COMPUTER-AIDED DESIGN

(Specialization Landscape Egineering, 3rd Year of study, 1st Semester)

Credits (ECTS): 4

Course category: **Specialized discipline**
Course holder: **Assist. Prof. Ana-Maria-Roxana ISTRATE, PhD**

Objectives of the discipline:

The subject "*Computer-Aided Design*" aims to develop students' technical and conceptual skills to use specific landscape design software programs effectively. Students will acquire practical skills in producing 2D technical plans and graphical representations, understanding the workflows necessary to collaborate and optimize projects, and preparing them for professional presentations and publication.

Contents (syllabus)

Course (chapters/subchapters)
1. History of computer-aided design in landscape architecture: - Overview of the evolution from hand drawing to the use of computer programs, emphasizing the transition to 2D software and its impact on the profession.
2. Essential programs for producing 2D landscape plans: - Analysis of the most commonly used landscape CAD programs such as AutoCAD, Adobe Illustrator Adobe Photoshop and their significance in creating effective plans.
3. Rapid creation of situation plans using CAD software: - Methods and shortcuts for efficiently generating site plans, including importing Google Maps and GIS data into AutoCAD.
4. Collaboration strategies between different CAD programs: - Exploring how projects can be transferred and integrated between different software (e.g., AutoCAD to Photoshop) to improve workflow.
5. Understanding raster vs. vector images in landscape design: - Exploring the differences between raster and vector images, their use in CAD, and their optimization for print versus digital.
6. Visualization and presentation methods for 2D projects: - Focus on 2D rendering and presentation techniques to clearly communicate design concepts using software such as Photoshop and Illustrator.
7. Using Adobe Photoshop in landscape for photomontages and representations: - Basic and advanced techniques for creating realistic photomontages and landscape representations using Photoshop
8. Introduction to graphic design applied to landscape design: - How do I integrate graphic design principles into landscape design presentations using software such as Illustrator and InDesign?
9. Optimizing images for print vs. digital in the landscape: - Strategies for preparing project materials for print and digital publication, including discussion of resolution, file formats, and color.
10. Making presentation plans for landscape projects: - Developing effective presentation plans, discussing key elements to include and how to organize them for maximum impact.
11. Creating and developing a portfolio of landscape design work: - Strategies for creating a professional portfolio emphasizing skills and projects, including work selection, digital versus print format, and online presentation.
12. Hardware tools in computer-aided design: - Presentation of graphic and mobile tablets and other devices that can improve the CAD design process.
13. Project management and team collaboration in landscape design: - The importance of project management and teamwork using digital tools to improve project communication and efficiency.
14. New trends in computer-aided landscape design software: - Exploring the latest CAD and graphic design software innovations and their potential to change landscape design.

Project
1. Layout Preparation in AutoCAD: - Setting the print page format in AutoCAD; creating viewports to visualize different parts of the plan; setting the print scale to ensure correct representation; drawing the print page border and the plan cartridge with the necessary information.
2. Drawing the layout plan of the massifs: - Draw up a plan for tracing vegetation massifs using AutoCAD; set specific dimensions for tracing massifs in the technical plan.
3. Drawing and placing tree symbols: - Creating tree symbols as AutoCAD blocks; placing tree symbols in the landscape plan according to a planting plan; setting appropriate dimensions for planting trees.
4. Preparing the garden layout plan: - Inserting hashes to represent the different areas of the garden layout; creating a legend for the correct interpretation of the plan's elements; final adjustment of the presentation plan.
5. Preparation of the plan of areas and quantities: - Drawing the outline of the areas in the development project; identifying and calculating areas and linear meters for various elements; inserting the calculation results into the plan (total areas, linear meters).
6. Drawing technical details for built elements: - Realize technical drawings for the pergola and other constructions necessary for the project (furniture, fences, etc.); insert dimensions and dimensions in the technical drawings for the accuracy of execution.
7. Merging PDF plans and preparing for print: - Merging the PDF plans made in the previous labs, preparing the final document for print, presenting a complete garden design project, and handing in the final projects by the students, which should include all the plans worked on in the lab.

Bibliography

1. Steven L. Cantor (2020), *Professional and Practical Considerations for Landscape Design*, Editura Oxford University Press Inc, ISBN 978-0-1906-2333-3;

2. Edward Hutchison (2019), *Drawing for Landscape Architecture*, Editura Thames & Hudson, ISBN 978-0-5002-9488-8;

3. Slonovschi, A., Prună, L. (2014), *Infografică. Noțiuni introductive*, Editura PIM, Iași, ISBN 978-606-13-2086-8;**Frits 4. Palmboom** (2012), *Drawing the Ground – Landscape Urbanism Today: The Work of Palmbout Urban Landscapes*, Editura Birkhauser, ISBN 978-3-0346-1207-4;

5. Booth Norman, (2011), *Foundations of Landscape Architecture*, Editura Wiley, ISBN 978-0-4706-3505-6;

6. Thomas R. Ryan, Edward Allen, Patrick J. Rand (2011), *Detailing for Landscape Architects - Function, Constructibility, Aesthetics, and Sustainability*, Editura John Wiley & Sons Inc, ISBN 978-0-4705-4878-3;

7. Elke Mertens (2009), *Visualizing Landscape Architecture: Functions, Concepts, Strategies*, Editura Birkhauser, ISBN 978-3-0346-0459-8;

8. Grant W. Reid (2002), *Landscape Graphics: Plan, Section, and Perspective Drawing of Landscape Spaces – Revised Edition*, Editura Watson–Guptill, ISBN 978-0-8230-7333-7;

*** Software AutoCAD.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Colloquium	Monitoring attendance and activity	20 %
	Final evaluation	80 %
Project	Monitoring attendance and activity	20 %
	Presenting and/or supporting the project Critical appraisal of a project	80 %

Contact

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