



**Northern Marianas Technical Institute**

P.O. Box 504880 Saipan, MP 96950

Tel. No.: (670) 235-6684

## **Automotive Technology**

### **Brake System:**

Brake System Components - Brake Hydraulic System - Brake Fluid Lines - Wheel Bearing Systems - Parking Brake Operation - ABS Components, Operation & Diagnosis - Power Brake Unit Operation, Diagnosis - Disc Brakes - Drum Brakes

**Brakes System:** 200 Hours

### **Engine Performance:**

Service Information- Environmental & Hazardous Materials - Gasoline Engine Operation - Diesel Engine Operation - Fuels - Cooling System Diagnosis - Intake & Exhaust System - Ignition Systems - Oxygen Sensors - Fuel Injection Components - Throttle Position Sensor

**Engine Performance:** 330 Hours

### **Steering, Suspensions and Alignment:**

Service Information – Tires and Wheels – Tire Pressure Monitoring Systems – Suspension System Components – Front and Rear Suspension Service – Electronic Suspension Systems – Steering Columns and Gears – Alignment Diagnoses and services – Wheel Alignment Principles

**Steering, Suspensions and Alignment:** 200 Hours

### **Electricity and Electronics:**

Environmental and Hazardous Materials – Electrical Fundamentals – Series and Parallel Circuits – Automotive Wiring and Wire Repair – Electronic Fundamentals – Computer Fundamentals – Battery and Battery Testing – Cranking System and Cranking System Diagnoses – Charging System and Charging System Diagnoses – Airbag and Pretensioner Circuits

**Electricity and Electronics:** 280 Hours



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## **Cosmetology**

### **Cosmetology:**

- Safety & Sanitation: Emergency First Aid, Personal Grooming & Hygiene, Tools & Proper Use, Electricity Safety
- Basic Training in General Theory & Practical Application: Shampoo, Types of Hair, Anatomy & Physiology, Skin Diseases & Conditions, Nail Technology & Basics
- Hair Styling & Dressing: Cutting, Thinning, Shaping, Application of Electrical/Mechanical Equipment, Curling, Hair Treatments
- Esthetics: Facial Massage, Skin Analysis, Cleansing the Skin, Mask Therapy & Facial Treatments, Nutrition & Health of Skin, Professional Makeup Techniques, Product Knowledge
- Nail Technology: Manicures, Pedicures, Nail Diseases & Conditions, Light Cured Gel, Machines & Tools, Hand/Arm/Foot Massage

**Cosmetology:** 360 Hours

### **Internship:**

Upon completion of Cosmetology, students will intern with one of our partners on the island. Allowing our Cosmetology Students to gain their first steps into the industry. Must be completed within a six-month period.

**Internship:** 240 Hours



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## **Culinary Arts**

### **Culinary Arts Level 1:**

History of Food Service - Safety & Sanitation - Tools & Equipment - Culinary Math & Menu Costing - Basic Nutrition - Basic Cooking Principles & Methods - Basic Knife Skills - the final test will be a three-part exam that includes a written test, a knife skill practical, and a one-course meal cooking practical.

**Culinary Arts Level 1:** 116 Hours

### **Internship:**

Upon completion of Culinary Arts Level 1, students will intern at a commercial operation that will take on an entry level position with one of our partners on the island. Allowing our Culinary Students to gain their first steps into our culinary industry. Internship will start simultaneously with Culinary Arts Level 2. Must be completed within a seven-month period.

**Internship:** 240 Hours

### **Culinary Arts Level 2:**

Stocks Preparations - Regional Soups – The Five Mothers Sauces - Mise En Place - Demonstrating and Teaching Proper Techniques - Understanding, Preparation, and Cooking Different Starches, Vegetables, Proteins, and Garnishes - Hands-On Learning with Breakfast, Sandwiches and Salads - The final test will be a three-part exam that includes a written test, a knife skill practical, and a three-course meal cooking practical.

