properties			
	- Acoustic properties			
	- Deformation of mate	rial		
	<ul> <li>Introduction to techn</li> </ul>	ical design		
	- Lines	5		
	- Scale			
	<ul> <li>Views and sections</li> </ul>			
	- Material			
	- Dimensioning			
	<ul> <li>Appropriate use of p</li> </ul>	encils and pens		
	<ul> <li>Stones</li> </ul>			
	<ul> <li>Structural stones in a</li> </ul>	ancient times		
	<ul> <li>Structural stones in</li> </ul>	the contemporary cor	struction industry	

	- Plaster
	- Different types of crackers
	- Limestone
	• Skiers
	- Different types
	- Endurance types
	- Finishing skiers
	Brick
	<ul> <li>Material for the construction of bricks</li> </ul>
	- Construction process
	- Brick types
	- Joining wall bricks
	Problems related to the use of bricks
	• Barbeques
	<ul> <li>Materials and ways of constructing them</li> </ul>
	- Position in the garden
	- Design
	<ul> <li>Accompanied constructions</li> </ul>
	Metals
	- Shaping metals
	- Iron
	- Iron in different forms
	- Leau
	• Entrances and gates
	- Ways of constructing them
	- Uses
	<ul> <li>Gate design, top view and sections</li> </ul>
	<ul> <li>Supporting constructions</li> </ul>
	- Stairs
	- Ramps
	- Supportive walls
	- Design of supportive construction
	• Walls
	- Material for the construction of walls
	- Design problems
	- Design problems
	- Foundations and construction
	- waterproofing
	- Different types of dry stones
	- Wall design, top view and sections
	<ul> <li>Paved ways</li> </ul>
	- Foundations
	<ul> <li>Hard and soft paving; design, top view and sections</li> </ul>
	<ul> <li>Coloured paved ways</li> </ul>
	- Patios
	Synthetic turf
	- Types of synthetic turf
	- Foundations
	- Applying the synthetic turf
	- Problems and examples to avoid
Teaching	Lectures demonstration discussion aroun eversions and assignments
Mothodology	adjustion visite guest presentations and digital presentations of different
Methodology	techniques for apriles presentations and signal presentations of different
	techniques for gardening design and planning.

Bibliography	Greek Bibliography
	<ul> <li>McHoy, Peter - μετάφραση Ελευθερία Τσαλέρα (2003), Κατασκευές</li> </ul>
	και γρήγοροι κήποι: Εύκολες, πρακτικές, γρήγορες κατασκευές,
	• Ingels Jack F ( $\mu$ ετάφοαση Γαλλία Ιωάννα, Ειρήνη Ραζή Κονταξή
	Μίλυ, Σταυρούλα Μεταξά) (2008), Καταστευές και συντήρηση κήπων,
	1η εκο., Ιων, τ.2, ISBN:978-960-411-352-1.
	<ul> <li>wiles, Richard (μει. Θανασής Παπουλίας) (1999), Κατασκεύες στον κήπο, Ψύχαλος, ISBN 960-7920-26-0.</li> </ul>
	<ul> <li>Braun, Harald (Παπαδόπουλος, Σταύρος μετ.), (2011), Η</li> </ul>
	διαμόρφωση του κήπου, Μαλλιάρης Παιδεία, ISBN: 9789604574292.
	English Bibliography
	<ul> <li>Holden, R. and Liversedge, J., 2014. Landscape Architecture: An Introduction</li> </ul>
	<ul> <li>Robert Holden and Jamie Liversedge (2011) Construction for Landscape Architecture - ebook</li> </ul>
	Better Homes and Gardens (2008) Ideas & How-To: Garden
	Structures (Better Homes and Gardens)
	Editors of Creative Publishing (2006) The Black & Decker Complete Guide to Landscape Construction: 60 Step-by-step Projects for Creating a Perfect Landscape
	<ul> <li>Bob Del ozier and Will Grissom (2011) Artificial Grass for Evenyone:</li> </ul>
	Ultimate Do it Yourself Guide To Installing Artificial Grass
Assessment	Continuous assessment:
	- Presence in lectures: 20%
	- Practical assignment: 15%
	- Project and presentation: 20%
	Final written exams: 45%
Language	Greek

19.					
Course Title	Garden and Landscaping Drawing Plan				
Course Code	GRLN216				
Course Type	Practical				
Level	Diploma / Hig	her Diploma			
Year / Semester	2 <sup>nd</sup> Year / 3 <sup>rd</sup>	Semester			
Teacher's Name	Panayiotou E	leni			
	-				
ECTS	4	Lectures / week		Laboratories / week	2
Course Purpose	The main pu	pose of this course	is to give to	the students an ou	utline of the
and Objectives	general princ	iples and practices	of garden de	sian. based espec	ally on the
	appropriate u	se of tools, the grap	hical represer	ntation and materia	al.
Learning	Upon succes	sful completion of th	e course, the	students will be in	n a position
Outcomes	to:		<b>, ,</b>		
	<ul> <li>Desig</li> </ul>	n an item based on s	scale and pre	sent it in 3-D form	
	<ul> <li>Prepa</li> </ul>	re plans for existing	g gardens, b	uildings and exte	rnal space,
	using	sections, altitude an	d perspective	planning	• •
	Collect	t information in relat	ion to a plot,	building space or o	other space
	with th	ne aim to create new	plans (altitud	le, sections and m	ore)
	<ul> <li>Prepa</li> </ul>	re introductory space	e charts		
	<ul> <li>Incorp</li> </ul>	orate their designs w	within gardeni	ng	
	<ul> <li>Prepa</li> </ul>	re plans by hand wh	ich can eleva	te the importance of	of an item in
	3-D fo	rm			
	<ul> <li>Comp</li> </ul>	lete a portfolio of pla	ins for garder	ing within an inhal	bited space
Prerequisites	None	Requ	ired	None	
Course Content	This introduc	tory course on gard	lenina desian	researches diffe	rent design
	methods and	observations with a	special focu	s on the spatial re	lationships.
	The students	will develop the cap	bability to des	ign through the as	ssistance of
	practice and	experience with diff	ferent design	tools. The under	standing of
	concepts and	political development	nts will encour	age them to develo	op their own
	unique and c	ritical aesthetic ana	lyses. Moreo <sup>v</sup>	ver, the students v	will analyse
	plans that ha	ve a historical, theo	pretical and p	olitical relationship	p, as these
	continue to ex	press contemporary	/ interests.		
	In this course	, there is an introduc	ction to the ba	sic practices of pu	itting a plan
	into action u	sing appropriate me	ethods and te	echniques. The de	esign types
	include topog	raphic plans, idea pl	ans and man	utacturing plans.	
	Present	ation of basic design	n techniques	the second strains of	the sectors
	Choice	of the appropriate de	esign tools fol	the completion of	the plan
	<ul> <li>Ivieasur</li> </ul>	ements for the use c	of scales / sca	ling tools	
	Intuitive	practice of measure	ement in gard	ening	
	Design	SKIIIS DASED ON THE U	ise of the har	ia	
		n designs:			
	- Topogra	арпіс			
		cturing			
	- Natura - Notaile	otuning			
	- Plannin	a for inhahited areas			
	- Pictures		•		
	- Dimens	ions			
	<ul> <li>Design</li> </ul>	lines and symbols			

