

APPRENTICESHIP
Plate Shop Operator

The Apprenticeship Program is designed to teach the skill and related studies needed in the N/C Plate Shop craft leading to a Plate Shop Operator, journey person classification.

MAJOR UNITS OF INSTRUCTION

In-Plant Work Experience:

N/C Thermal Cutting	2,000 hours
Splitter/De-flange	400 hours
Brake Press	1,000 hours
Pyramid Rolls	1,000 hours
Frame Bender	600 hours
N/C Grand Panel	600 hours
Plate Milling	400 hours

TOTAL CLOCK HOURS	6,000 hours
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- NAME:** In plant work experience – Plate Shop Operator
- TITLE:** **N/C Thermal Cutting**
- TEXTBOOK:** Not required
- CREDITS:** 2.000 hours of instruction
- PREREQUISITES:** Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
- COURSE DESCRIPTION:** Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 2,000 clock hours of instruction.
- COURSE GOAL(S):**
1. To introduce the student to the process in which parts are fabricated for the construction of assembly units.
 2. To develop the student’s ability to layout and fabricate various component parts required for unit construction.
- COURSE OBJECTIVE:** Upon satisfactory completion of this course the student will be able to:
1. Demonstrate his/her ability to operate N/C Plasma Arc Station utilizing a computer driven process to cut steel and non ferrous plates.
 2. Perform secondary process operations required to complete the part manufacturing process.
- CONTENT OUTLINE:**
1. **N/C Thermal Cutting**
 - A. Safety Procedures
 - B. Plasma Arc
 - C. Hand Burning
 - D. Edge Prep
 - E. Multi-Torch Flame
 - F. N/C Process parameter management

- NAME:** In plant work experience – Plate Shop Operator
- TITLE:** **Splitter/De-Flanging**
- TEXTBOOK:** Not required
- CREDITS:** 400 hours of instruction
- PREREQUISITES:** Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
- COURSE DESCRIPTION:** Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 400 clock hours of instruction.
- COURSE GOAL(S):**
1. To introduce the student to the process in which parts are fabricated for the construction of assembly units.
 2. To develop the student’s ability to layout and fabricate various component parts required for unit construction.
- COURSE OBJECTIVE:** Upon satisfactory completion of this course the student will be able to:
1. Demonstrate his/her ability to operate N/C Plasma Arc Station utilizing a computer driven process to cut steel and non ferrous structural members.
- CONTENT OUTLINE:**
1. Splitter/De-Flanging
 - A. Safety Procedures
 - B. Plasma Arc
 - C. Hand Burning
 - D. Excess Material Disposition
 - E. Process Parameter Control

- NAME:** In plant work experience –Plate Shop Operator
- TITLE:** **N/C Grand Panel**
- TEXTBOOK:** Not required
- CREDITS:** 600 hours of instruction
- PREREQUISITES:** Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
- COURSE DESCRIPTION:** Sets –Up & Operates thermal cutting machines which cut metal plates to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 600 clock hours of instruction.
- COURSE GOAL(S):**
1. To introduce the student to the process in which parts are fabricated for the construction of assembly units.
 2. To develop the student’s ability to layout and fabricate various component parts required for unit construction.
- COURSE OBJECTIVE:** Upon satisfactory completion of this course the student will be able to:
1. Demonstrate his/her ability to operate N/C Plasma Arc Station utilizing a computer driven process to cut steel and non ferrous plates
- CONTENT OUTLINE:**
1. N/C Grand Panel
 - A. Safety Procedures
 - B. Plasma Arc
 - C. Computer Generated Layout
 - D. Multi-Torch Flame
 - E. Process Parameter Control

NAME:	In plant work experience –Plate Shop Operator
TITLE:	Plate Milling
TEXTBOOK:	Not required
CREDITS:	400 hours of instruction
PREREQUISITES:	Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
COURSE DESCRIPTION:	Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 400 clock hours of instruction.
COURSE GOAL(S):	<ol style="list-style-type: none">1. To introduce the student to the process in which parts are fabricated for the construction of assembly units.2. To develop the student’s ability to layout and fabricate various component parts required for unit construction.
COURSE OBJECTIVE:	Upon satisfactory completion of this course the student will be able to: <ol style="list-style-type: none">1. Demonstrate his/her ability to operate N/C Milling Station utilizing a computer driven process to cut steel and non ferrous plates
CONTENT OUTLINE:	<ol style="list-style-type: none">1. Plate Milling<ol style="list-style-type: none">A. Safety ProceduresB. P/C Parameter ProgrammingC. Automated Tooling Transition

NAME:	In plant work experience – Plate Shop Operator
TITLE:	Brake Press
TEXTBOOK:	Not required
CREDITS:	1,000 hours of instruction
PREREQUISITES:	Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
COURSE DESCRIPTION:	Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 1,000 clock hours of instruction.
COURSE GOAL(S):	To provide the student with the information necessary to be able to work from engineering drawings from which he/she will be able to layout, fabricate and assemble various components needed for unit construction.
COURSE OBJECTIVE:	Upon satisfactory completion of this course the student will be able to: 1. Demonstrate the ability to: A. Fabricate assembly units from parts provided by FAB area for designated assembly units. B. Fabricate and layout component parts. C. Shape and construct patterns and templates.
CONTENT OUTLINE:	1. Brake Press A. Safety Procedures B. Transition Rolls C. Knuckling D. Rolling

- NAME:** In plant work experience – Plate Shop Operator
- TITLE:** **Pyramid Rolls**
- TEXTBOOK:** Not required
- CREDITS:** 1,000 hours of instruction
- PREREQUISITES:** Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
- COURSE DESCRIPTION:** Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 1,000 clock hours of instruction.
- COURSE GOAL(S):** To provide the student with the information necessary to be able to work from engineering drawings from which he/she will be able to layout, fabricate and assemble various components needed for unit construction.
- COURSE OBJECTIVE:** Upon satisfactory completion of this course the student will be able to:
- 1 Demonstrate the ability to:
 - A. Fabricate assembly units from parts provided by FAB area for designated assembly units.
 - B. Fabricate and layout component parts.
 - C. Shape and construct patterns and templates.
- CONTENT OUTLINE:**
2. **Pyramid Rolls**
 - A. Safety Procedures
 - B. Roll by Template
 - C. Line Heating for Compound Rolls

- NAME:** In plant work experience – Plate Shop Operator
- TITLE:** **Frame Bender**
- TEXTBOOK:** Not required
- CREDITS:** 600 hours of instruction
- PREREQUISITES:** Students must be employed by Northrop Grumman and be indentured in the Apprenticeship Program
- COURSE DESCRIPTION:** Sets –Up & Operates thermal cutting machines which cut metal plates and structural shapes to dimensions. Contour and bevel specified by blueprints, layout, work orders and templates. Length of training will be 600 clock hours of instruction.
- COURSE GOAL(S):** To provide the student with the information necessary to be able to work from engineering drawings from which he/she will be able to layout, fabricate and assemble various components needed for unit construction.
- COURSE OBJECTIVE:** Upon satisfactory completion of this course the student will be able to:
1. Demonstrate the ability to:
 - A. Fabricate assembly units from parts provided by FAB area for designated assembly units.
 - B. Fabricate and layout component parts.
 - C. Shape and construct patterns and templates.
- CONTENT OUTLINE:**
- A. Safety Procedures
 - B. Bend by C. P. Line
 - C. Straightening of Structural Parts
 - D. Simple Bending
 - E. Structural Bend Layout