**Culinary Arts Level 2:** 122 Hours

### **Workforce Ready Baking & Pastry:**

Coming Soon - Accelerated Program



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## **Baking & Pastry**

### **Baking & Pastry:**

This course is the first level of Baking and Pastry and it allows students more in-depth study of the baking and pastry arts. Areas of study include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and methods used in creating breads, pastries, cookies, and other desserts. The contents provide students with the opportunity to acquire marketable skills by examining both the industry and its career opportunity by developing food preparing, service skills and interpersonal skills. Laboratory facilities and hands-on experience offer school-based learning opportunities.

**Baking & Pastry:** 128 Hours

### **Internship:**

Upon completion of Baking & Pastry, students will intern at a commercial operation that will take on an entry level position with one of our partners on the island. Allowing our Baking & Pastry Students to gain their first steps into the industry. Must be completed within a seven-month period.

**Internship:** 240 Hours



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# Carpentry

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Carpentry Level 1:**

Orientation to the trade - Building Materials, Fasteners & Adhesives - Hand & Power Tools - Introduction to Construction Drawing, Specifications & Layouts - Floor Systems - Wall Systems - Ceiling Joist & Roof Framing - Basic Stair Layout - Introduction to Building Envelope System

**Carpentry Level 1:** 162.5 Hours

### **Carpentry Level 2:**

Commercial Drawings - Roofing Applications - Thermal & Moisture Protection - Exterior Finishing - Cold Formed Steel Framing - Drywall Installing - Drywall Finishings - Door & Door Hardware - Suspended Ceilings - Window, Door, Floor & Ceiling Trim - Cabinet Installation

**Carpentry Level 2:** 210 Hours

### **Carpentry Level 3:**

Properties of Concrete - Rigging Equipment - Rigging Practices - Trenching & Excavating - Reinforcing Concrete - Foundations & Slab on grade - Vertical Formwork - Handling & Placing Concrete - Tilt Up Wall Panels

**Carpentry Level 3:** 160 Hours

### **Carpentry Level 4:**

Site Layout One (Differential Leveling) - Site Layout Two (Angular & Distance Measurement) - Advance Roof Systems - Advanced Wall Systems - Introduction to Oxyfuel - Cutting & Arc Welding - Site Preparation - Fundamentals of Crew Leadership

**Carpentry Level 4:** 185 Hours



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# Welding

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Welding Level 1:**

Welding Safety - Oxyfuel Cutting - Plasma Arc Cutting - Air Carbon Arc Cutting & Gouging - Base Metal Preparation - Weld Quality - Equipment & Set Up - SMAW (Electrodes) - SMAW (Beads & Fillet Welds) - Joint Fit Up & Alignments - SMAW (Groove Welds with Backing) - Open Root Groove Welds Plate

**Welding Level 1:** 285 Hours

### **Welding Level 2:**

Welding Symbols - Reading Welding Detail Drawings - Physical Characteristics & Mechanical Properties of Metals - Preheating & Post Heating of Metals - GMAW & FCAW (Equipment & Filler Metals) - GMAC (Plate) - FCAW (Plate) - GTAW (Equipment & Filler Metals) - GTAW (Plate)

**Welding Level 2:** 227.5 Hours

### **Welding Level 3:**

SMAW (Open Root Pipe Welds) - GMAW (Pipe) - FCAW (Pipe) - GTAW (Pipes) - GTAW (Low Alloy and Stainless Steel Pipe) - SMAW (Stainless Steel Plate & Pipe)

**Welding Level 3:** 470 Hours

### **Welding Level 4:**

GMAW (Aluminum Plate) - GMAW (Aluminum Pipe) - GTAW (Aluminum Plate) - GTAW (Aluminum Pipe) - Soldering & Brazing

