Course title	**Tree Surgery and Basic Pruning Techniques**				
Course code	**GALA1204**				
Course type	**Lectures and practical application**				
Level	Higher Diploma				
Year / Semester	1st Year / 2nd Semester				
Teacher's name	Antonia Stelikou				
ECTS	6	**Lectures / week**	1	**Laboratories / week**	2
Course purpose and objectives	This course provides students with specialised skills in pruning and tree surgery, focusing on the tools, methods, and safety techniques required for tree care. It covers diagnosing tree health issues, performing corrective pruning, and executing tree surgery techniques to treat structural defects, disease, and decay. The course will provide hands-on experience in using professional pruning tools and performing practical arboricultural interventions.				
Learning outcomes	Upon completion of the course, the students are expected to: **Theoretical Learning Outcomes:** 1. **Explain** the types of pruning (formative, maintenance, corrective, restoration, crown reduction, deadwood removal, thinning, pollarding) and their objectives. 2. **Recognise** tree defects, diseases, and decay symptoms that require intervention. **Practical Learning Outcomes:** 3. **Operate** specialised pruning tools such as handsaws, pole saws, chainsaws (basic training), and climbing equipment safely. 4. **Perform** crown thinning, crown lifting, and crown reduction while maintaining tree health. 5. **Apply** cabling and bracing techniques for structural support in trees. 6. **Conduct** wound dressing, cavity treatment, and bark grafting to promote tree recovery. 8. **Assess** when tree surgery is necessary and select the appropriate intervention.				
Prerequisites			**Required**		
Course content	**Week 1: Introduction to Tree Surgery & Pruning** • Difference between basic pruning and tree surgery • Tree biology and response to pruning • Why and when tree surgery is needed **Tools and Equipment in Tree Surgery** • Handsaws, pole saws, pruning shears, chainsaws (basic use) • Safety gear: Helmets, gloves, harnesses, climbing ropes				

- Tool maintenance and proper handling

Week 2: Practical Session- Pruning equipment

- Familiarize the use of specialised pruning tools: handsaws, pole saws, pruning shears, and chainsaws.
- practice correct handling and basic maintenance of pruning tools.
- apply safety measures when using climbing equipment for tree work.

Week 3: Types of Pruning in Tree Surgery

- Formative pruning (for young trees)
- Crown thinning, crown raising, crown reduction
- Pollarding and its applications

Week 4: Practical Session- Corrective Pruning practice

- Crown balancing and structural corrections
- How to remove deadwood safely

Week 5: Tree Defects & Structural Issues

- Diagnosing structural weaknesses (leaning, cracks, cavities)
- Identifying and addressing deadwood
- Assessing risks in urban environments

Week 6: Practical Session – Structural Support

- Introduction to cabling & bracing

Week 7: Disease & Decay Management

- Fungal infections, bacterial diseases, and viral issues
- How pruning impacts tree health
- When to remove infected branches vs. full tree removal

Emergency Tree Surgery

- Dealing with storm damage and fallen trees
- Emergency pruning techniques
- Tree stabilization after extreme weather

Week 8: Practical Session – Wound Treatment & Bark Grafting

- Techniques for sealing pruning wounds
- Bark grafting for damaged trees
- Tree recovery after intervention

Week 9: Advanced Climbing & Roping Techniques

- Climbing trees safely for pruning
- Using harnesses and climbing ropes
- How to perform aerial pruning

Week 10: Practical Session – Tree Removal & Stump Grinding

- Step-by-step tree removal process
- Safe use of stump grinders
- Eco-friendly alternatives to stump removal

Week 11: Risk Assessment & Safety in Tree Surgery

- Legal regulations and safety protocols
- Protecting the environment during tree surgery

Week 12: Practical Session- defect identification and intervention

- Fieldwork to spot tree defects and train in appropriate interventions

Course Breakdown

Week	Teaching Content	Teaching Process
Week 1	Introduction to Tree Surgery & Pruning (basics, biology, reasons for surgery); Tools and Equipment in Tree Surgery (tools, safety gear, maintenance)	Lecture
Week 2	**Pruning equipment**	**Practical Session**
Week 3	Types of Pruning (formative, crown thinning, pollarding)	Lecture
Week 4	Corrective Pruning **practice**	**Practical Session**
Week 5	Tree Defects & Structural Issues (diagnosis and risk assessment)	Lecture
Week 6	**Structural Support (I**ntroduction to cabling & bracing)	Practical session

	Week 7	Disease & Decay Management (identification and management of infections) Emergency Tree Surgery (storm damage response, stabilisation techniques)	Lecture
	Week 8	Wound Treatment & Bark Grafting (sealing wounds, grafting damaged trees)	Practical Session
	Week 9	Advanced Climbing & Roping Techniques (safe climbing and aerial pruning)	Lecture
	Week 10	Tree Removal & Stump Grinding (removal techniques)	Practical Session
	Week 11	Risk Assessment & Safety in Tree Surgery (safety protocols, legal considerations, environmental care)	Lecture
	Week 12	defect identification and intervention	Practical session

Teaching methodology

Theoretical Instruction:

The theoretical instruction focuses on delivering essential knowledge related to tree surgery, including plant biology, types of pruning, disease management, tool use, safety regulations, and risk assessment. Lectures combine conceptual teaching with case studies, diagrams, and discussions to help students understand tree health, structural defects, and professional practices for maintaining and treating trees in various environments.

Practical Instruction:

The practical instruction emphasises hands-on learning through direct engagement with tree surgery techniques such as corrective pruning, structural support installation, wound treatment, bark grafting, tree removal, and stump grinding. Students practice using professional tools and safety equipment in controlled environments, applying theoretical knowledge to real or simulated scenarios to build technical competence and ensure safe, effective tree care interventions.

Bibliography

Greek Bibliography

- Κορδάτος, Χαράλαμπος (2018), Κλάδεμα και χειρουργική δένδρων: Εγχειρίδιο Κηπουρικής, KES College.
- Συλλογικό έργο (2015), Επαγγελματικό κλάδεμα οπωροφόρων δένδρων, Βασδέκης, ISBN 978-960-8273-63-4.
- 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

English Bibliography

- Bryan G. Bowes (2010). Trees & Forests, A Colour Guide : Biology, Pathology,

	Propagation, Silviculture, Surgery, Biomes, Ecology, and Conservation. London : CRC Press. EBSCOHost
Assessment	• Attendance and course participation: 10% • Practical examination 40% • Final written examination: 50%
	The final written examination includes closed-ended questions (e.g., multiple-choice, matching, true/false) and open-ended questions (e.g., short-answer, essay-type, case studies). The duration of the final written examination is two academic periods and accounts for the 50% of the final grade. The Practical Examination (40%) evaluates hands-on skills such as correct pruning techniques, tool handling, tree risk assessment, and safe tree removal methods. The Final Practical Examination lasts two academic periods. Student performance is evaluated on a scale of 0 to 100, with a minimum overall passing grade of 60. The final grade is calculated as a weighted average of the assessment components disclosed above.
Language	Greek or English