

COMPUTER-AIDED GRAPHICS

(Specialization Environmental Engineering, 2nd Year of study, 1st Semester)

Credits (ECTS): 5

Course category: Core discipline

Course holder: Lecturer Mirela COJOCARIU, PhD

Objectives of the discipline:

They are learning the fundamental concepts necessary to realize computer-aided graphical representations under the AutoCAD interface.

Contents (syllabus)

| Course (chapters/subchapters) |
|---|
| 1. Introductory notions |
| 1.1. Definition and scope of the course. 1.2. AutoCAD - Overview. |
| 2. Creating a new drawing in AutoCAD. Utility commands |
| 2.1. Create a New Drawing window, AutoCAD graphical screen, using AutoCAD commands. 2.2. The commands LIMITS, UNITS, NEW, OPEN, SAVE, SAVE AS, EXIT, CLOSE. Applications. |
| 3. Organizing a working session in AutoCAD |
| 3.1. Coordinate systems. 3.2. Image display control: REDRAW; REGEN ZOOM; PAN commands. 3.3. Using drawing aids: SNAP commands; GRID; ORTHO; ObjectSNAP mechanism. 3.4. Applications. |
| 4. 2D object drawing conventions - Part I |
| 4.1. The commands LINE, MLINE, POINT, CIRCLE, ARC, TRACE, PLINE, ELLIPSE, POLYGON. 4.2. Applications. |
| 5. Object editing commands - Part I |
| 5.1. The ERASE, MOVE, COPY, MIRROR, STRETCH, BREAK, TRIM, EXTEND, OFFSET, FILLET, ARRAY commands. 5.2. Applications. |
| 6. Dimension commands and dimension editing. |
| 6.1. Object dimensioning commands. 6.2. Dimension editing commands. 6.3. Applications. |

| Practical activity |
|---|
| 1. Applications for creating a new drawing in AutoCAD. |
| 2. Applications with organizing a work session in AutoCAD. |
| 3. Applications for drawing commands. |
| 4. Applications for editing commands. |
| 5. Applications for dimensioning commands. |
| 6. Applications for drawing, editing, and object dimensioning commands. |

Bibliography

1. Slonovschi A., Prună L. (2016), *Infografică. autoCAD – Comenzi ce permit selectarea și editarea obiectelor*, Editura PIM, ISBN 978-606-13-5285-2;
2. Slonovschi A., Prună L. (2016), *Infografică. AutoCAD – Comenzi de desenare*, Editura PIM, ISBN 978-606-13-3423-0;

3. Slonovschi A., Prună L. (2014), *Infografică. AutoCAD – Noțiuni introductive*, Editura PIM, ISBN 978-606-13-2086-8;

*** Software AutoCAD.

Evaluation

| Evaluation form | Evaluation Methods | Percentage of the final grade |
|------------------------|------------------------------------|--------------------------------------|
| Exam | Monitoring attendance and activity | 20 % |
| | Final evaluation | 60 % |
| Practical work | Monitoring attendance and activity | 20 % |

Contact

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COMPUTER-AIDED GRAPHICS

(Specialization Environmental Engineering, 2nd Year of study, 2nd Semester)

Credits (ECTS): 3

Course category: Core discipline

Course holder: Lecturer Mirela COJOCARIU, PhD

Objectives of the discipline:

They are learning the fundamental concepts necessary to realize computer-aided graphical representations under the AutoCAD interface.

Contents (syllabus)

| Course (chapters/subchapters) |
|---|
| 1. 2D object drawing commands - part II |
| 1.1. Commands: DONUT, SOLID, TABLE, PLINE, SKETCH, DIVIDE, MEASURE, SPLINE. 1.2. Applications. |
| 2. Information commands |
| 2.1. ID commands; AREA DIST; LIST; MASSPROP. 2.2. Applications. |
| 3. Understanding object properties |
| 3.1. Organizing a drawing in layers. 3.2. Selecting objects. 3.3. Changing object properties; PROPERTIES, MATCHPROPERTIES commands. 3.4. Applications. |
| 4. Object editing commands - part II |
| 4.1. Commands: SCALE, ROTATE, CHAMFER, EXPLODE, PEDIT, DDEDIT, DDMODIFY. 4.2. Applications. |
| 5. Object hashing commands |
| 5.1. Hash commands. 5.2. Hash edit commands. 5.3. Applications. |
| 6. Text writing commands |
| 6.1. Writing commands. 6.2. Text editing commands. 6.3. Applications. |

| Practical activity |
|---|
| 1. Applications to 2D object drawing commands - part II (Schematic of wastewater treatment or desalination plants). |
| 2. Applications to information commands (Schematics of treatment or desalination plants). |
| 3. Concepts of drawing organization and object properties. 3.1. Applications in the organization of a layered drawing. 3.2. Applications in selecting objects and changing object properties; PROPERTIES, MATCHPROPERTIES commands (Schematic of a wastewater treatment or desalination plant). |
| 4. Applications with the object editing commands - Part II (Schematic of treatment or desalination plants). |
| 5. Applications with object editing commands (Schematics of treatment or desalination plants). |
| 6. Applications with text writing commands (Schematics of treatment or desalination plants). |

Bibliography

1. Slonovschi A., Prună L. (2016), *Infografică. autoCAD – Comenzi ce permit selectarea și editarea obiectelor*, Editura PIM, ISBN 978-606-13-5285-2;
2. Slonovschi A., Prună L. (2016), *Infografică. AutoCAD – Comenzi de desenare*, Editura PIM, ISBN 978-606-13-3423-0;
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*** Software AutoCAD.

Evaluation

| Evaluation form | Evaluation Methods | Percentage of the final grade |
|-----------------|------------------------------------|-------------------------------|
| Colloquy | Monitoring attendance and activity | 20 % |
| | Final evaluation | 60 % |
| Practical work | Monitoring attendance and activity | 20 % |

Contact

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