



SKILLS COURSE CATALOGUE

Version 2023



**NORTHWEST
SKILLS INSTITUTE**

nwskills.org

ALL THE TOOLS YOU NEED TO TRAIN A SKILLED WORKFORCE



Our skills course catalog contains over 752 discrete skills courses.

To make things easier, we have organized our skills courses into four skill groups:

- Technical skills
- Employability skills
- Health & Safety skills
- Quality & Continuous Improvement skills

We combine online skills training, instructor training plans, and certification testing into one comprehensive skills training system.



SKILLS



ASSESSMENT



STUDENT STUDY
GUIDE



INSTRUCTOR
TRAINING PLANS



CERTIFICATION
TEST

EMPLOYABILITY SKILLS



CAREER BUILDING

CAR-1001
CAR-1002
CAR-1003

Searching for a Job

Kicking Off Your Job Search
Finding Jobs to Apply For
Networking

CAR-1004
CAR-1005
CAR-1006

Resumes and Job Applications

Completing an Employment Application
Creating Your Resume
Crafting a Cover Letter

CAR-1007
CAR-1008
CAR-1009
CAR-1010
CAR-1011

Interviewing

Understanding the Interview Process
Making a Positive Impression
Responding to Interview Questions
Addressing Special Interview Concerns
After the Interview

CAR-1012
CAR-1013

Keeping a Job

Surviving Your First Day on the Job
Turning a Job into a Career

CAR-1014
CAR-1015
CAR-1016
CAR-1017

Personal Branding

What is a Personal Branding
Define Your Brand
Develop Your Brand Messages
Implement Your Brand Strategy

EMPLOYABILITY SKILLS



CAREER BUILDING

CAR-2001
CAR-2002
CAR-2003
CAR-2004

Manufacturing as a Career

Manufacturing - A Future Worth Exploring

Manufacturing - Components of Production

Manufacturing - Credentials and Competencies

Manufacturing - Career Planning and Resources

EMPLOYABILITY SKILLS



COMMUNICATION

COM-1001
COM-1002
COM-1003
COM-1004
COM-1005
COM-1006
COM-1007

Communicating with Others

Introduction to Communication
Effective Communication
Verbal Communication
Written Communication
Nonverbal Communication
Listening Skills
Workplace Communication

COM-2001
COM-2002
COM-2003

Dealing With Conflict

Understanding Conflict
Communication Skills
Managing Conflict

COM-2004
COM-2005

Technical Writing

Introduction to Technical Writing
Successful Documentation

EMPLOYABILITY SKILLS



CUSTOMER SERVICE

CUS-1001	Customer Service
CUS-1002	Focusing on Your Customers
CUS-1003	Providing Friendly, Courteous, and Efficient Service
CUS-1004	Communicating Effectively with Customers
CUS-1005	Identifying and Meeting Customer Needs
	Building Customer Relationships

	Advanced Customer Service
CUS-1006	Respecting Diversity in Your Customers
CUS-1007	Better Serving Customers with Disabilities
CUS-1008	Dealing with Difficult Customers
CUS-1009	Responding to Customer Complaints
CUS-1010	Managing Conflict with Internal Customers



DIVERSITY & INCLUSION

DIV-1001	Diversity and Inclusion Introduction to Diversity, Equity, and Inclusion
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EMPLOYABILITY SKILLS



GEOMETRY

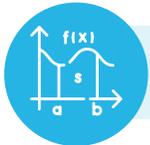
GEO-1001	Geometry Introduction to Geometry
GEO-1002	Basic Building Blocks of Geometry
GEO-1003	Angles
GEO-1004	Lines
GEO-1005	Polygons
GEO-1006	Triangles
Intermediate Geometry	
GEO-1007	Quadrilaterals
GEO-1008	Circles
GEO-1009	Three-dimensional Shapes
GEO-1010	Coordinate Geometry
GEO-1011	Transformation Geometry



LIFE SKILLS LIFE SKILLS

LIF-1001	Goal Setting Identifying Your Life Goals
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EMPLOYABILITY SKILLS