	Plan perimeter and memorandum				
	Spatial planning				
	<ul> <li>Basic plans for the development of a garden</li> </ul>				
	<ul> <li>Defining and controlling spatial dimensions</li> </ul>				
	<ul> <li>Dimension for different types of architectural plans and relative details</li> </ul>				
	External elevations				
Teaching	Lectures, demonstration, discussion, group exercises and assignments,				
Methodology	education visits, guest presentations and digital presentations of different				
Diri	techniques for gardening design and planning.				
Bibliography	Greek Bibliography				
	<ul> <li>Hackstein, Herman, μετάφραση Πασχαλία Ρήγα (2009), Λεξικό για βραχόκηπους: Ένας οδηνός για επιτυχημένη κατασκευή και φύτεμα.</li> </ul>				
	1η έκδ., Θεσσαλονίκη, Τζιαμπίρης - Πυραμίδα, ISBN 978-960-6753- 18-3				
	<ul> <li>Hendy, Jenny, μετάφοαση Γιάννης Χατζηλάρης (2010), Όμορφος</li> </ul>				
	κήπος όλο το χρόνο: Οδηγίες, τεχνικές, συμβουλές, ελάχιστη				
	φροντίδα, εύκολες κατασκευές, 1η έκδ., Αθήνα, Ιριδα, ISBN 978-960-				
	7926-72-2				
	<ul> <li>Brookes, John (2005), Αρχιτεκτονική κήπων: Από τη θεωρία στην</li> </ul>				
	πράξη, Ψύχαλος, ISBN 960-8455-04-9				
	<ul> <li>Ingels, Jack E. (μετάφραση Γαγλία Ιωάννα, Ειρήνη Ραζή, Κονταξή</li> </ul>				
	Μίλυ, Σταυρούλα Μεταξά), (2004), Σχεδιασμός και μελέτες κήπων, 1η έκδ., Αθήνα, Ίων, τ.1, ISBN:960-411-352-6				
	<ul> <li>Wilson, Andrew, μετάφραση Δημήτριος Πετρόπουλος (2005), Ο</li> </ul>				
	κήπος, αρχιτεκτονική και σχεδιασμός, 1η έκδ., Ίριδα, ISBN 960-7926-55-2				
	<ul> <li>Braun, Harald, μετάφραση Σταύρος Παπαδόπουλος (2010), Η</li> </ul>				
	διαμόρφωση του κήπου: 400 εντυπωσιακές ιδέες με κείμενο και				
	φωτογραφίες, 1η έκδ., Θεσσαλονίκη, Μαλλιάρης Παιδεία, ISBN 978- 960-457-429-2				
	English Bibliography				
	• Jefferis, Alan (2010), Architectural Drafting and Design, Delmar				
	Cengage Learning, 6th edition, ISBN: 978-1435481626.				
	• Flannery, John A. (2008), Urban Landscape Design, teNeues, ISBN:				
	978-3832792756.				
	• Booth, Norman K. (2011), Residential Landscape Architecture:				
	Design Process for the Private Residence, 6th edition, Prentice Hall,				
	ISBN: 978-0132376198.				
Assessment	Continuous assessment:				
	- Presence and participation in lectures: 20%				
	- Assignments: 15%				
	<ul> <li>Final written exame: 15%</li> </ul>				
Language	Greek				

20.					
Course Title	Automatic Irrigation Systems				
Course Code	GRLN217				
Course Type	Theoretical and Practical				
Level	Diploma / Hi	gher Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup>	Semester			
Teacher's Name	Antoniou Efr	osini			
ECTS	4	Lectures / week	1	Laboratories /	1
				week	
Learning Outcomes	irrigation systems and installation of automations, aiming at exploiting their potential and advantages in saving water, reducing working time and improving the quality of the products produced. Upon successful completion of the course, the students will be in a position to:				
	<ul> <li>Under</li> <li>Descr</li> <li>Under</li> <li>Advise</li> <li>Desig</li> <li>Plan a availa</li> <li>Devel</li> <li>Admir</li> <li>to des</li> <li>to cale</li> <li>under mana</li> <li>know</li> <li>know</li> </ul>	rstand the reasons for ibe the construction a rstand the advantage e in selecting a cost- n and construct a sm an irrigation time sc ble and the specific r op IIS designs for sm hister the necessary a sign an irrigation syst culate the water need stand and know the gement in irrigation. and be able to use re how climate change area.	or using Impr and mode of es of any kind effective IIS f hall-scale IIS hedule in rel heeds of plan hooth and for agrochemical em ds of their cro importance of ecirculated wa affects the av	oved Irrigation Sys operation of variou of IIS or a specific case ation to the amou ts uneven surfaces s via the IIS op or garden. of sustainable wat ater in their irrigative vailability of water r	er resource on designs.
Prerequisites	None	Requi	red	None	
Course Content	Course outli • Types o • Charact • Irrigation • Irrigation • Applicat • Calculat • Climate irrigation. • Use of m	ne f IIS systems, descrip eristics, advantages n network design n on smooth and on u ion of agrochemicals ion of water needs o change and sustain ecycled water in irrig	otion, mode c / disadvantag uneven surfac via IIS f plants. nable manag ation.	of operation ges of IIS ces ement of water re	esources in
Teaching	The content of	of this course will be	taught throug	gh: PowerPoint pre	esentations,
Methodology	the use of a students, indi variety of visu unit, together	a board, guided dis ividual and team wor ual and other teachir with laboratory train	cussions wit k on the part ng aids as rec ing at the Col	h the active part of students, and t quired for the deliv lege's facilities.	ticipation of the use of a very of each
Bibliography	Greek Biblio	graphy:			
	<ul> <li>Πουλα έκδ., /</li> <li>Μπαυ</li> </ul>	οβασίλης, Αλέξανδρα Αθήνα, Έμβρυο, ISBI ιπίλης, Δημάτοης (20	ος (2010), E N 978-960-80 04) Αດດັຣນານທ	ίσαγωγή στις αρί )02-54-8 κά δίκτμα πρασίνοι	δεύσεις, 1η ι Σταμούλο
		ISBN 960-351-481-0	$\sigma_{\tau}$ , $\sigma_{\mu}\sigma_{\sigma}\sigma_{\mu}$		ο, <u>ειαμουλι</u> ]

	<ul> <li>Αραμπατζής, Γεώργιος; Παναγόπουλος, Ανδρέας; Πισινάρας</li> <li>Βασίλιος; Χατζηγιαννάκης Ευάγγελος, (2018), Χρήση του Αρδευτικού</li> <li>Νερού – Κλιματική Αλλαγή, ISBN: 978-618-83573-0-3.</li> </ul>
	English Bibliography
	<ul> <li>Lee, Teang Shui (2012), Irrigation Systems and Practices in Challenging Environments, ISBN: 978-953-51-0420-9</li> </ul>
	<ul> <li>Jalota, S.K.; Vashisht, B.B.; Sharma,S.; Kaur, S; (2018), Understanding Climate Change Impacts on Crop Productivity and Water Balance, ISBN: 978-0-12-809520-1.</li> </ul>
Assessment	<ul> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Written Assignments / Tests: 30%</li> <li>Practical examination: 10%</li> </ul> </li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

21.			
Course Title	2D Computer Aided Landscaping Design		
Course Code	GRLN221		
Course Type	Practical		
Level	Diploma / Higher Diploma		
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup> Semester		
Teacher's Name	Panayiotou Eleni		
ECTS	4 Lectures / we	eek I	_aboratories / 3 week
Course Purpose and Objectives	The course focuses on the study, understand and creation of landscaping designs, projective and prospective designs, as well as irrigation and altitude designs. Furthermore, this course focuses on 2D design, based on the software program AutoCAD.		
Learning Outcomes	<ul> <li>Upon successful completion to:</li> <li>Use AutoCAD in pressential for garden</li> <li>Create, process and</li> <li>Digital landscaping</li> <li>Detailed construction</li> <li>Irrigation designs</li> <li>External elevations</li> <li>Complete 2D garde</li> <li>Apply 2D technique</li> <li>Understand different</li> <li>Transform the dimensional</li> </ul>	on of the course, the s preparing different lan hing design d print appropriate 2D based on appropriate on designs ening designs es for gardening plans of measurement syste ensions between the	students will be in a position ndscaping designs that are designs such as: scaling and dimensions and external space plans ms Metric and the Ango-Saxon
Prerequisites	COMP224	Required	None
Course Content	<ul> <li>Introduction of different AutoCAD program, memorandum and the Design types</li> <li>Landscaping designs</li> <li>Detailed construction</li> <li>External elevations</li> <li>Irrigation plans</li> <li>Altitude maps</li> <li>Measurements</li> <li>Measurement system</li> <li>Metric</li> <li>Anglo-Saxon</li> <li>Conversions</li> <li>Units of measurement</li> </ul>	rent forms of design the digitization of sca the definition and cont designs	ns through the use of the ale and measurements, plan trol of dimensions
Methodology	education visits, guest pre techniques for gardening d	esign and planning.	al presentations of different
Bibliography	Greek Bibliography		