**Welding Level 4:** 172.5 Hours



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# Electrical

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Electrical Level 1:**

Orientation to the trade - Electrical Safety - Introduction to Electrical Circuits - Electrical Circuits - Electrical Theory - Introduction to the National Electrical Code - Device Boxes - hand Bending - Raceways & Fittings - Conductors & Cables - Basic Electrical Construction Drawings - Residential Electrical Services - Electrical Test Equipment

**Electrical Level 1:** 120 Hours

### **Electrical Level 2:**

Altering Current - Motors: Theory & Application - Electrical Lighting - Conduit Bending - Pull & Junction Boxes - Conductor Installations - Cable Tray - Conductor Terminations & Splices - Grounding & Bonding - Circuit Breakers & Fuses - Control Systems & Fundamental Concepts

**Electrical Level 2:** 145 Hours

### **Electrical Level 3:**

Load Calculations - Branch & Feeder Circuits - Conductor Selection & Calculations - Practical Applications of Lighting - Hazardous Locations - Overcurrent Protection - Distribution Equipment - Transformers - Commercial Electrical Systems - Motor Calculations - Voice, Data & Video - Motor Controls

**Electrical Level 3:** 155 Hours

### **Electrical Level 4:**

Load Calculations (Feeder & Services) - Health Care Facilities - Standby & Emergency Systems - Basic Electronic Theory - Fire Alarm Systems - Specialty Transformers - Advanced Motor Controls - HVAC Controls - Heat Tracing & Freeze Protection - Motor Operation & Maintenance - Medium Voltage Termination & Splices - Specialty Locations - Fundamental of Crew Leadership

**Electrical Level 4:** 182.5 Hours



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## **Electronic Systems Technology**

**Prerequisite:** CORE, Electrical Level 1, and Electrical Level 2

### **Electrical Systems Technology Level 3:**

Limited Energy Cabling - Limited Energy Cable Selection - Limited Energy Cable Termination - Limited Energy Network Installations - Fiber Optics - Wireless Communication - Site, Survey, Project Planning and Documentation - Rack Assembly - System Commissioning and User Training - Maintenance & Repair

**Electrical Systems Technology Level 3:** 192.5 Hours

### **Electrical Systems Technology Level 4:**

Audio Systems - Video Systems - Broadband - Media Management Systems - Telecommunication Systems - Residential and Commercial Networks - Intrusion Detection System

**Electrical Systems Technology Level 4:** 315 Hours





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## **Heating Ventilation and Air Conditioning**

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **HVAC Level 1:**

Introduction to HVAC - Trade Mathematics - Basic Electricity - Introduction to Heating - Introduction to Cooling - Introduction to Air Distribution Systems - Basic Cooper & Plastic Piping Practices - Soldering & Brazing - Basic Carbon Steel Piping Practices

**HVAC Level 1:** 120 Hours

### **HVAC Level 2:**

Altering Current - Compressors - Refrigerants & Oils - Leak Detection, Evacuation, Recovery & Charging - Metering Devices - Heat Pumps - Basic Maintenance Chimneys, Vents & Flues - Sheet Metal Duct Systems - Fiberglass & Fabric Duct Systems - Commercial Airside Systems - Air Quality Equipment - Introduction to Hydronic Systems

**HVAC Level 2:** 175 Hours

### **HVAC Level 3:**

Fasteners, Hardware, & Wiring Terminations - Control Circuit & Motor Troubleshooting - Troubleshooting Cooling - Troubleshooting Heat Pumps - Troubleshooting Gas Heating - Troubleshooting Oil Heating - Troubleshooting Accessories - Zoning, Ductless, Variable Refrigerant Flow Systems - Commercial Hydronic Systems - Steam Systems - Retail Refrigerant Systems - Customer Relations

**HVAC Level 3:** 167.5 Hours

### **HVAC Level 4:**

Water Treatment - Indoor Air quality - Energy Conservation Equipment - Building Management Systems - System Air Balancing - System Startup & Shutdown - Construction Drawings & Specifications - Heating & Cooling System Design - Crew Leadership