MATHEMATICS

MTH-1001
MTH-1002

Basic Math

Introduction to Basic Math
Arithmetic Operations

MTH-1004
MTH-1005
MTH-1006

Fractions and Decimals

Introduction to Fractions
Working with Fractions
Decimal Numbers

MTH-1003
MTH-1007
MTH-1008
MTH-1009

Intermediate Math

Numbers and the Number Line
Positive and Negative Numbers
Cartesian Coordinates
The Metric System

EMPLOYABILITY SKILLS



MICROSOFT EXCEL

Microsoft Excel® Basics
MSO-1001 Getting Started with Excel
MSO-1002 Entering Text and Values
MSO-1003 Formatting Data
MSO-1004 Formulas and Functions
MSO-1005 Working with Dates and Times

Intermediate Microsoft Excel®
MSO-1006 Working with Data Tables
MSO-1007 Displaying Data in Charts
MSO-1008 Printing a Worksheet
MSO-1009 Managing Worksheets
MSO-1010 Managing Workbooks
MSO-1011 Securing Worksheets and Workbooks



MICROSOFT OUTLOOK

Microsoft Outlook® Basics
MSO-1024 Getting Started with Outlook
MSO-1025 Sending Email
MSO-1026 Receiving Email
MSO-1027 Changing the Screen Layout
MSO-1028 Using the Calendar

Intermediate Microsoft Outlook®
MSO-1029 Creating and Managing Contacts
MSO-1030 Using the Task List
MSO-1031 Printing with Outlook

EMPLOYABILITY SKILLS



MICROSOFT WORD

MSO-1012
MSO-1013
MSO-1014
MSO-1015
MSO-1016

Microsoft Word® Basics

Getting Started with Word
Creating a Document
Font Formatting
Paragraph Formatting
Checking the Spelling and Grammar

MSO-1017
MSO-1018
MSO-1019
MSO-1020
MSO-1021
MSO-1022
MSO-1023

Intermediate Microsoft Word®

Indenting Text
Applying Styles and Themes
Working with Images
Working with Tables
Using Document Layout Options
Using Find and Replace
Managing Documents

EMPLOYABILITY SKILLS



PERSONAL FINANCES

PFI-1001
PFI-1004
PFI-1011
PFI-1005
PFI-1006
PFI-1007
PFI-1013

Managing Your Money

Compensation
Banking
Taxes
Credit Cards
Loans
Credit Reports and Credit Scores
Record Keeping

PFI-1002
PFI-1003

Money Budgets and Goals

Goal Setting
Budgeting

PFI-1008

Retirement Planning

Retirement Planning

PFI-1009

Investing

Investing

PFI-1010

Insurance

Insurance

PFI-1012

Estate Planning

Estate Planning

EMPLOYABILITY SKILLS



PROJECT MANAGEMENT

PRO-1001
PRO-1002
PRO-1003
PRO-1004
PRO-1005
PRO-1006
PRO-1007

Introduction to Project Management

What is Project Management?
Elements of Project Management
Initiating the Project
Planning the Project
Executing the Project
Monitoring and Controlling the Project
Closing the Project



STRESS MANAGEMENT

STR-1001
STR-1002

Stress Management Dealing with Stress
Coping with On-the-job Stress



STRESS MANAGEMENT

STU-1001

180 Skills Orientation
Greatest Day Ever

STU-1002
STU-1003

Using a Learning Management System
How to Take a Course
How to Navigate the LMS

STU-1004

Learning Online
Tips for Succeeding in Online Learning

EMPLOYABILITY SKILLS



TEAM BUILDING

TEA-1001
TEA-1002
TEA-1003
TEA-1004
TEA-1005

Working on a Team

Working in a Group
Group Communication
Effective Collaboration
Life Stages of a Team
Meeting

TEA-1006
TEA-1007
TEA-1008
TEA-1009
TEA-1010
TEA-1011
TEA-1012

Team Dynamics

Diversity
Creativity
Problem Solving
Decision Making
Conflict Management
Leadership
Virtual Groups