	<ul> <li>Onstott, Scott. (μετ. Αγαμέμνων Μήλιος) (2011), AutoCAD 2012: Οπτικός οδηγός: Μάθετε το AutoCAD γρήγορα και εύκολα, Γκιούρδας Μ., ISBN 978-960-512-632-2.</li> <li>Εισαγωγή στο AutoCAD 2015 – Ότι χρειάζεται ο χρήστης που ξεκινά με το AutoCAD που ξεκινά μα το AutoCAD 2015, Γιάννης Θ. Κάππος, ISBN: 978-960-461-646-6, Εκδότης: Κλειδάριθμος.</li> <li>Αρχιτεκτονική τοπίου Τσαλικίδης, Γιάννης Α. Επίκεντρο 2008</li> <li>English Bibliography</li> </ul>
	<ul> <li>Holden, R. and Liversedge, J., 2014. Landscape Architecture: An Introduction</li> </ul>
Assessment	<ul> <li>Continuous assessment:</li> <li>Participation in lectures: 20%</li> <li>Projects and assignments: 35%</li> <li>Final practical exams: 45%</li> </ul>
Language	Greek

22.					
Course Title	Urban Gardening				
Course Code	GRLN223				
Course Type	Theoretical and Practical				
Level	Diploma / Hig	her Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup>	Semester			
Teacher's Name	Panayiotou El	eni			
ECTS	3	Lectures / week	1	Laboratories / week	1
Course Purpose	The aim of the	e course is to introdu	uce students	to the basic eleme	nts of small
and Objectives	scale gardens in urban areas and in areas such as balconies, open spaces,				
	courtyards an	d even indoors.			
Learning	Upon success	sful completion of th	e course, the	students will be in	n a position
Outcomes	to:				
	Unders	stand what it takes t	o design a sn	hall indoor or outdo	or space in
	urban	areas			
	Plan a	garden for:			
	0 Smar	II DACK YAIUS			
	o flowe	er boxes hanging ba	askets		
	o sma	Il outdoor gardens in	the backvar	d	
	<ul> <li>Select</li> </ul>	plants for different t	vpes of garde	ens	
	Familia	، arize with modern s	stems for gro	owing indoor plants	3
	Grow p	olants and flowers in	flower garde	ns indoors and in u	urban areas
	Take	full advantage of th	ne restricted	balcony spaces	for growing
	flowers	S			
	<ul> <li>Get to and th</li> </ul>	know about vertica e positive apects of	Il gardens, gi the microclim	reen ceilings and a late in urban areas	green walls 3.
	<ul> <li>Be ab</li> </ul>	le to propose urbar	<mark>i landscape j</mark>	olans that serve th	<mark>ne need for</mark>
	adapta	ation of urban areas	to climate ch	ange.	
Prerequisites	None	Requi	ired	None	
Course Content	Garde	ning in indoor space	s		
	<ul> <li>Backya</li> </ul>	ard gardening			
	<ul> <li>Indoor</li> </ul>	and outdoor plants			
	<ul> <li>Irrigati</li> </ul>	on of indoor and out	door spaces		
	Fertiliz	ation of indoor plant	S	_	
	Hydrop	ponic gardening of ir	ndoor and ou	tdoor spaces	
	Indoor	nerbs			
	Vegeta	able gardens in urba	in areas and	Indoors	
		n with nowening plar	us		
		cilluleris gardens	nlante		
		ring plants for indoor	r in urhan are	25	
	<ul> <li>Indoor</li> </ul>	seed sprouting		45	
	Adapta	ation of urban lands	capes to climate	ate change	
	<ul> <li>Vertica</li> </ul>	al gardens, green ce	ilings and gre	en walls	
Teaching	The content o	f this course will be	taught through	gh: PowerPoint pre	esentations.
Methodology	the use of a	board, guided dis	cussions wit	h the active part	icipation of
	students, indiv	vidual and team wor	k on the part	of students, and t	he use of a
	variety of visu	al and other teachir	ng aids as reo	quired for the deliv	ery of each
	unit. Training	visits will place wh	ere students	can observe pla	nts, identify
	them, and tak	e care of their maint	enance.		

Bibliography	
	Greek Bibliography:
	<ul> <li>Σπαντιδάκης, Ιωάννης Γ. (2008), Ελληνικός κήπος: Ιστορία, αισθητική, σχεδιασμός, κατασκευή, 1η έκδ., Αθήνα, Σταμούλη Α.Ε., ISBN 978-960-351-732-0</li> </ul>
	<ul> <li>Braun, Harald, μετάφραση Σταύρος Παπαδόπουλος (2010), Η διαμόρφωση του κήπου: 400 εντυπωσιακές ιδέες με κείμενο και φωτογραφίες, 1η έκδ., Θεσσαλονίκη, Μαλλιάρης Παιδεία, ISBN 978- 960-457-429-2</li> </ul>
	<ul> <li>Donaldson, Stephanie - μετάφραση Αρετή Κοκκίνου (2003), Κρεμαστά καλάθια και διακόσμηση: Υπέροχες συνθέσεις, πολύχρωμα καλάθια, θεαματικοί συνδυασμοί, φανταστικές ιδέες, διακόσμηση χώρου, Αθήνα, Ίριδα, ISBN 960-7926-35-8</li> </ul>
	<ul> <li>Hendy, Jenny, μεταφραση Γιάννης Χατζηλάρης (2010), Ομορφος κήπος όλο το χρόνο: Οδηγίες, τεχνικές, συμβουλές, ελάχιστη φροντίδα, εύκολες κατασκευές, 1η έκδ., Αθήνα, Ίριδα, ISBN 978-960- 7926-72-2</li> </ul>
	<ul> <li>μετάφραση Αριστείδης Καραμπεάζης (2009), Λεξικό μικρών κήπων,</li> <li>1η έκδ., Αθήνα, Καρακώτσογλου, ISBN 978-960-6611-94-0</li> </ul>
	<ul> <li>επιμέλεια Andrew Wilson, μετάφραση Μαρία Παΐζη (2008), Μικροί κήποι: Σχεδιασμός και διαμόρφωση, αρχιτεκτονική και δημιουργία, 1η έκδ., Ίριδα, ISBN 978-960-7926-67-8</li> </ul>
	<ul> <li>Kirton, Meredith, μετάφραση Ταξιάρχης Ανδριτσόπουλος (2008), Κήποι και βεράντες: Μέσα σε λίγο χρόνο και με απλές κινήσεις μεταμορφώστε την αυλή ή το μπαλκόνι σας!, 1η έκδ., Αθήνα, Modern Times, ISBN 978-960-691-025-8</li> </ul>
	<ul> <li>Αναστάσιος Δάρρας (2010), Κήποι, βεράντες, οροφόκηποι: Ανθοκομία - Κηποτεχνία καλλωπιστικών Φυτών στο αστικό περιβάλλον, Έμβρυο, ISBN 978-960-8002-57-9.</li> </ul>
	English Bibliography:
	<ul> <li>Solomon, Reggie (2010), I Garden - Urban Style, Betterway Books, ISBN: 978-1440305566.</li> </ul>
	<ul> <li>Yokohari, M., Murakami, A., Hara, Y., Tsuchiya, K. (2017), Sustainable Landscape Planning in Selected Urban Regions, ISBN 978- 4-431-56445-4.</li> </ul>
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments/ Tests: 30%</li> <li>Practical examination: 10%</li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

23.				
Course Title	Garden Constructions II			
Course Code	GRLN222			
Course Type	Theoretical and Practical			
Level	Diploma / Higher Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup> Semester			
Teacher's Name	Panaviotou Eleni			
ECTS	4 Lectures / week 2 Laboratories / 1			
	week			
Course Purpose	The course 'Gardening Constructions II' represents a continuation of the			
and Objectives	course 'Gardening Constructions I' which, as it follows, is a prerequisite for			
	this course. The main scope of this course is the in-depth study of outdoor			
	elements, the material used for their construction, their properties and uses.			
	Some of them relate to lighting, different liquid elements such as lakes and			
	the design based on the micro-environment. The students lean to apply			
	relative manufacturing details using the specialized design software program			
	AutoCAD			
Learning	Upon successful completion of the course, the students will be in a position			
Outcomes				
Outcomes	<ul> <li>Know more material and their properties with which they can proceed</li> </ul>			
	• Know more material and their properties with which they can proceed with the construction of a garden, such as wood, soil, glass, rubbar			
	and more			
	allu illuite			
	<ul> <li>Suggest appropriate soil tasks in a garden, taking into consideration the terrein its uses and the inter ded lends arises and financial</li> </ul>			
	the terrain, its uses and the intended landscaping configuration			
	Read and prepare construction plans using a computer design			
	software, including different aspects and sections for different			
	gardening constructions			
	Know the basic gardening constructions based on wood suck as deck,			
	pergolas, fences, benches, entrances, gates, glass and their			
	manufacturing type as well as the use of soil			
	<ul> <li>Design with the assistance of a computer design software plans for</li> </ul>			
	the preparation of the eventual construction of different types of			
	gardens			
	Know the general characteristics of liquid garden elements such as			
	lakes and the specific way for constructing them			
	<ul> <li>Design liquid garden elements with the help of a computer design</li> </ul>			
	software			
	<ul> <li>Know bydrophytes and bydrophilic plants</li> </ul>			
	<ul> <li>Know mydrophytes and hydrophilic plants</li> <li>Know what the micro environment is as well as the factors which affect</li> </ul>			
	IL			
	• Suggest appropriate gardening constructions which, by taking into			
	consideration the micro-environment of the area, can help create			
	thermally convenient gardens			
	<ul> <li>Know what the design zones are and be able to use them</li> </ul>			
	<ul> <li>Know the basic provisions regarding the rules and regulations in</li> </ul>			
	installing lighting in gardens			
	Know the basic cable types that can be installed in a garden as well			
	as the way of doing so			
	<ul> <li>Know different types of gardening lighting</li> </ul>			
	Observe the course of gardening construction based on the initial			
	planning			

