



Australian Government

ICPPTD301 Manipulate 3D files in preparation for 3D printing

Release: 1

ICPPTD301 Manipulate 3D files in preparation for 3D printing

Modification History

Release	Comments
Release 1	This version first released with ICP Printing and Graphic Arts Training Package Version 3.0.

Application

This unit describes the skills and knowledge required to assess and rectify errors and convert files to a usable format for three-dimensional (3D) printing.

It applies to individuals in a range of industry sectors who have technical skills in 3D printing technologies and provide 3D printing services to internal or external clients.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Three-Dimensional Printing

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess design file	1.1 Receive file and identify and document precision, quality, and materials requirements for 3D file in accordance with client specifications 1.2 Review and document faults, imperfections and errors of file and assess against client specifications 1.3 Provide recommendations to client, and agree on alterations to be undertaken
2. Determine work requirements	2.1 Select software required to perform adjustments according to file requirements 2.2 Calculate and document time and cost of work required to rectify identified faults, imperfections and errors

	<p>2.3 Evaluate and document potential waste, build and support materials</p> <p>2.4 Inform client of work requirements and obtain approval for planned work</p>
3. Prepare a precision 3D print file	<p>3.1 Manipulate file to remove imperfections and errors</p> <p>3.2 Prepare output file according to printer specifications</p> <p>3.3 Review file quality with client and obtain sign off</p> <p>3.4 Save file in a format appropriate for 3D printing according to organisational policies and procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Analyses graphic files and specifications to determine requirements
Writing	<ul style="list-style-type: none"> Names data files using appropriate naming conventions
Oral communication	<ul style="list-style-type: none"> Presents complex information using clear and persuasive language, and appropriate tone and pace for the audience and purpose
Numeracy	<ul style="list-style-type: none"> Performs mathematical calculations appropriate to graphics software to ensure accuracy, scale and tolerances are being met Estimates works requirements
Interact with others	<ul style="list-style-type: none"> Understands what to communicate, with whom and how, in routine work situations
Get the work done	<ul style="list-style-type: none"> Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with client Uses problem solving techniques to evaluate errors and manipulate graphics images Uses digital technologies and applications to manage and manipulate data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPTD301 Manipulate 3D files in preparation for 3D printing	ICPPRP495 Manipulate 3D graphics files in preparation for 3D printing	Updates to elements, performance criteria and assessment requirements	Not equivalent

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a74b7a0f-a253-47e3-8be0-5d426e24131d>