TEA-1013
TEA-1014

Building Effective Teams

Teamwork
Team Building

TEA-1015
TEA-1016
TEA-1017

Teamwork & Training

Team Development
Team Problem Solving
Training and Development

EMPLOYABILITY SKILLS



TIME MANAGEMENT

TIM-1001

Time Management

TIM-1003

Managing Your Time

TIM-1004

Making a List and Checking It Twice

TIM-1005

Planning Your Day

TIM-1006

Adopting Timesaving Strategies

TIM-1007

Getting Organized

TIM-1008

Ending Procrastination

Taking Advantage of Technology



WORKPLACE SKILLS WORKPLACE

WRK-1001

Workplace Skills Handling Dangerous Workplace Situations

HEALTH & SAFETY SKILLS



HEALTH & SAFETY

SAF-1001
SAF-1002
SAF-1003

Introduction to Safety

Introduction to OSHA
Making Work a Safer Place
Help! What to Do in an Emergency

SAF-1004
SAF-1005
SAF-1006
SAF-1007
SAF-1008
SAF-1009
SAF-1010
SAF-1011

Personal Protective Equipment Safety

Personal Protective Equipment
Eye and Face Protection
Head Protection
Foot and Leg Protection
Hand and Arm Protection
Body Protection
Hearing Protection
Respiratory Protection

SAF-1012
SAF-1013
SAF-1014
SAF-1015

Hazardous Material Safety

Hazardous Materials
HazCom
Hazardous Waste
Hazard Material Storage

SAF-1016
SAF-1017
SAF-1018
SAF-1019

Workplace Safety

Work Area Safety
Permit-Related Safety
Fall Prevention
Ladder Safety

HEALTH & SAFETY SKILLS



HEALTH & SAFETY

SAF-1020
SAF-1021
SAF-1022
SAF-1023

Electrical and Fire Safety

Electrical Safety
Lockout/Tagout
Fire Safety
Fire Extinguishers

SAF-1024
SAF-1025
SAF-1026

Material Handling Safety

Material Handling Basics
Powered Industrial Trucks
Crane and Rigging Safety

SAF-1027
SAF-1028
SAF-1029
SAF-1030
SAF-1031

Tool and Machine Safety

Hand Tool Safety
Power Tool Safety
Sheet Metal and Compressed Gas Safety
Machine Safety
Safety Devices

CONTINUOUS IMPROVEMENT



LEAN MANUFACTURING

LEA-1001
LEA-1002

Introduction to Lean Manufacturing

Lean Principles

The History of Lean Manufacturing

LEA-1003
LEA-1004
LEA-1005
LEA-1006
LEA-1007
LEA-1008

Workplace Organization

Workplace Organization

S1: Sort

S2: Straighten

S3: Shine

S4: Standardize

S5: Sustain

CONTINUOUS IMPROVEMENT



QUALITY

QUA-1001
QUA-1002
QUA-1003
QUA-1004
QUA-1005

Quality Systems

Introduction to Quality
ISO 9000
Standards Organizations
Quality Organizations
Basic Quality Roles and Responsibilities

QUA-1006
QUA-1007
QUA-1008
QUA-1009
QUA-1010

Quality Management

Quality Concepts
The Cost of Quality
Managing Quality
Quality Documents
Corrective and Preventive Action

QUA-1011
QUA-1012
QUA-1013

Introduction to Statistical Process Control

Introduction to SPC
Probability and Variation
The Control Chart

QUA-2001
QUA-2002
QUA-2003
QUA-2004

Advanced Statistical Process Control

Advanced Statistical Control Chart Analysis
Process Control Process Capability
Problem Solving Tools
Problem Solving

CONTINUOUS IMPROVEMENT

6σ

SIX SIGMA

SIX-3001
SIX-3002
SIX-3003

Six Sigma and the Organization

Six Sigma and the Organization
Lean Principles
Design for Six Sigma

SIX-3004
SIX-3005
SIX-3006
SIX-3007
SIX-3008
SIX-3009

Six Sigma Define

Process Elements for Projects
Project Management Basics
Management and Planning Tools
Business Results for Improvement Projects
Project Team Dynamics and Performance
Problem Solving Tools

SIX-3010
SIX-3011
SIX-3012
SIX-3013
SIX-3014
SIX-3015

Six Sigma Measure

Process Analysis and Documentation
Probability and Statistics
Collecting and Summarizing Data
Probability Distributions
Measurement System Analysis
Process Capability Performance