Prerequisites	GRLN215	Required	None
Prerequisites Course Content	GRLN215 • Wood • Different types and u • Humidity and drying • Durability • Maintenance • Plastic and rubber • Plastic rubber • Plastic • Durability • Toxicity • Constructions and ag • Environmental conce • Glass • Modern glass-based • Applications in outdo • Soil tasks • Physical ground • Underground water • Tree protection • Soil abilities • Landscaping formation • Deck • Appropriate wood • Application • Design • Pergolas • Examples • Wood • Design • Fences • Types • Examples • Joints • Design • Fences • Types • Construction materia • Design • Protection and finishi • Paint • Paint application • Environmental conce • Wood protection • Preservatives • Varnishes • Liquid gardening eler	Required lses out oplications based on p erns constructions or tasks on, digging and filling on, digging and filling erns related to paint	plastic and rubber
	- Fountain constructio design	n, general principles	for the electrical instalment,
	<ul> <li>Design and construct</li> </ul>	tion of a gardening fal	1

	<ul> <li>Hydrophytes and hydrophilic plants</li> <li>Gardening design and micro-environment</li> <li>Microenvironment</li> <li>Factors which affect the micro-environment</li> <li>Thermally convenient gardens</li> <li>Design zones</li> <li>Garden lighting</li> <li>Introduction to the rules for electrical installations – relative rules and regulations</li> <li>Cable types</li> <li>Electrical equipment appropriate for gardens</li> <li>Ways for installing cables in a garden and examples of lighting</li> <li>Based on a study of the micro-environment and the characteristics of the landscape, the students suggest appropriate constructions. An important part of this course, is the capturing and transfer of the plan to the actual construction space. This is achieved through an appropriate number of visits to places where gardening constructions happen based on an appropriate appropriate in advance.</li> </ul>
Teaching	analysis of plans which are given to the students in advance.
Methodology	education visits, guest presentations and digital presentations of different techniques for gardening design and planning.
Bibliography	Greek Bibliography
	<ul> <li>ΜcHoy, Peter - μετάφραση Ελευθερία Τσαλέρα (2003), Κατασκευές και γρήγοροι κήποι: Εύκολες, πρακτικές, γρήγορες κατασκευές, Αθήνα, Ίριδα, ISBN 960-7926-34-X</li> <li>Ingels, Jack Ε. (μετάφραση Γαγλία Ιωάννα, Ειρήνη Ραζή, Κονταξή Μίλυ, Σταυρούλα Μεταξά) (2008), Κατασκευές και συντήρηση κήπων, 1η έκδ., Ίων, τ.2, ISBN:978-960-411-352-1.</li> <li>Wiles, Richard (μετ. Θανάσης Παπούλιας) (1999), Κατασκευές στον κήπο, Ψύχαλος, ISBN 960-7920-26-0.</li> <li>Francis, Alison R μετάφραση Θανάσης Παπούλιας (2001), Υδρόκηποι: Άνθη και φυτά στο νερό, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 960-7920-26-0.</li> <li>Francis, Alison R μετάφραση Θανάσης Παπούλιας (2001), Υδρόκηποι: Άνθη και φυτά στο νερό, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 960-7920-82-1</li> <li>Μαυρογιαννόπουλος, Γεώργιος Ν. (2007), Υδροπονικές εγκαταστάσεις, 2η έκδ., Αθήνα, Σταμούλη Α.Ε., ISBN 978</li> <li>John Brookes (μετάφραση Ψύχαλος) (2005) Αρχιτεκτονική κήπων – Από τη θεωρία στην πράξη</li> <li>English Bibliography</li> <li>Steve Cory and Home Improvement and Decks (2009) Deck Designs, 3rd Edition: Great Design Ideas from Top Deck Designers</li> <li>Jeff Beneke (2005) The Fence Bible: How to plan, install, and build</li> </ul>
	<ul> <li>fences and gates to meet every home style and property need, no matter what size your yard</li> <li>Edidtors of Creative Homeowner (2011) Garden Ponds, Fountains &amp; Waterfalls for your home (Landscaping)</li> </ul>
	<ul> <li>Robert Holden and Jamie Liversedge (2011) Construction for Landscape Architecture</li> <li>Better Homes and Gardens (2008) Ideas &amp; How-To: Garden Structures (Better Homes and Gardens)</li> </ul>
Assessment	<ul> <li>Continuous assessment:         <ul> <li>Presence in lectures: 20%</li> <li>Assignment: 15%</li> <li>Project and presentation: 20%</li> </ul> </li> </ul>

	•	Final written exams: 45%
Language	Greek	

<b>_</b>					
Course Title	Tree Surgery and Basic Pruning Techniques				
Course Code	GRLN218				
Course Type	Theoretical and Practical				
Level	Diploma / Hig	her Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup>	Semester			
Teacher's Name	Kordatos Cha	ralambos			
ECTS	3	Lectures / week	1	Laboratories / week	1
Course Purpose and Objectives	The aim of the course is to train students in the practice and in the techniques of pruning. It focuses on various ornamental and fruit trees as well as shrubs, aiming to influence their growth and development with effect on production of flowers and fruits as well as on aesthetics. Furthermore, the course introduces students to topics of tree surgery. Upon successful completion of the course, the students will be in a position to:				
	<ul> <li>Apply climat</li> <li>Apply fruit tr</li> <li>Prope of the</li> <li>Use the</li> </ul>	the various surgication ic conditions pruning to various of ees rly diagnose the var landscape and for in the various tools and	ornamental, e ious pruning mproving fruit machines co	ng techniques und vergreen vines / cl problems for bette production rrectly and safely	ler different limates and r aesthetics
Prerequisites	GRLN219	Requ	ired	None	
Course Content	<ul> <li>Introd</li> <li>Prunir</li> <li>Prunir</li> <li>Cuttin</li> <li>Repai</li> <li>Tree s</li> <li>Prunir</li> <li>Elevat</li> <li>Thinni</li> <li>Trimm</li> <li>Tree s</li> <li>Crowr</li> <li>Correation</li> <li>Fightin</li> </ul>	uction ng and tree-cutting to ng cuts g technique ring damages to tree supports ng to form shape and ring tree crowns ng tree crowns ng tree crowns ng tree tops down trees and upro n formation and sym ction of cavities ng pests and disease of this course will be	ools es d pruning for f oting metry <u>es after tree p</u>	ruit production	sentations
Methodology	the content of the use of a students, indi variety of visu unit, together	or this course will be a board, guided dis vidual and team wo ual and other teachin with practical trainin	taught throug scussions wit rk on the part ng aids as rea ig at the Colle	gn: PowerPoint pre th the active part of students, and t quired for the deliv ege's lab facilities.	esentations, icipation of he use of a ery of each
Bibliography	<b>Greek Biblio</b> • Gilma Κλάδε εικονα • Prat, Κλάδε μηλοε	<b>graphy:</b> n, Edward F μετ μα δέντρων αστ γραφημένος οδηγός Jean – Yves (μετα μα καρποφόρων δ ιδή, αμπέλι, ακρόδι	άφραση Σωτ ικού και τ 5, Αθήνα, Ίων άφραση Αλεξ έντρων και θ ουα, εσπεριδ	ηροπούλου Βασιλ τροαστιακού τοπ , ISBN 960-411-13 ξάνδρα Δημητριάδ θάμνων: Ελιά, πυρ οειδή και λοιπά κ	αική (2001), ίου: Ένας 33-7 δη), (2008), οηνόκαρπα, αρποφόρα:

	Ανά είδος, βήμα-βήμα, 1η έκδ., Αθήνα, Ψύχαλος, ISBN 978-960- 8455-45-0 • Αποστολόπουλος, Απ. (2007), Η καλλιέργεια των μπονσάι: Τεχνοτροπίες, συρματόδεση, κλάδεμα, μεταφύτευση, 1η έκδ., Susaeta, ISBN 978-84-305-1820-3.
Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments/ Tests: 30%</li> <li>Practical examination: 10%</li> <li>Final Written Exams: 50%</li> </ul>
Language	Greek

25.					
Course Title	Final Project I				
Course Code	PROJ209				
Course Type	Theoretical a	nd Practical			
Level	Diploma / Hig	her Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup>	Semester			
Teacher's Name	Panayiotou E	leni			
ECTS	6	Lectures / week	1	Laboratories / week	2
Course Purpose	The main sc	ope of this course,	is to prepare	e the students to	carry out a
and Objectives	professional	gardening design, a	pplying the k	nowledge and skil	ls acquired
	through the re	espective program of	f studies. The	e course is divided	into 2 main
	sections; the	first one refers t	o individual	management, an	alysis and
	landscaping of	design while the sec	ond one focu	ises on the implem	nentation of
	the best idea	on a group level.			
Learning	Upon succes	sful completion of th	e course, the	e students will be in	n a position
Outcomes	to:				
	<ul> <li>Appre</li> </ul>	ciate the importance	of an on-site	e landscaping analy	/sis
	Carry	out a full presentatio	on with regard	to landscaping an	alysis
	Collect	t, filter and analyz	e informatio	n from on-site a	nd internet
	resear	rch			
	Come	up with unique suge	gestions		
	<ul> <li>Support ideas and suggestions based on actual evidence</li> </ul>				
	Carry	their final idea to a	final design	based on all the	appropriate
	details	8			
	<ul> <li>Listen</li> </ul>	and respect the opin	nions and ide	as of other team m	nembers
	Prove	their skills and tech	iniques as ga	ardeners by impler	nenting the
Dranavisitas	pian a	nd relative suggestic	ons	None	
Prerequisites	None	Requi	Irea	None	
Course Content	On-site	visits and analyses			
	Present	ation of analysis		in a formulation and	
	On-site	and internet researc	n and analys	is of evidence	
	Innovat				
	Organis	ation plan and detail	IS		
	Choice	of plants			
	Costing				
	Assessi	ment of gardening de	esigns		
	Choice	of a potential idea / s	subject for dis	scussion	
	• On-site	group construction			
I eaching	This course	is a combination	of individual	study, individual	laboratory
wethodology	presence, gro	oup meetings and in	alvidual guida	ance. Part of this of	course is to
		sions based on the	etudonte' acti	ive participation an	d individual
	and group as	source based on the	Suuenis acii	ive participation an	u inuividuai
Bibliography	Grock Biblio	aranhy	ICIILO WUIN.		
Dibilography		$\mathbf{y}_{1} \mathbf{a} \mathbf{p}_{1} \mathbf{y}_{1}$	Project mon		
	• Υψηλα 960-7	860-49-7.			ΠΟς, ΙΟΒΙΝ.
	ο Θεοφι	λιοης, Χρήστος (200	2), Η Συγγρα	αφή Επιστημονικής	ς Εργασίας:
		η θεωρια στην Πράξ	ςη, Ι. Δαρδάν	ος, ISBN: 960-764	3-11-9.
	● Σαχινι Εκδόα	η - καροαση, Α. (200 τεις, 960-7308-80-8.	J4), IVIEU000A	ωγια Ερευνας, ΒΗ	ι Α ιατρικες

	•	Μερακλή, Βάσο (2011), Οδηγός για τη συγγραφή επιστημονικής εργασίας: Μελέτη/Ερευνα, KES College.
Assessment	•	Choice of innovative topic: 10%
	•	Assessment of the design solution: 20%
	•	Aesthetic and artistic dimension: 10%
	•	Quality of presentation: 20%
	•	Quality of execution by the entire group: 40%
Language	Greek	

26.					
Course Title	Practical Training II				
Course Code	PRCT219				
Course Type	Practical				
Level	Diploma / Hig	her Diploma			
Year / Semester	2 <sup>nd</sup> Year / 4 <sup>th</sup>	Semester			
Teacher's Name	Kordatos Cha	aralambos			
ECTS	2	Lectures / week		Laboratories / week	
Course Purpose and Objectives	With professi to enrich the courses durin capitalize on constructionis	onal practice in real students' knowledge ng the first and see their practical skil st.	conditions an acquired thro cond year of s within the	d situations, this c ugh the theoretica their studies and specialization of	course aims I part of the help them the garden
Learning Outcomes	Upon succes to: Apply Acqui Acqui Acqui Devel Conso Acqui	sful completion of th in practice the theor re professional expere re confidence as gan op communication so plidate their knowled re more practical ski	ne course, the ries that were rience rden designers kills ge in the area lls in the area	students will be ir taught during their s and construction of gardening of gardening	n a position <sup>-</sup> studies ists
Prerequisites	None	Requ	ired	None	
Course Content	The students perform the d of their stud alignment wit of studies.	are engaged with g luties, tasks and res ies. The tasks wh h the learning outco	ardening componsibilities which which which which we have a stude mes of the diff	panies and organis hich are related to ents undertake ar erent courses of th	sations and the subject re in close his program
Teaching Methodology	The Practica company / or the college as of this course takes place a training in the in this handb also records a practical train	I Training takes pla ganization which is e s an appropriate enti visits the students a nd the students reco practical training ha ook while the compa a total assessment fo ing session.	te for 4 wee engaged with g ty for the train at the company rd their tasks p ndbook. The to any's employe or the student's	ks during the sur gardening and is a ing to take place. T where their pract performed during t eacher also makes the responsible for s performance thro	mmer, at a approved by The teacher ical training he practical s comments the student bughout the
Bibliography					
Assessment	The assessm his or her c company's re either lead to the latter, the following aca	ent of the practical to omments in the pre- presentative's total the student succeed a student must repo demic year.	training is base actical trainin assessment. ding or failing t eat the praction	ed on the teacher' g handbook as w The combined re he module, and in cal training sessio	's visits and well as the esult should the case of on over the
Language	GIEEK				

27.				
Course Title	Introduction to Environmental Science			
Course Code	ENVR111			
Course Type	Theoretical			
Level	Diploma			
Year / Semester	Elective			
Teacher's Name	Sarris Dimitrios			
ECTS	4 Lectures / week 2 Laboratories / week			
Course Purpose	The aim of the course is to introduce students to the concept of sustainability,			
and Objectives	for the sustainable management of natural resources through the			
	understanding of the structure and function of the natural and anthropogenic			
	environment and their interaction. In addition, to identify the problems that			
	have arisen from this interaction, as well as the ways in which these problems			
	Can be addressed.			
Outcomos	to:			
Outcomes	<ul> <li>Understand which are the available natural resources of the planet</li> </ul>			
	• Onderstand which are the available natural resources of the planet, their origin structure and function			
	<ul> <li>Understand the processes of evolution of the natural environment and</li> </ul>			
	the interaction between its components (ground substrate, soil,			
	atmosphere, climate, aquatic element, ecosystems)			
	Recognize the characteristics of the Mediterranean environment in			
	order to understand the major threats it faces and the needed policies			
	to protect it			
	<ul> <li>Understand the ways in which human activities affect the elements of</li> </ul>			
	the natural environment, and when and how they cause its			
	degradation			
	<ul> <li>Perceive modern means by which to address critical problems for the</li> </ul>			
	future of the planet in areas such as energy, pollution, disturbance of			
	ecosystem balance to achieve sustainable development			
	<ul> <li>understand what climate change is, what are the reduction measures and the measures which need to be taken.</li> </ul>			
Proroquisitos	None Required None			
Course Content	Natural Environment			
	Economic activity and Environment, Natural Resources, Climate Change			
	, Non-Renewable Natural Resources, Renewable Natural Resources,			
	Development Principles of Sustainable Development Natural Resources			
	and Sustainability. Natural Environment. Earth. Atmosphere-Climate-			
	Microclimate, Climate Change, Geological Processes, Soil-Subsoil,			
	Water, Hydrological Cycle, Water Management, Ecosystems - Types,			
	Ecological succession, Bearing capacity, Biogeochemical cycles, Types			
	of terrestrial ecosystems, Threats for the Mediterranean Ecosystems and			
	their Protection.			
	Anthrogenic Environment			
	I ne Activity of the Humans on the Planet, Types of Societies and			
	Urban - Structured Environment, Industrial Environment, Mining Areas			
	Urbanization Typical Problems of Structured Environment Management			
	Environmental Degradation Air Pollution Soil Water Quantity - Water			
	Quality, Energy-Transport-Water Supply, Sewerage, Energy Production			

