

LIGHT AND RENDER 3D SCENES

UNIT CODE: MD/OS/AN/CR/07/6/MA

UNIT DESCRIPTION

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

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the range.</i>
1. Set render engine	1.1 <i>Render engine</i> is selected as per the SOPs. 1.2 Environment and engine compatibility are determined as per SOPs. 1.3 Video and frame rate are selected as per SOPs. 1.4 Frame ratio is set as per SOPs. 1.5 Render passes are set.
2. Set 3D lighting	2.1 Lighting renderer is selected as per scene requirement. 2.2 <i>Lighting types and methods</i> are selected. 2.3 Light positions are set in 3D scene. 2.4 3D light parameters are set as per scene requirements. 2.5 Camera parameters are set as per lighting requirement.
3. Test 3D lighting	3.1 Render engine is set to render single frames. 3.2 3D camera is set in different positions in a multi-camera set up. 3.3 Single frame images are exported. 3.4 Scene sample renders are shared as per SOPs. 3.5 Scene sample renders are approved.
4. Render 3D scenes	5.1 Render engines are set for export. 5.2 File formats are selected as per production requirements.

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Render engine and methods includes but not limited to:	<ul style="list-style-type: none">• Mental Ray• Iray• Maxwell Renderer• Lumion• Keyshot• V-Ray
2. Lighting types and methods includes but not limited to:	<ul style="list-style-type: none">• 3-point• 5-point• Natural• Exterior• Interior• Night

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Lighting
- Rendering
- Script interpretation

Required knowledge

The individual needs to demonstrate knowledge of:

- Photography
- Colour theory
- Lighting techniques
- 3D animation software
- Render engines

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: <ol style="list-style-type: none"> 1. Demonstrated the ability to set render engine 2. Demonstrated the ability to set 3D lighting 3. Demonstrated the ability to test 3D lighting 4. Rendered 3D scenes
2. Resource Implications	The following resources must be provided: <ol style="list-style-type: none"> 2.1 Colour chart 2.2 Lighting references
3. Methods of Assessment	Competency may be accessed through: <ol style="list-style-type: none"> 3.1 Written tests 3.2 Observation 3.3 Oral questions 3.4 Third party report 3.5 Interviewing 3.6 Project and report writing 3.7 Assignments
4. Context of Assessment	Competency may be assessed: <ol style="list-style-type: none"> 4.1 On-the- job 4.2 Off the job 4.3 Work place attachment 4.4 Off the job assessment must be undertaken in a closely simulated workplace environment.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job roles is recommended.