SIX-3016
SIX-3017
SIX-3018

Six Sigma Analyze

Exploratory Data Analysis
Hypotheses Test Basics
Hypotheses Tests

SIX-3019
SIX-3020
SIX-3021
SIX-3022

Six Sigma Improve and Control

Design of Experiments
SPC
Implement and Validate
Control Plans

TECHNICAL SKILLS



AEROSPACE MANUFACTURING

AER-1001
AER-1002
AER-1003
AER-1004
AER-1005
AER-1006
AER-1007
AER-1008
AER-1009

Aircraft Familiarization

The History of Aviation
Primary Assemblies of an Aircraft
Principles of Flight
Airplane Control
Aircraft Configuration
Aircraft Materials
Aircraft Construction
Aircraft Corrosion
Aircraft Regulations

AER-2001
AER-2002
AER-2003
AER-2004
AER-2005

Aerospace Sealing and Safety

Introduction to Sealing
Chemical Safety
Preparing the Surface
Selecting the Right Sealant
Applying the Sealant

AER-2006

Aerospace Electrical Bond and Ground

Electricity and the Airplane

AER-2007
AER-2008
AER-2009
AER-2010
AER-2011
AER-2012
AER-2013

Aerospace Wire Bundle Basics

Wiring in Airplanes
Wire and Cable Basics
Wire, Cable, and Wire Bundle Markings
Circular Connectors and Contacts
Installing a Connector
MTC Connectors
Tying Wire Bundles

TECHNICAL SKILLS



AEROSPACE MANUFACTURING

	Aircraft Systems
AER-3001	Flight Control Systems
AER-3002	Mechanical Systems
AER-3003	Landing Gear Systems
AER-3004	Aerospace Hydraulic Systems
AER-3005	Aerospace Pneumatic Systems
AER-3006	Electrical Systems
AER-3007	Propulsion Systems
AER-3008	Fuel Systems
AER-3009	Avionics Systems
AER-3010	Anti-Icing and De-Icing Systems
AER-3011	Environmental Systems
AER-3012	Window and Door Systems
AER-3013	Commercial Aircraft Structures
	Basic Drilling and Riveting
AER-4001	Marking Fastener Locations for Drilling Project
AER-4002	Setting Up the Drill Motor
AER-4003	Drilling Pilot Holes and Enlarging Holes
AER-4004	Deburring
AER-4005	Driving Protruding Head Rivets
	Installing Advanced Fasteners Project
AER-4006	Assembly Preparation for Advanced Fasteners Project
AER-4007	Installing Nut Plates
AER-4008	Compression Riveting
AER-4009	Installing Bolts
AER-4010	Securing Bolts with Lockwire

TECHNICAL SKILLS



AEROSPACE MANUFACTURING

AER-4011

Countersinking and Riveting Project

Marking Fastener Locations for Countersinking and Flush Riveting Project

AER-4012

Setting Up the Assembly and Drill

AER-4013

Drilling, Enlarging, and Deburring Holes

AER-4014

Setting the Countersink Tool (project)

AER-4015

Countersinking (project)

AER-4016

Flush Riveting

AER-4017

90 Degree Drilling Project

Assembly Preparation for 90 Degree Drilling Project

AER-4018

Installing 5/16 Inch Hi-Loks

AER-4019

Installing 3/16 Inch Hi-Loks

AER-4020

Installing Protruding Head Rivets

AER-4021

Removing Rivets in the 90 Degree Drilling Project

AER-4022

Removing 5/16 Inch Hi-Loks

AER-4023

Drilling Titanium Project

Drilling Titanium

AER-4024

Marking Hole Locations for Drilling Titanium

AER-4025

Drilling Pilot Holes in Titanium

AER-4026

Drilling and Enlarging Holes in Row JD2

AER-4027

Enlarging Row JD7

AER-4028

Enlarging Rows JD4, JD5, and JD6

AER-4029

Enlarging Rows JD1 and JD3

AER-4030

Enlarging Row JD8

AER-4031

Chamfering

AER-4032

Edge Breaking and Deburring

TECHNICAL SKILLS



AEROSPACE MANUFACTURING

AER-4033
AER-4034
AER-4035
AER-4036

Wing Structure Project

Tools for Wing Structure Project
Preparing the Assembly for the Wing Structure Project
Countersinking and Fillet Relief
Installing Fasteners

AER-4037
AER-4038
AER-4039
AER-4040
AER-4041
AER-4042

Fuselage Skin Assembly Project

Preparing the Assembly for the Fuselage Skin Assembly
Drilling the Skin Panels
Preparing the Doubler
Countersinking
Assembly Finish and Fastener Installation
Removing Rivets in the Fuselage Skin Assembly