	and Consumption, Energy Saving – Renewable Energy Systems, Urban Waste, Environmental Hazards, Environmental Management Systems, Environmental Impact Assessment, Legislation and Environmental Protection Agencies.			
Teaching	The content of this course will be taught through: PowerPoint presentations,			
Methodology	the use of a board, guided discussions with the active participation of			
0,	students, individual and team work on the part of students, and the use of a			
	variety of visual and other teaching aids as required for the delivery of each			
	unit.			
Bibliography	Greek Bibliography:			
	<ul> <li>Αριανούτσου Μ. 1999. Εισαγωγή στο Φυσικό και Ανθρωπογενές</li> </ul>			
	Περιβάλλον. Τόμος Α΄: Το Φυσικό Περιβάλλον, ΕΑΠ, Πάτρα.			
	<ul> <li>Αραβαντινός Α., Βλαστός Θ., Ευμανουήλ Δ., Μαρίνος-Κουρής Δ.,</li> </ul>			
	Μέμος Κ., Σκίκος Γ., Σμπόνιας Κ., Τσούτσος Θ (1999) Εισανωνή στο			
	Φυσικό και Ανθοωπονενές Περιβάλλον, τόμος Β 1. Ελληνικό Ανοικτό			
	Πανεπιστήμιο. Πάτρα.			
	<ul> <li>Καραμέρης Κ 2008 Διαχείριση και Προστασία Περιβάλλοντος</li> </ul>			
	Κέντρα Εκπαίδευσης Ενηλίκων, ΥΠΕΠΘ.			
	• Συλλονικό έργο (2014). Γη ένας μικρός και εύθραματος πλαγήτης			
	ISBN 978-960-01-1607-6.			
	<ul> <li>Αυλωνίτης Δ, Αυλωνίτης Σ (2014), Προστασία Περιβάλλοντος, ISBN 978-960-508-114-0</li> </ul>			
	Ανγλική Βιβλιονοαφία:			
	• C Tyler Miller (2010) Environmental Science, Congage Learning			
	ISBN: 978-0495560166.			
	• Jeffrey W. Hughes (2007), Environmental Problem Solving: A How-To			
	Guide, Vermont, ISBN: 978-1584655923.			
	<ul> <li>Singh, S.N. (2009), Climate Change and Crops (Environmental</li> </ul>			
	Science and Engineering), ISBN: 978-3540882459.			
Assessment	Continuous Assessment:			
	- Participation: 10%			
	- Written Assignments / Projects: 40%			
	Final Written Exams: 50%			
Language	Greek			

28.							
Course Title	Viticulture – Oenology						
Course Code	BIPR202						
Course Type	Theoretical and Practical						
Level	Diploma / Higher Diploma						
Year / Semester	Elective						
Teacher's Name	Antoniou Efrosini						
ECTS	4 Lectures / week 1 Laboratories / 1						
	week						
Course Purpose	The aim of the course is to introduce students to the basic principles of						
and Objectives	viticulture and winemaking.						
Learning	By the end of the course, students are expected to be able to:						
Outcomes	<ul> <li>Possess the basic knowledge of viticulture</li> </ul>						
	<ul> <li>Practice cultivation, development and protection of the vineyards</li> </ul>						
	<ul> <li>Understand the basic principles of winemaking</li> </ul>						
	Understand the benefits of wine products for human health						
Prerequisites	None Required None						
Course Content	Course outline						
	<ul> <li>Introduction: Viticulture in Cyprus, the EU and internationally</li> </ul>						
	Economic role of viticulture						
	<ul> <li>Health benefits of wine products</li> </ul>						
	<ul> <li>Botanical classification, morphology and anatomy of the vine</li> </ul>						
	Developmental cycle – Reproduction cycle						
	<ul> <li>Multiplication, physiology, cultivation and management of vineyards</li> </ul>						
	Importance of climate and soil						
	Plantation of vineyards (in general)     Cultivation practices						
	o Pruning						
	o Grafting						
	o Soil fertilization						
	o Plant Protection (Pests and Diseases of the Vinevard)						
	Cultivation of vines						
	o Specifications to be followed						
	o Plantation of organic vinevards						
	o Land management						
	o Nourishment and fertilization of plants						
	o Water management						
	o Plant protection methods						
	o Conditions for harvesting and transporting the grape at the winery						
	<ul> <li>Maturation of the grape and harvesting</li> </ul>						
	Grapes as the raw material of winemaking						
	Varieties of wine and the main wine-growing regions of Cyprus						
	Mechanical and chemical treatments during winemaking (yeast -						
	alconolic termentation, malolactic termentation) - Vinification techniques						
	phenomenal aging of wines						
	• Types of wines						
	Bottling and storage - Maintenance of the bottle in the wine cellar						
Teaching	The content of this course will be taught through: PowerPoint presentations						
Methodology	the use of a board, guided discussions with the active participation of						
moundablogy	students, individual and team work on the part of students, and the use of a						
	variety of visual and other teaching aids as required for the delivery of each						
	unit. Visits to places where students can observe and practice Viticulture -						
--------------	--	--	--	--	--	--	--
	Oenology technics is planned.						
Bibliography	Greek Bibliography:						
	<ul> <li>Πανανόπουλος, Χρήστος (2007), Ασθένειες καρποφόρων δέντρων</li> </ul>						
	και αμπέλου. Εκδόσεις Έμβρυο, ISBN: 978-960-351-677-4.						
	<ul> <li>Τσακίους Αργίους Ν (2011) Αμπελομονία και οινοποίηση:</li> </ul>						
	συμβατική βιολογική βιοδυγαμική Δθήνα Ψύγαλος ISBN: 078-060-						
	8455-85-6.						
	<ul> <li>Hoffman I.B. (2003) Διιπελομονία: Βιολονική Καλλιέονεια Δθήνα</li> </ul>						
	Ψ (χαλος ISBN:978-960-8336-10-0						
	<ul> <li>Τζανακάκης ΜΕ (2014) Έντομα Καοποιρόοων Δέντοων και</li> </ul>						
	<ul> <li>Γζανακακής, Μ.Ε. (2014), Ενιομά Καρποφορών Δενιρών και</li> <li>Δυπέλου, Εκδόσεις ΑνοόΤυπος (SPN): 060 7667 07 7</li> </ul>						
	$A\mu$ πελού, Εκούσεις Αγρότυπος, ΙουΝ. 900-7007-07-7.						
	• Τσετουρας Γιαναγιωτής Λ. (2009), Οικολογικό κρασι και βιολογική						
	καλλιέργεια αμπέλου, Εκδόσεις Α. Σταμούλης, ISBN: 978-960-351-						
	784-9.						
	<ul> <li>Τσέτουρας Παναγιώτης Λ. (2008), Οινοτεχνία: Η επιστήμη του</li> </ul>						
	κρασιού στην πράξη: ISO 22000, Εκδόσεις Α. Σταμούλης, ISBN: 978-						
	960-351-728-3.						
	English Bibliography:						
	• Markus Keller (2015), The Science of Grapevines, Second Edition:						
	Anatomy and Physiology, Academic Press, ISBN: 978-0124199873.						
Assessment	Continuous Assessment:						
	- Participation: 10%						
	- Written Assignments/ Tests: 30%						
	- Practical examination: 10%						
	Final Written Exams: 50%						
Language	Greek						

