

# ENGINEERING DESIGN AND PRODUCTION TECHNOLOGY (CERT)

ENGT 258

Tools and Fixtures Applications Using Solid Modeling 4.0

## CERTIFICATE OF ACHIEVEMENT

Engineering Design and Production Technology program expands student body of knowledge from drafting and design to the design for manufacturing and tooling engineering. Graduates of the ENGT program from Cerritos College find their work in such diverse areas as designing components for tooling and production systems for spaceships and medical devices/artificial organs to designing oil refineries equipment, robots, manufacturing systems, automotive and general merchandise products.. Typical job titles for students with this certificate are mechanical designer, tooling designer, associate manufacturing engineer, design engineer, senior drafter, and similar.

### Program Student Learning Outcomes

- Students recognize principles of parametric modeling in CATIA.
- Students recognize principles of parametric modeling in SolidWorks.
- Students design parts, fixtures and tooling for plastics, composites, wood and metals manufacturing.
- Students design production fixtures and tooling using parametric 3D Modeling.
- Students recognize principles of parametric modeling in Inventor.

## Program Requirements

Code Number	Course Title	Units
<b>Required Courses</b>		
ENGT 116	Blueprint Reading and Production	4.0
ENGT 117	Geometrical Dimensioning and Tolerancing and Model Based Definition	4.0
ENGT 131	Design Fundamentals Including 3D Modeling	3.0
ENGT 237	Statics and Strength of Materials Using Simulation	3.0
ENGT 259	Solidworks Introduction	4.0
MTT 131	Geometric Tolerance Inspection using Verisurf	3.0
Subtotal		21
Select one of the following:		2.0-4.5
MTT 100	Machine Tool Introduction (2)	
ENGT 111	Plastics Technology (3)	
ENGT 251	Composites Fabrication and Tooling (4.5)	
WELD 100	Welding Fundamentals (2.5)	
WMT 101	Introduction to Woodworking (3)	
<b>Total Units</b>		<b>23-25.5</b>

## Recommended Electives

Code Number	Course Title	Units
ENGT 104	Principles of Aerospace Design Technology	4.0
ENGT 105	Product Design, Development, and Prototype Fabrication	2.0