AER-4043
AER-4044
AER-4045
AER-4046

Sealant Applicant Processes Mechanical Project

Sealing Basics
Fay and Prepack Sealing
Fillet and Injection Sealing
Cap Sealing

AER-4047
AER-4048
AER-4049
AER-4050
AER-4051
AER-4052

Aerospace Electrical Bond and Ground Project

Electrical Bond and Ground Introduction
Pre-installed Ground Studs
Electrical Fay Surface Bonds
Direct Ground Stud
Fillet Sealing a Ground Stud
Fay Sealing a Direct Ground Stud

TECHNICAL SKILLS



AEROSPACE MANUFACTURING

AER-4053
AER-4054
AER-4055
AER-4056

Aerospace Wire Bundle Installation Project

Clearance and Separation
Minimum Bend Radius
Clamping Wire Bundles - Part One
Tying Wire Bundles for the Wire Bundle

AER-4057
AER-4058
AER-4059
AER-4060
AER-4061

Installation Project

Project Installation Plan
Project and Drawing Review
Pre-routing Wire Bundles
Clamping Wire Bundles - Part Two
Torque and Inspection

TECHNICAL SKILLS



AUTOMATION

AUT-1001
AUT-1002
AUT-1003

Introduction to Industrial Automation

Introduction to Automation
Automated Process
Automated System

AUT-2001
AUT-2002
AUT-2003
AUT-2004
AUT-2005

Process Controls

Introduction to Process Controls
Process Control Systems
Set Point/Comparator
Controller (PID Control)
Multivariate Processes

TECHNICAL SKILLS



CNC MACHINING

CNC-1001
CNC-1002
CNC-1003
CNC-1004
CNC-1005

Introduction to Machining

Introduction to Machining
Machine Tools
CNC Controllers
Machining Personnel
Facility Layout

CNC-2011

CNC Machine Lubricants

CNC Machine Lubricants

CNC-2001
CNC-2002
CNC-2003
CNC-2004
CNC-2005

CNC Horizontal Lathe

Components of a CNC Lathe
Movements of a CNC Lathe
Workholding Devices and Tooling for a CNC Lathe
The CNC Controller for a CNC Lathe
Auxiliary Systems for a CNC Lathe

CNC-4001
CNC-4002
CNC-4003

CNC Horizontal Lathe Applications

Maintenance Tasks for a CNC Lathe
Power on the CNC Lathe
Move the Axes by Rotating the Jog Handle
on a CNC Lathe

CNC-4004
CNC-4005
CNC-4006
CNC-4007
CNC-4008
CNC-4009

Home the Axes on a CNC Lathe
Select a Part Program from Memory on a CNC Lathe
Start the Part Program Safely on a CNC Lathe
Interrupt Automatic Operation on a CNC Lathe
Adjust a Tool Wear Offset on a CNC Lathe
Power Off the CNC Lathe

TECHNICAL SKILLS



CNC MACHINING

CNC Lathe Programs

CNC-4010	CNC Programming Procedure for a CNC Lathe
CNC-4011	CNC Program Structure for a CNC Lathe
CNC-4012	CNC Addresses for a CNC Lathe
CNC-4013	CNC Lathe Commands
CNC-4014	Organizing a CNC Program for a CNC Lathe

CNC Vertical Machining Center

CNC-2006	Components of a CNC Machining Center
CNC-2007	CNC Machining Center Movements
CNC-2008	Workpiece and Tool Holding Devices for a CNC Machining Center
CNC-2009	The CNC Controller for a CNC Machining Center
CNC-2010	Auxiliary Systems for a CNC Machining Center
CNC-4015	CNC Vertical Machining Center Applications
CNC-4016	Maintenance Tasks for a CNC Machining Center
CNC-4017	Power on the CNC Machining Center
CNC-4018	Move the Axes by Rotating the Jog Handle on a CNC Machining Center
CNC-4019	Home the Axes on a CNC Machining Center
CNC-4020	Select a Part Program from Memory on a CNC Machining Center
CNC-4021	Start the Part Program Safely on a CNC Machining Center
CNC-4022	Interrupt Automatic Operation on a CNC Machining Center
CNC-4022	Adjust a Tool Wear Offset on a CNC