29.								
Course Title	Liquid and Solid Waste Management							
Course Code	ENVR204							
Course Type	Theoretical							
Level	Diploma / Higher Diploma							
Year / Semester	Elective							
Teacher's Name	Sarris Dimitrios							
ECTS	4 Lectures / week 2 Laboratories / week							
Course Purpose	The course introduces students to the basic characteristics of waste, that							
and Objectives	waste is valuable resources and the basic technologies used in the treatment							
	of liquid and solid waste. Its aim is to teach students the sustainable management of liquid and so							
	waste, includin	ng reducing waste g	<mark>generation, w</mark>	<mark>/aste treatment an</mark>	<mark>d re-use, in</mark>			
	order to increa	se the 'lifespan' of p	roducts and i	resources. The less	son focuses			
	on waste gene	erated by the garde	ening industry	/ and resources th	at they can			
	be reused.	ful completion of th	a aguraa tha					
Outcomos	to:		e course, me	e students will be i	n a position			
Outcomes	• Unders	tand the characteri	stics of liquid	and solid waste				
	Unders	tand why it is neces	ssarv to proc	ess liquid and solid	1 waste			
	<ul> <li>Identify</li> </ul>	the stages of treat	ment of liquid	and solid waste	, maoto			
	Unders	tand the basic tec	hnologies us	ed in the treatme	nt of liquid.			
	solid waste							
	<ul> <li>Evaluation</li> </ul>	te, based on the qι	ality and typ	e of waste, which	methods or			
	combinations of methods should be used to process them							
	<ul> <li>Unders</li> </ul>	tand that priority is	to reduce wa	iste generation				
	<ul> <li>Familia</li> </ul>	rize themselves w	ith policies a	about the reductic	on of waste			
	pollutio	n 						
	Unders	tand what waste is	produced by	as a landscaper al	nd how they			
		tond what is the ov	toncion of pr	aduat lifa				
	<ul> <li>Unders</li> <li>Unders</li> </ul>	tand about the ma	nagement of	arov vollow and	black water			
	and the	re-use of recycled	water for irri	nation	DIACK WALCI			
Prerequisites	None	Requi	ired	None				
Course Content	Waste: Definition and categories							
oourse ooment	SOLID WA	STES						
	• Qua	alitative analysis of	solid waste					
	• Phy	sical characteristic	s					
	• Che	emical characteristi	cs					
	Bio	logical characteristi	CS					
	The concept of management							
	European Waste Catalogue							
	<ul> <li>EU institutional framework: priorities for sustainable resource and</li> </ul>							
	was Outputited	ste management.						
	o Quantitative analysis of solid waste							
	Ouantitie	s describing waste	generation					
	Possibilities of reducing the production of solid waste:							
	o Possibilities of re-using solid waste							
	o Recycling	g						
	o Energy recovery - Methods of energy recovery of solid waste							

	<ul> <li>Methods of Waste Management</li> <li>Green waste and its management (composting)</li> </ul>					
	Toxic gardening waste					
	LIQUID WASTE					
	Definition and categories					
	<ul> <li>Qualitative and quantitative characteristics of liquid waste</li> </ul>					
	<ul> <li>Sewage networks</li> </ul>					
	<ul> <li>Centralized and decentralized wastewater treatment systems</li> </ul>					
	<ul> <li>Pre-treatment of waste water</li> </ul>					
	<ul> <li>Primary treatment</li> </ul>					
	<ul> <li>Secondary treatment - biological processes in suspension</li> </ul>					
	• Natural waste water treatment systems. Disinfection - Sludge					
	management					
	<ul> <li>Tertiary treatment of liquid waste</li> </ul>					
	<ul> <li>Physical and chemical processes of wastewater treatment</li> </ul>					
	<ul> <li>Reuse of sludge and recycled water in agriculture and green</li> </ul>					
	areas.					
	• Rules of Good Agricultural Practice for the Use of Recycled Water.					
<b>-</b> 1:	Institutional framework for EU wastewater management					
I eaching	The content of this course will be taught through: PowerPoint presentations,					
wethodology	the use of a board, guided discussions with the active participation of					
	students, individual and team work on the part of students, and the use of a					
	upit					
Bibliography	Greek Bibliography:					
Dibilourabily						
	• Κούνκολος Γ Αθανάσιος (2007) Εισανωνή στην πεοιβαλλοντική					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηνανική Τζιόλας ISBN 9789604180776</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας Βασίλειος Χ (2002), Τεχνολογίες επεξεογασίας τοξικών και</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων Τζιόλα ISBN 960-8050-69-3</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress. ISBN 960-12-1350-3.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><i>Αγγλική Βιβλιογραφία:</i></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><i>Αγγλική Βιβλιογραφία:</i></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014), Waste Management Practices: Municipal, Useron and patients of the provide series of the details IOPD in 2704 (2005).</li> </ul>					
	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014),Waste Management Practices: Municipal, Hazardous, and Industrial, ISBN: 978-1-4665-8519-5.</li> </ul>					
Assessment	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><i>Αγγλική Βιβλιογραφία:</i></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014),Waste Management Practices: Municipal, Hazardous, and Industrial, ISBN: 978-1-4665-8519-5.</li> <li>Continuous Assessment: Doutivising 100/4</li> </ul>					
Assessment	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014),Waste Management Practices: Municipal, Hazardous, and Industrial, ISBN: 978-1-4665-8519-5.</li> <li>Continuous Assessment:</li> <li>Participation: 10%</li> </ul>					
Assessment	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζιόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζιόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης : Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014),Waste Management Practices: Municipal, Hazardous, and Industrial, ISBN: 978-1-4665-8519-5.</li> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Written Assignments / Projects: 40%</li> <li>Final Written Exame: 50%</li> </ul> </li> </ul>					
Assessment	<ul> <li>Κούγκολος Γ. Αθανάσιος (2007), Εισαγωγή στην περιβαλλοντική μηχανική, Τζίόλας, ISBN: 9789604180776.</li> <li>Γκέκας, Βασίλειος Χ.(2002), Τεχνολογίες επεξεργασίας τοξικών και επικίνδυνων απόβλητων, Τζίόλα, ISBN 960-8050-69-3.</li> <li>Κουϊμτζής, Θεμιστοκλής (2004), Έλεγχος ρύπανσης περιβάλλοντος, University StudioP ress, ISBN 960-12-1350-3.</li> <li>Μαλλιαρός, Χρήστος Θ.(2000), Περιβάλλον, ρύπανση, τεχνικές απορύπανσης: Αέρια, υγρά και στερεά απόβλητα Μεταίχμιο, ISBN 960-375-057-3.</li> <li>Dietrich, Thomas (2003), Έλεγχος ρύπανσης και διαχείριση αποβλήτων, Ευρωπαϊκές Τεχνολογικές Εκδόσεις, Τόμος 2, ISBN 960-331-355-6.</li> <li><b>Αγγλική Βιβλιογραφία:</b></li> <li>Jacqueline Vaughn (2008), Waste Management: A Reference Handbook, ABC-CLIO, ISBN: 978-1598841503.</li> <li>Eslamian, Saeid (2015), Urban Water Reuse Handbook, ISBN-13: 978-1482229141.</li> <li>Pichtel, John (2014),Waste Management Practices: Municipal, Hazardous, and Industrial, ISBN: 978-1-4665-8519-5.</li> <li>Continuous Assessment:         <ul> <li>Participation: 10%</li> <li>Written Assignments / Projects: 40%</li> </ul> </li> </ul>					

