

# LIGHTING AND RENDERING

**UNIT CODE:** MD/CU/AN/CR/07/6/MA

## Relationship to Occupational Standards

This unit addresses the unit of competency: light and render 3D scenes

Duration of Unit: 110 hours

## Unit Description

This unit specifies the competencies required to light and render 3D scenes. It involves setting render engine, setting 3D lights, and testing 3D lighting and rendering 3D scenes.

## Summary of Learning Outcomes

Elements	Hours
Set render engine	40
Set 3D lighting	30
Test 3D lighting	24
Render 3D scenes	16
<b>Total hours</b>	<b>110</b>

## Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Set render engine	1.1 Introduction to rendering 1.2 Render engines 1.3 Environment and engine compatibility 1.4 Render techniques	<ul style="list-style-type: none"><li>• Observation</li><li>• Oral questions</li><li>• Third party report</li><li>• Interviewing</li><li>• Project and report writing</li></ul>
2. Set 3D lighting	2.1 Introduction to lighting 2.2 Lighting renderers 2.3 Cinematic lighting 2.4 Photo realistic lighting 2.5 Lighting techniques 2.5.1 Spotlighting 2.5.2 3 point lighting 2.6 Light set-up in 3D scene 2.6.1 Exterior lighting 2.6.2 Interior lighting 2.6.3 Daytime lighting	<ul style="list-style-type: none"><li>• Observation</li><li>• Oral questions</li><li>• Third party report</li><li>• Interviewing</li><li>• Project and report writing</li><li>• Written tests</li></ul>

	2.6.4 Night time lighting 2.6.5 Camera parameters on lighting	
3. Test 3D lighting	3.1 3D multi-camera views setting 3.2 Render settings 3.3.1 Render passes 3.3.2 Frame rates	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Oral questions</li> <li>• Third party report</li> <li>• Interviewing</li> <li>• Project and report writing</li> </ul>
4. Render 3D scenes	4.1 Exportation of Render engines 4.2 Camera render setup 4.3 File formats	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Oral questions</li> <li>• Third party report</li> <li>• Interviewing</li> <li>• Project and report writing</li> </ul>

#### **Suggested Methods of Delivery**

- Project
- Demonstration by trainer
- Practice by the trainee
- Discussions
- Direct instruction
- Audio –visual aids

#### **Recommended Resources**

- Computers
- Internet
- Digital Cameras
- Magazines
- Animation films
- Text books
- Computer software
- Television
- Digital Drawing Tablet
- Flash drives