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| Title | **Draw coordinates** |
| Level | **3** | **Credits** | **6** |

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| Purpose | The competency standard is designed to explore the basics of 3D User and Z Cartesian (X, Y, Z) coordinates system. |

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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** |
| **D1:****Explain basic terminologies of Z Coordinates** | **The trainee will be able to:****P1.** Create 3D Cartesian coordinates against 3D POLY command by specifying start and end points.**P2.** Demonstrate the process to track in Z direction by “OSnap” tracking or F11 key and “Polar” tracking or F10 key.**P3.** Run “move” command to move in Z direction by specifying displacement.**P4.** Recall 3D point filters, e.g. specifying radius of circle command.**P5.** Create 3D spiral using “helix” command by defining number of turns, diameter and height. | **The trainee will be able to:****K1.** Identify different commonly known terminologies of 3D coordinates**K2.** Describe the tracking and movement in Z direction**K3.** List 3D point filters**K4.** Explain “Helix” function for 3D spiral. |
| **D2:****Define user Coordinates System** | **The trainee will be able to:****P1.** Conduct orientation session of the user coordinate system (UCS) axes and the location of the current UCS origin with the execution of command “ucsicon”.**P2.** Apply “UCS” command with multiple switches including* Face
* Named
* Object
 | **The trainee will be able to:****K1.** Configure User Coordinates System (UCS) properties.**K2.** Explain different functions to UCS. |

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|  | * Previous
* New
* View
* World
* X/Y/Z.

**P3.** Use the UCS toolbar.**P4.** Demonstrate the Plan UCS procedure with “PLAN” command**P5.** Incorporate Dynamic UCS with short keys of Ctrl+D.**P6.** Restore a saved and named UCS with “R” key.**P7.** Explore UCS dialog box using “UCSMAN” command**P8.** Get the visual feedback of the model by Viewcube. | **K3.** Define the UCS toolbar.**K4.** Explain the Plan UCS procedure with “PLAN” command.**K5.** Define Dynamic UCS with short keys.**K6.** Describe how to restore a saved and named UCS.**K7.** Explain UCS dialog box**K8.** How to Generate Viewcube. |