Course title	**Introduction to Computer Aided Design**				
Course code	**GALA2303**				
Course type	**Lectures and practical application**				
Level	Higher Diploma				
Year / Semester	2nd Year / 3rd Semester				
Teacher's name	Demetris Tsimouris				
ECTS	6	**Lectures / week**	1	**Laboratories / week**	2
Course purpose and objectives	The aim of the course is to familiarise the students with the use of essential design programmes, specifically Adobe Photoshop and AutoCAD. Students will learn to apply the tools provided by modern digital design programmes: Photoshop for graphic editing and AutoCAD for creating technical drawings, which are essential for the design needs of the field. The course will help them to develop skills in organising and managing digital projects, which is crucial for effective collaboration in professional environments. By the end of the course, the students will be able to use design software as a key tool in creating and implementing their design ideas, thereby enhancing their capabilities in gardening and landscaping.				
Learning outcomes	Upon completion of the course, students are expected to: **Theoretical Learning Outcomes:** 1. **Identify** the basic functions and tools of design software used in garden design. 2. **Recognise** the fundamental commands and toolsets of the programs, as well as formatting settings. 3. **Comprehend** the basic principles of garden design and how these can be applied digitally. **Practical Learning Outcomes:** 4. **Use** design software to create and edit garden plans 5. **Present** their digital designs clearly and professionally, utilising the software's tools. 6. **Manage** digital projects by organising their files and maintaining a structured and efficient digital workspace.				
Prerequisites		**Required**			

Course content	**Week 1** **Lecture:** • Basic Concepts: Creating a new drawing, Saving, Measurement Units, Drawing Area Limits **Laboratory Practice** • Design and Management Aids: GRID, SNAP, ZOOM, PAN • Basic Shapes: LINE, CIRCLE, ARC, POLYLINE **Week 2** **Lectures:** • Understanding Modifying Objects **Laboratory Practice:** • Selection, Deletion, COPY, MOVE, ROTATE, MIRROR **Week 3** **Lectures:** • Further Object Modification **Laboratory Practice:** • TRIM, EXTEND, OFFSET, FILLET, EXPLODE, PEDIT. Creating BLOCK **Week 4** **Lectures:** • Introducing Editing Object Properties (PROPERTIES) **Laboratory Practice:** • Editing Object Properties (PROPERTIES) **Week 5** **Lectures:** • Understanding Modifications to LAYER, PROPERTIES **Laboratory Practice:** • Modifications to LAYER, PROPERTIES **Week 6** **Lectures:** • Understanding Dimensioning **Laboratory Practice:** • DIMENSIONS, Hatching (HATCH) **Week 7** **Lectures:** • Printing Drawings **Laboratory Practice:** • PAPER MODE

Week 8

Lectures:

- Introduction to PHOTOSHOP

Laboratory Practice:

- Introduction to PHOTOSHOP

Week 9 -12

Laboratory Practice

- Basic Editing in PHOTOSHOP

Course Breakdown

Week	Teaching Content	Teaching Process
Week 1	Basic CAD concepts: new drawing, saving, measurement units, drawing area limits Lab: Using GRID, SNAP, ZOOM, PAN; Drawing basic shapes (LINE, CIRCLE, ARC, POLYLINE)	Lecture + Laboratory Practice
Week 2	Modifying objects in CAD Lab: Selection, deletion, COPY, MOVE, ROTATE, MIRROR	Lecture + Laboratory Practice
Week 3	Advanced object modification Lab: TRIM, EXTEND, OFFSET, FILLET, EXPLODE, PEDIT, Creating BLOCKS	Lecture + Laboratory Practice
Week 4	Editing object properties: Lab: Using the PROPERTIES tool	Lecture + Laboratory Practice
Week 5	Layers and layer properties in CAD Lab: Modifying LAYER and its properties	Lecture + Laboratory Practice
Week 6	Dimensioning and hatching techniques Lab: DIMENSIONS and HATCH commands	Lecture + Laboratory Practice
Week 7	Printing and paper setup in CAD Lab: PAPER MODE setup for	Lecture + Laboratory Practice

