

Subject name	Improved 2D Drawing in AutoCAD and Introduction to 3d Civil Projects	
Subject code	IS-CAD-13	
Department	Hydraulic Engineering and Geotechnics	
Faculty	Environmental Engineering and Land Surveying	
Subject supervisor/Lecturer	Andrzej Strużyński Ph.D., Maciej Wyrębek Ph.D.	
General information	Teaching period	winter or semester semester
	ECTS credit	6
	Lectures total	0
	Lab practicals	45
Objective and general description	The main objective of the course is to adopt techniques of 2D drawing in AutoCAD, 3D modelling and printing. Next step is basics of work with GIS data.	
Lectures 0 hours	-	
Lab practicals 15 x 3 hours	<p>1. Raster and vector drawings. Menus and commands in AutoCAD. Drawing and text area.</p> <p>Drawing commands (with example drawings):</p> <p>2. line, zoom, pan, view</p> <p>3. drawing units, drawing methods</p> <p>4. pline, pedit</p> <p>5. stepping, snapping, polar tracking</p> <p>6. polygon, rectangle, construction line, ray</p> <p>7. circle, arc, donut, spline, ellipse</p> <p>8. multiline, mstyle, mledit, point, ddptype</p> <p>9. inquiry (measure, distance, area)</p> <p>9. layers, linetype, ltscale</p> <p>10. text, text editing</p> <p>11. blocks, attributes, writing blocks,</p> <p>12. dimensioning, hatching</p> <p>Editing commands (with example drawings):</p> <p>13. move (with select), erase, explode</p> <p>14. copy, quick editing, stretch</p> <p>15. trim, extend, break, offset, fillet, chamfer</p> <p>16. scale, mirror, rotate, array</p> <p>Advanced commands:</p> <p>17. limits, ucs, ucsicon, vports</p> <p>18. model area, paper area</p> <p>19. printing in scale</p> <p>3D drawing</p> <p>20. vpoint, elev, 3dorbit, plan</p> <p>21. 3d surfaces, shade, shademode</p> <p>22. region, union, subtract, extrude, box, cylinder</p> <p>23. Civil GIS modelling, surfaces, cross-sections</p>	
References	manuals for AutoCAD (AutoDesk)	