**HVAC Level 4:** 157.5 Hours



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# Masonry

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Masonry Level 1:**

Introduction to Masonry - Masonry Safety - Masonry Tools & Equipment - Measurements, Drawings, & Specifications - Mortar - Masonry Units & Installation Techniques

**Masonry Level 1:** 122.5 Hours

### **Masonry Level 2:**

Residential Plans & Drawing Interpretation - Residential Masonry - Reinforced Masonry - Masonry Opening & Metalwork - Advanced Laying Techniques - Effects of Climate on Masonry - Construction Inspection & Quality Control

**Masonry Level 2:** 152.5 Hours

### **Masonry Level 3:**

Elevated Masonry - Specialized Materials & Techniques - Repair & Restoration - Commercial Drawings - Estimating - Site Layout (Distance Measurement & Leveling) - Stone Masonry - Fundamentals of Crew Leadership

**Masonry Level 3:** 200 Hours



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## **Construction Craft Laborer**

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Construction Craft Laborer Level 1:**

Introduction to the Trade (Carpentry 1) - Building Materials, Fasteners, & Adhesives (Carpentry 1) - Properties of Concrete (Carpentry 3) - Site Layout (Differential Leveling) (Carpentry 4) - Handling & Placing Concrete (Carpentry 3) - Foundations & Slab Grade (Carpentry 3)

**Construction Craft Laborer 1:** 92.5 Hours

### **Construction Craft Laborer 2:**

Reinforcing Concrete (Carpentry 3) - Vertical Formwork (Carpentry 3) - Horizontal Formwork (Carpentry 3) - Heavy Equipment, Forklift & Crane Safety (Field Safety) - Steel Erection (Field Safety) - Electrical Safety (Field Safety) - Introduction to Construction Equipment (Carpentry 4) - Rough Terrain Forklifts (Heavy Equipment Operator 2) - Oxy Fuel Cutting (Welding 1) - Elevated Masonry (Masonry 2) - Working from Elevations (Field Safety) - Your Role in the Green Environment

**Construction Craft Laborer 2:** 150 Hours



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## **Power Generation Maintenance Electrician**

### **Core:**

Basic Safety - Introduction to Construction Math - Introduction to Hand Tools - Introduction to Power Tools - Introduction to Construction Drawings - Basic Rigging - Basic Communication Skills - Basic Employability Skills - Introduction to Materials Handling

**Core:** 85 Hours

### **Power Generation Maintenance Electrician Level 1:**

Tools of the Trade - Fasteners & Anchors - Oxyfuel Cutting - Gaskets & Packing - Craft-Related Mathematics - Construction Drawings - Pumps & Drivers - Valves - Introduction to Test Instruments - Material Handling & Hand Rigging - Mobile & Support Equipment - Lubrication - SMAW Equipment & Setup

**Power Generation Maintenance Electrician Level 1:** 151 Hours

### **Power Generation Maintenance Electrician Level 2:**

Industrial Safety for E&I Technicians - Managing Electrical Hazards - Introduction to the National Electric Code - Electrical Theory - Alternating Current - E&I Drawings - E&I Test Equipment - Conductors & Cables - Conductor Terminations & Splices - Motor Controls - Hydraulic Controls - Pneumatic Controls - Programmable Logic Controllers

**Power Generation Maintenance Electrician Level 2:** 193.5 Hours

### **Power Generation Maintenance Electrician Level 3:**

Conductor Installations - Cable Tray - Grounding & Bonding - Hand Bending - Machine Bending of Conduit - Electric Lighting - Practical Applications of Lighting - Hazardous Locations - Circuit Breakers & Fuses - Transformer Applications - Distribution Equipment - Power Plant Electrical Systems - Conductor Selection & Calculations - Motors: Theory & Application - Motor-Operated Valves - Control Systems & Fundamental Concepts - Temporary Grounding

**Power Generation Maintenance Electrician Level 3:** 256.5 Hours