		printing	
	Week 8	Introduction to Photoshop basics Lab: Introduction to Photoshop tools and interface	Lecture + Laboratory Practice
	Week 9	Basic Photo Editing for Landscape Design: Cropping, resizing, adjusting brightness/contrast of garden images	Laboratory Practic
	Week 10	Image Enhancement and Layer Work: Adding layers (e.g., overlaying trees/shrubs onto landscape photos), basic retouching	Laboratory Practice
	Week 11	Design Visualization Techniques: Creating simple photomontages (combining multiple garden elements into one image)	Laboratory Practice
	Week 12	Final Project Preparation: Preparing a polished landscape visualization or presentation board using Photoshop	Laboratory Practice

Teaching methodology

Theoretical Instruction:
The theoretical instruction is delivered through structured lectures that introduce core concepts progressively, starting from basic CAD and Photoshop tools to their specific application in garden and landscape design. The approach emphasises building foundational technical knowledge, followed by application-oriented understanding. The methodology encourages active learning by linking software skills directly to real-world landscape visualization tasks, fostering both conceptual clarity and practical relevance.

Practical Instruction:
The practical sessions focus on hands-on learning, where students actively apply the concepts taught in lectures through guided exercises in CAD and Photoshop environments. Activities are structured progressively, beginning with basic operations and advancing toward complex design tasks. Emphasis is placed on skill acquisition through repetition, instructor-led demonstrations, and real-world design simulations relevant to landscape and garden visualisation.

Bibliography

Greek Bibliography

- Κάππος, Γιάννης Θ. (2017), Δουλέψτε Με Autocad 2017, Κλειδάριθμος, ISBN978-960-461-730-2
- Σαραφίδης, Δ. (2023). Σχεδίαση με ηλεκτρονικό υπολογιστή και συστήματα CAD. [Undergraduate textbook]. Kallipos, Open Academic Editions. https://dx.doi.org/10.57713/kallipos-98
- Λαζαρίνης, Φ. (2015). Επεξεργασία ψηφιογραφικών εικόνων με τα εργαλεία Adobe Photoshop & Gimp. Στο Φ. Λαζαρίνης (2015). Πολυμέσα. [Undergraduate textbook]. Kallipos, Open Academic Editions. https://dx.doi.org/10.57713/kallipos-805
- Γιάννης Β. Σαμαράς (μετ.) (2012), Adobe Photoshop CS6, Γκιούρδας Μ., ISBN

	978-960-512-646-9 **English Bibliography** • Hamad, Munir (2021). AutoCAD 2022 Beginning and Intermediate. Dullas, Virginia : Mercury Learning and Information. 2021. ISBN: 9781683927242. **EBSCOHost** • BITTU KUMAR (2015). Adobe Photoshop. [United States] : V&S Publishers. 2015. ISBN: 9789350570166. **EBSCOHost**.
Assessment	• Attendance and participation 10% • Practical Assignments 40% • Final practical examination 50% The final practical examination assesses students' ability to independently apply CAD and Photoshop techniques acquired throughout the course to develop a landscape or garden visualisation project. Students will demonstrate proficiency in basic drawing, editing, layering, and design presentation skills, showcasing both technical accuracy and creative interpretation within a given framework. The duration of the final practical examination is three academic periods and accounts for the 50% of the final grade. Throughout the course, students complete a series of in-class practical assignments designed to assess their understanding and application of both theoretical knowledge and laboratory skills. These assignments, which account for the 40% of the overall course grade, serve as formative assessments, allowing students to progressively demonstrate mastery of CAD and Photoshop tools in relation to landscape and garden design, while also evaluating their ability to integrate theoretical concepts into practical, design-oriented tasks. 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