



**AICA**

Associazione Italiana per l'Informatica  
ed il Calcolo Automatico

# EUROPEAN COMPUTER DRIVING LICENCE

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## COMPUTER AIDED DESIGN 3D

### Syllabus

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Endorsed by the **ECDL Foundation**



Category	Skill Set	Ref	Task Item
<b>1.1 Basic Functions</b>			
	<i>1.1.1 File Management</i>	1.1.1.1	Create a new model using an existing specified template.
		1.1.1.2	Open a 3D model.
		1.1.1.3	Import a 3D model.
		1.1.1.4	Save a 3D model to a location on a drive.
		1.1.1.5	Export a 3D model.
	<i>1.1.2 Model View</i>	1.1.2.1	Use pan, zoom and rotate tools.
		1.1.2.2	Save a model view.
		1.1.2.3	Recall a model view.
<b>1.2 Main Operations</b>	<i>1.2.1 3D Coordinates systems</i>	1.2.1.1	Create and modify coordinate systems.
		1.2.1.2	Save a coordinate system.
		1.2.1.3	Load a coordinate system.
	<i>1.2.2 Geometric Design Aids</i>	1.2.2.1	Use and modify a grid.
		1.2.2.2	Use Snapping Tools
		1.2.2.3	Creation and modify layers/levels
	<i>1.2.3 3D Geometric Drawing</i>	1.2.3.1	Draw a point.
		1.2.3.2	Draw a line, polyline/smartline.
		1.2.3.3	Draw a spline/point curve
		1.2.3.4	Draw an arc.
		1.2.3.5	Draw a circle, ellipse.
		1.2.3.6	Draw a polygon.
		1.2.3.7	Draw a spiral, helix.
	<i>1.2.4 3D Surface Modelling</i>	1.2.4.1	Create planes
		1.2.4.2	Create an edge surface.
		1.2.4.3	Extrude a surface.
		1.2.4.4	Create a surface revolution.
		1.2.4.5	Create surface through interpolation
	<i>1.2.5 3D Manipulate Object/Graphic Elements</i>	1.2.5.1	Copy objects/graphical elements
		1.2.5.2	Delete objects/graphical elements
		1.2.5.3	Move objects/graphical elements
		1.2.5.4	Rotate objects/graphical elements
		1.2.5.5	Scale objects/graphical elements
		1.2.5.6	Create, modify, ungroup objects/graphical elements.
		1.2.5.7	Cut objects/graphical elements
		1.2.5.8	Subdivide/explode objects/graphical elements
		1.2.5.9	Join objects/graphical elements
		1.2.5.10	Extend objects/graphical elements
		1.2.5.11	Offset objects/graphical elements
		1.2.5.12	Fillet objects/graphical elements
		1.2.5.13	Chamfer objects/graphical elements
		1.2.5.14	Mirror objects/graphical elements



		1.2.5.15	Array objects/graphical elements
	<i>1.2.6 Create Solids</i>	1.2.6.1	Create a box.
		1.2.6.2	Create a sphere
		1.2.6.3	Create a cylinder
		1.2.6.4	Create a tube
		1.2.6.5	Create a cone
		1.2.6.6	Create a cone trunk
		1.2.6.7	Create an ellipsoid
		1.2.6.8	Create a torus
		1.2.6.9	Extrude an object to a solid.
	<i>1.2.7 Modify Solid Objects.</i>	1.2.7.1	Create a solid using union, subtract, intersection.
		1.2.7.2	Boolean subtract
		1.2.7.3	Boolean Intersect
		1.2.7.4	Slice/section a solid.
	<i>1.2.8 Create and modify Parametric Objects</i>	1.2.8.1	Create parametric objects
		1.2.8.2	Modify parametric objects.
		1.2.8.3	Assemble parametric objects.
<b>1.3 Advanced Operations</b>	<i>1.3.1 3D Views</i>	1.3.1.1	Use orthogonal views.
		1.3.1.2	Use axonometric views.
		1.3.1.3	Use perspective views.
		1.3.1.4	Layout operations
	<i>1.3.2 Photorealistic Presentation</i>	1.3.2.1	Render model/scene.
		1.3.2.2	Create, modify lights in a model/scene.
		1.3.2.3	Create, apply, modify materials
		1.3.2.4	Create a background scene.
		1.3.2.5	Output scene/model in raster format: bmp, jpg, tga, tif, eps.