

# NEW PRODUCT DEVELOPMENT AND FABRICATION OPTION (A.S.)

## ASSOCIATE OF SCIENCE

The New Product Development (NPD) program at Cerritos College addresses the competencies needed for technicians in the fields of professional, scientific, and technical service companies of Southern California. Particular emphasis is on New Product Development and Fabrication. The program goals are multiple. The first goal is to provide students with the academic preparation needed for a career in industries using similar technology. Students can do that by learning the program objectives from the set of classes that will allow them to take a virtual new product idea to market. Another goal of the program is to enable current students to get a double competency (3D inspection/NPD, Machining/NPD, Auto/NPD, Welding/NPD, Plastics/NPD, and Engineering Design/NPD). Finally the last goal of the program is to provide continuous learning opportunities for industry employees. This in turn will provide industry with a framework of classes to further employee development and/or provide validation of professional experience and a path to an AS degree for current employees.

## Program Student Learning Outcomes

- Students create a design presentation.
- Students develop machine tool technology based fabrication plans.
- Students evaluate the feasibility of the rapid prototyping various products.
- Students produce a cost-effective plan for an automation product.
- Students produce a portfolio of new design technology for the production of new products.
- Students select a plan for manufacturing and procurement.
- Students take a product through the stages of new product development.

## Program Requirements

Code Number	Course Title	Units
<b>Program Requirements</b>		
NPD 100	Product Development in a Global Economy	3.0
NPD 101	Innovation Using Rapid Prototyping	3.0
NPD 103	Tooling and Materials for New Product Development	3.0
MTT 111	Programmable Logic Controllers In Automated Manufacturing	3.0
MTT 112	Variable Frequency Drives in Automated Manufacturing	3.0
ET 102	Electronics for Engineering Technologists	3.0
ENGT 131	Design Fundamentals Including 3D Modeling	3.0
<b>Total Units</b>		<b>21</b>

## ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS

Students must complete the required major courses, the Cerritos College Associate of Arts General Education requirements, and electives as needed. Students must earn a 2.0 grade point average and earn a grade of "C" or higher in major/emphasis courses.

## Recommended Electives

Code Number	Course Title	Units
MTT 278	Mastercam Advanced	3.5
WELD 130	Gas Tungsten Arc Welding Fundamentals	5.0
WMT 111L	Introduction to Woodworking Lab	1.0