

# JOB DESCRIPTION

<b>Job Title:</b> Machine Shop Intern	<b>Department:</b> Production Internship
<b>Approved by:</b> North Texas Chapter Board	<b>Last Updated:</b> March 4, 2019

## POSITION SUMMARY:

This position is an internship opportunity to learn various aspects of manufacturing. Students will have the opportunity to spend time (12-16 Weeks) at different companies throughout the DFW area learning new skills and exercise real life application of their college curriculum.

## ESSENTIAL DUTIES AND RESPONSIBILITIES:

The following description of work to be performed by this individual is not intended to be all-inclusive. Rather, it focuses on the major tasks that must be accomplished. There are many necessary activities to satisfy any of the following performance guidelines.

### Semester 1: Quality Control Department (\$12 per hr.)

- **Objective:** Utilize and practice inspection skills to become self-efficient at managing and improving product quality.
- This person needs to be capable of maintaining inspection processes. Monitor shop floor quality with visual and mechanical checking, understand and manage SPC data, monitor inspection equipment for calibration compliance.
  - Read and analyze customer quality system drawings and specs to understand product requirements.
  - Work with Applications department and Engineering Manager to determine fixturing and inspection methods.
  - Communicate with management, operators, and other departments regarding product quality issues

### Semester 2: CNC Machine Operator (\$13 per hr.)

- **Objective:** Learn/practice how to effectively operate a work center to become self-efficient at producing quality products.
- This position is responsible for loading and unloading parts into CNC machines, while ensuring finished parts meet customer specifications and company quality standards. This position is also responsible for ensuring that production processes are accurate and efficient, and that safety and quality standards are maintained.
  - Perform quality inspections using precision measurement devices to ensure all parts meet specifications
  - Operate CNC machines and perform all tasks in a safe and responsible manner in alignment with company policies
  - Read and follow instructions on manufacturing orders and blueprints to ensure that components meet product and customer design specifications

### Semester 3: CNC Setup Operator (\$14 per hr.)

- **Objective:** Learn/practice how to effectively setup (from start to finish) and operate a work center to become self-efficient at producing quality products.
- This position is responsible for setting up and troubleshooting processes to produce quality parts in a safe and efficient manner and provide machine shop support as needed. Ability to assist in setup functions, retrieve, read and interpret drawings and work instructions. Ability to move to different cell areas as business needs dictate.
  - Load and change tools and fixtures on the machine and make machine offset changes based on quality needs.
  - Prepare tool cart according to job requirements.
  - Identify process improvements to improve efficiency and/or safety

**Semester 4: CNC Programmer / Process Planner (\$15 per hr.)**

- **Objective:** Learn how to effectively engineer a CNC process to effectively produce quality products.
- This position is responsible for designing machining and other production processes to include CNC Programming, Process Quality, Cycle Time/Output Improvements, Revision Changes, Set-up repeatability and flexibility for cells. Be capable of identifying problems and concerns with solutions, and assist in the training of shop personnel. Develop and maintain customer pricing for prototypes and tooling requirements.
  - Work to establish best practices and standardize processes that impact employee performance and overall production
  - Set-up/prove out first time part processes
  - Maintain CAD/CAM file accuracy
  - Understand Robotic concepts and programming

**OTHER JOB DUTIES:** (Not considered essential to the job)

- Perform all other related assignments (including special projects) as required in a professional and cooperative manner.

**MINIMUM QUALIFICATIONS:**

1. Education:
  - High school diploma or equivalent degree
  - Must have completed related semester of Advanced Manufacturing or related program.
2. Experience:
  - None required
3. Licensing Required: None
4. Other Knowledge, Skills, and Abilities:
  - Blueprint reading skills with a good understanding of geometric dimensioning and tolerancing
  - Ability to utilize the proper inspection and measurement equipment
  - Basic computer skills
  - Ability to recognize safety concerns
  - Strong written and verbal communication skills
  - Ability to multi-task
  - Strong decision making skills
  - Basic math skills
  - Ability to take part in continuous education and training
  - Ability to work outside of standard shift times when needed

**EQUIPMENT USED**

- Office Equipment (computer, phone, printer, scanner, copier and fax machine)
- Measurement tools (calipers, micrometers, tape measure, etc.)
- CNC Equipment
- CMM Equipment
- Hand tools
- Deburring equipment
- Drill Press

**TYPICAL PHYSICAL, MENTAL AND ENVIRONMENTAL REQUIREMENTS**

R = Rare (0-5% of workday) F = Frequent (34% - 66% of workday)	O = Occasional (6% - 33% of workday) C = Constant (67% - 100% of workday)	Frequency			
		R	O	F	C
<b>ENVIRONMENTAL REQUIREMENTS</b>					
Exposure to dust, fumes, odors, mists, toxic gases, poor ventilation, anti-neoplastic, agents, adhesives, and chemical hazards			X		
Exposure to extreme cold temperatures (below 32° > an hour, not weather related)	X				
Exposure to extreme hot temperatures (above 100° > an hour, not weather related)	X				
Exposure to loud noises, moving, mechanical parts					X
Indoors					X
Outdoors	X				
Working on unprotected heights	X				
<b>PHYSICAL REQUIREMENTS</b>					
Balancing			X		
Bending			X		
Carrying (anything 40+ pounds requires a team lift or crane operation)					
0 – 10 pounds				X	
11 – 20 pounds				X	
21 – 30 pounds			X		
31 – 40 pounds			X		
Climbing: <input checked="" type="checkbox"/> stairs <input type="checkbox"/> ladders <input type="checkbox"/> ramps			X		
Communication (verbal and written)					X
Crawling / Kneeling / Squatting			X		
Driving automotive equipment			X		
Foot Controls			X		
Hearing (perceive nature of sounds or receive information by means of ear)					X
Lifting: to/from floor to waist level (anything 40+ pounds requires a team lift or crane operation)					
0 – 10 pounds			X		
11 – 20 pounds	X				
21 – 30 pounds	X				
31 – 40 pounds	X				
Lifting: overhead (anything 40+ pounds requires a team lift or crane operation)					
0 – 10 pounds	X				
11 – 20 pounds	X				
21 – 30 pounds	X				
31 – 40 pounds	X				
Pulling/Pushing	X				
Reaching: above shoulder level	X				
Reaching: forward reach					X
Repetitive Motion: <input checked="" type="checkbox"/> hands <input checked="" type="checkbox"/> wrists <input checked="" type="checkbox"/> fingers <input checked="" type="checkbox"/> arms					X
Sitting			X		
Standing				X	
Vibration			X		
Vision: near acuity, far acuity, distinguishing colors, depth perception					X
Walking			X		
Work space <input checked="" type="checkbox"/> open (movement not restricted) <input checked="" type="checkbox"/> confined (movement restricted)					X