30.							
Course Title	Nutrition and	Nutrition and Diet					
Course Code	CBPA326						
Course Type	Theoretical						
Level	Diploma/Higher Diploma						
Year / Semester	Elective						
Teacher's Name	Hadiisymeou Panaviotis						
ECTS	4 Lectures / week 2 Laboratories / week						
Course Purpose	The aim of the course is to introduce students to the basic principles of						
and Objectives	nutrition and dietetics and to the role of different foods in human health.						
Learning	Upon succes	sful completion of th	e course, the	e students will be in	n a position		
Outcomes	to:						
	• Und	erstand the basic pri	nciples of hu	man nutrition			
	• Defi	ne the main nutrients	S				
	• Con	nprehend food labels					
	• The	ey perceive the nutri	tional require	ements of each ag	e period in		
	numa • Roo	in life Aggiza how diat affa	oto hoth hool	th and diagona			
Proroquisitos	• Rec		irod				
Fielequisites		itequi	iieu				
Course Content	• Intro	duction to Nutrition a	and Dietetics				
	• Nutr	itional Options: Nutri	ent Ingredien	ts and Nutrition			
	Cart	oohydrates: Simple s	ugars and co	mplex carbohydrat	es		
	• LIDIC	IS aina and Amina Aaid	•				
	• FIU	av Balance Meight	5 Managemen	t and Metabolism			
	• Vitar	nins: Healthy Facts :	about Health				
	• Alco	hol					
	• Wate	er and minerals					
	• Life	Cycle: Maternal and	Infant Nutritio	on			
	• Fron	n Childhood to Adulth	nood				
	• Nutr	itional Guidelines: He	ealthy Diet To	ools			
Teaching	The content of	of this course will be	taught throug	gh: PowerPoint pre	esentations,		
Methodology	the use of a board, guided discussions with the active participation of						
	students, indi	vidual and team wor	k on the part	t of students, and t	he use of a		
	variety of visu	ual and other teachir	ng aids as ree	quired for the deliv	ery of each		
	unit.	-					
Bibliography	Greek Biblio	graphy:					
	Towns	send, CarolynnE. (20	001), Υγιεινή	Διατροφή & Διαιτητ	τική, Έλλην,		
	ISBN: 960-286-469-9. • Χασαπίδου, Μαρία (2008), Διατροφή για υγεία, άσκηση και αθλητισμό - Μαίτατρίκατυσίου το 1200 μ. 270,000 μ. 1120 μ.						
	Universitystuaiopress, ISBN: 978-960-12-1130-5.						
	<ul> <li>Αλεξανοροπουλος, Θωμας (2000), Θέματα υγιεινής τροφίμων &amp; διατροφής, Εκδόσεις Ίων. ISBN: 960-411-048-9.</li> </ul>						
	English Bibl	iography					
		nogiapily. mond Koron Eich (2	007) Nutritio	n for foodoorvice	nd outliner		
	Diulill     profes	niona, naien Elun (2 sionals John Wilov	& Sons ISPI	\1 101 1000SEIVICE &	and cullinary		
	profest ■ Fieldh	nouse Paul (2002) I	Food and nu	trition Nelson Tho	rnes I.SRN:		
	0-7487-3723-5.						

Assessment	<ul> <li>Continuous Assessment:</li> <li>Participation: 10%</li> <li>Written Assignments / Projects: 40%</li> </ul>
	Final Written Exams: 50%
Language	Greek

31.						
Course Title	Food and Society					
Course Code	CBPA325					
Course Type	Theoretical					
Level	Diploma/Higher Diploma					
Year / Semester	Elective					
Teacher's Name	Hadjisymeou Panayiotis					
ECTS	4 Lectures / week 2 Laboratories / week					
Course Purpose and Objectives	The aim of the course is to introduce students to the general concepts of nutrition and society. Students will study the influences that people receive in relation to eating. The course focuses on the cultural and global factors affecting the consumption of food and beverages and aims to introduce students to the anthropological, sociological, cultural and psychological factors affecting eating.					
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>Understand the importance of eating and of nutritional adaptation in the development of social structure</li> <li>Understand the evolution of different cultures in relation to nutrition</li> <li>Identify the historical aspects of food preferences in different societies</li> <li>Understand the relationship between social and psychological attitudes towards food preferences</li> <li>Understand the modern ideas that shape national cultures in relation to nutrition</li> </ul>					
Prerequisites	None Required None					
Course Content	<ul> <li>Evolutionary and Historical Principles in Human Dietary Habits</li> <li>Human Needs for Nutritional Ingredients</li> <li>Nutrition and Human Evolution</li> <li>Exploration of nutritional habits through paleontology, teeth, skulls and jaws</li> <li>Brief description of the diet of the first humanoids</li> <li>What can we say about the diet of prehistoric people?</li> <li>Lactose intolerance</li> <li>Food and History: Nutritional Revolutions</li> <li>The agricultural revolution in the Neolithic Age</li> <li>Nutritional Consequences of the Agricultural / Rural Revolution:</li> <li>Comparison of nomads and farmers / producers.</li> <li>Social and Political Consequences of the Agricultural-Rural Revolution</li> <li>The search for spices</li> <li>Food exchange between the New World (America) and the Old World (Europe, Africa, etc.)</li> <li>Industrial Revolution – The increase in food production</li> <li>Agricultural Changes in Europe during the 17th and 18th Centuries</li> <li>Food and Industrial Revolution</li> <li>The introduction of international cuisine</li> <li>Socio-cultural aspects of modern food culture</li> <li>The Scientific Revolution</li> </ul>					

	Economic and Political Environment					
	Food Systems					
	<ul> <li>Transport, Freezing, and Packaging</li> </ul>					
	Food Falsification					
	Food Conservation					
	The discovery of vitamins					
	<ul> <li>The complexity of modern food technology</li> </ul>					
	Modern Adaptations					
	Food culture and psychology					
	Dietary habits in a social, traditional and cultural environment					
	<ul> <li>Culture is a mechanism of reaction to the environment</li> </ul>					
	Teaching cultural elements					
	Culture as a guide to behavior					
	<ul> <li>Culture is expressed through behavior and creations</li> </ul>					
	Culture as a Functionally Embedded System					
	Variations within cultures					
	Ethnocentrism and Cultural Relativity					
	<ul> <li>Implications / Consequences for Healthcare Professionals</li> </ul>					
	Food Symbolism					
	The state of the body and of human health					
	Food as a gift or as a reward					
	• Food and social status					
	Food and gender					
	<ul> <li>Food as a symbol of prestige</li> </ul>					
Teaching	The content of this course will be taught through: PowerPoint presentations,					
Methodology	the use of a board, guided discussions with the active participation of					
	students, individual and team work on the part of students, and the use of a					
	variety of visual and other teaching aids as required for the delivery of each					
	unit.					
Bibliography	Greek Bibliography					
	<ul> <li>Εμμανουηλίδου, Καλλιόπη (2011), <u>Ψυχολογία της διατροφής</u>: Πώς οι</li> </ul>					
	διατροφικές συνήθειες αντανακλούν τον συναισθηματικό μας κόσμο,					
	1η έκδ., Αθήνα, <u>Μεταίχμιο</u> , ISBN 978-960-501-459-9.					
	English Bibliography					
	<ul> <li>R. Shepherd, Monique Raats (2010), The Psychology of Food</li> </ul>					
	Choice (Frontiers in Nutritional Science, CABI Publishing, ISBN-10:					
	1845937236.					
Assessment	Continuous Assessment:					
	- Participation: 10%					
	<ul> <li>Written Assignments / Projects: 40%</li> </ul>					
	Final Written Exams: 50%					
Language	Greek					

32.							
Course Title	Introduction to Marketing						
Course Code	MRKT205						
Course Type	Lecture	e, discussions	s & Exe	ercises			
Level	Higher	Diploma					
Year / Semester	Elective	Elective					
Teacher's Name	Yerocostas Costas						
ECTS	4 Lectures / week 2 Laboratories / week						
Course Purpose	To introduce students to the science of Marketing Management and its						
and Objectives	applications in business and organisations.						
Learning Outcomes	<ul> <li>Upon successful completion of the course, the students will be in a position to:</li> <li>To apply marketing theory and concepts to what marketers do in "the real world"</li> <li>To use marketing concepts to make business decisions</li> <li>To improve familiarity with current challenges and issues in marketing</li> </ul>						
Prerequisites		None	I	Required		None	
Course Content	<ul> <li>The course covers the following topics:</li> <li>Introduction to Marketing</li> <li>Overview of Marketing Management</li> <li>Customer Satisfaction &amp; Strategic Planning</li> <li>Market Research &amp; The Market Environment</li> <li>Consumer Behaviour principles</li> <li>Business Buying Behaviour</li> <li>Competition, Segmentation, Targeting and Positioning</li> <li>Products, Brands &amp; Services</li> <li>Pricing, Marketing Channels</li> <li>Advertising, Sales Promotion &amp; PR</li> <li>Direct Marketing &amp; Online Marketing</li> </ul>						
Teaching Methodology	The class involves lectures, videos, guest speakers, small group exercises, case analyses and discussions. Student contributions are an important part of the course.						
Bibliography	<ul> <li>Main Course textbook</li> <li>Kotler, Philip (2000), Marketing Management, 10/e, Prentice Hall</li> <li>Kerin, Hartley &amp; Rudelius, Marketing (2012) 11/ed. McGraw-Hill</li> </ul>						
Assessment	<ul> <li>Continuous Assessment</li> <li>Attendance: 10%</li> <li>Two class tests: 40%</li> <li>Two case analyses: 50%</li> </ul>						
Language	Greek						