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| Title | **Draw 3D orbit, navigations and model** | | |
| Level | **3** | **Credits** | **12** |

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| Purpose | The competency standard is designed to explore the use of 3D orbit for a model, creation of a camera and aspects of 3D model objects in detail. |

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| Classification ISCED | 0611 Computer use |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

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| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
| **E1: Develop familiarity with 3D Orbit** | **The trainee will be able to:**  **P1.** Define 3D orbit with the command of   * “3DOrbit” for constrained orbit on selected object. * Developing zoom * Pan facility * Projection mode by selecting “Perspective” * Select different visual styles e.g. 3D Hidden, 3D Wireframe, Conceptual, and Realistic.   **P2.** Select different visual aids e.g. Compass, Grid and UCS Icon.  **P3.** Sets the 3D view while in the orbit command using pre- set views.  **P4.** Differentiate between Free and Continuous orbit.  Highlight the use of “Esc” key.  **P5.** Discover other navigational modes including but not limited to Walk, Fly, Swivel, and Adjust Distance. | **The trainee will be able to:**  **K1.**Define the working of 3D Orbit (constrained, free and continuous).  **K2.**Explain different projection and navigational modes.  **K3.**Explain visual aids and styles. |

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| **E2: Perform 3D dimensional navigation** | **The trainee will be able to:**  **P1.** Deal with the functions of Camera including;   * Creation * View * Preview * Properties * Plotting * Display * Adjust * Swivelling * Distance   **P2.** Perform parallel projection or perspective views by using a camera and target with the help of “DVIEW” command.  **P3.** Simulate walking and flying through a 3D drawing and their setting.  **P4.** Execute “ANIPATH” command for animation path. | **The trainee will be able to:**  **K1.**Describe how to design and create Camera.  **K2.**Plot and adjust the Camera.  **K3.**Define parallel projection or perspective views  **K4.**Illustrate Walk and Fly settings.  **K5.** Describe the different animation paths. |
| **E3:**  **Operate 3D Objects** | **The trainee will be able to:**  **P1.** Create wireframe models by positioning 2D objects anywhere in 3D space i.e. 3D polylines.  **P2.** Draw faceted surfaces using a polygonal mesh.  **P3.** Combine different simple shapes to create more complex solids by joining or subtracting them or finding their intersecting (over- lapping) volume. | **The trainee will be able to:**  **K1.**Explain Structure of Wireframes  **K2.** Define the process of application of Surfaces.  **K3.** Create Solids. |