TECHNICAL SKILLS



CNC MACHINING

Machining Center

CNC-4023

Power Off the CNC Machining Center

CNC-4024

CNC Machining Center Programs

CNC-4025

CNC Programming Procedure for a CNC Machining Center

CNC-4026

CNC Program Structure for a CNC Machining Center

CNC-4027

CNC Addresses for a CNC Machining Center

CNC-4028

CNC Machining Center Commands

Organizing a CNC Program for a CNC Machining Center

TECHNICAL SKILLS



COMPOSITES

CMP-1001
CMP-1002
CMP-1003
CMP-1004

Introduction to Composites

Background and History of Composites
Composite Industries and Products
Advantages and Disadvantages of Composites
Safety and Hazards of Composites

CMP-1005
CMP-1006
CMP-1007
CMP-1008

Composites Manufacturing Facilities

Facility Layout
Non-controlled Contamination Areas
Lay-up Area
Curing Area

CMP-2001
CMP-2002
CMP-2003
CMP-2004
CMP-2005
CMP-2006
CMP-2007
CMP-2008
CMP-2009

Materials Used in Composites Manufacturing

Fiber Based Composites
Fibers, Tapes and Fabrics
Glass and Carbon Fibers
Matrix Types and Properties
Curing Process
Honeycomb Core Materials
Material Compatibility
Galvanic Reactivity
Core Potting Compounds

CMP-2010
CMP-2011

Composite Material Storage

Fiber Material Storage
Controlled Contamination Areas

TECHNICAL SKILLS



COMPOSITES

CMP-2012	Tools Used In Composite Manufacturing
CMP-2013	Local Exhaust Ventilation
CMP-2014	Forming Tools
CMP-2015	Coefficient of Thermal Expansion
CMP-2016	Forming Tool Inspection
CMP-2017	Forming Tool Cleaning
CMP-2018	Forming Tool Storage
CMP-2019	Rollers and Sweeps Overhead Laser System
CMP-3001	Composite Material Kitting
CMP-3002	Kitting with a sheeter
CMP-3003	Kitting by Hand Kitting with Automated Machines
CMP-3004	Composite Part Layup and Bagging
CMP-3005	Ply Balancing
CMP-3006	Material splicing
CMP-3007	Wrinkles and Gaps
CMP-3008	Pockets and Voids
CMP-3009	Radius Fill Fabrication by Hand
CMP-3010	Advanced Bagging
CMP-3011	Bagging and Lay-up Equipment
CMP-3012	Preparation for the Lay-up Process
CMP-3013	Cure Cycle Controllers -Temperature Controls

TECHNICAL SKILLS



COMPOSITES

Thermocouple Science

CMP-3014
CMP-3015
CMP-3016
CMP-3017

Inspecting Composite Parts

Introduction to Inspection of Composites
Visual Inspection for Composites
Ultrasonic Inspection for Composites
Tap Inspection for Composites

CMP-3018
CMP-3019
CMP-3020
CMP-3021

Composite Part Damage and Repair

Composite Repairs
Aircraft Damage
Damage Assessment
Repair Tools and Materials

CMP-4001
CMP-4002
CMP-4003

Composite Layup Projects

Unidirectional 4 Ply Lay-up
Carbon 8 Ply Lay-up with Core
Fiberglass 6 Ply Wet Lay-up

CMP-4004
CMP-4005
CMP-4006
CMP-4007
CMP-4008
CMP-4009
CMP-4010
CMP-4011

Drilling Composites Project

Drilling Composite Material
Marking Hole Locations
Drilling Pilot Holes in Titanium
Drilling Row JD3
Drilling Row JD7
Enlarging Holes in Rows JD1 and JD5

TECHNICAL SKILLS



COMPOSITES

CMP-4012
CMP-4013
CMP-4014
CMP-4015

Enlarging Holes in Rows JD2 and JD6
Enlarging Holes in Row JD4

Composite Part Damage and Repair Project

Surface Damage Assessment
Surface Damage Repair
Disbonding Damage Assessment
Disbonding Damage Repair

TECHNICAL SKILLS



CUTTING TOOLS

CUT-2001

Drill Bits

Drill Bits

CUT-2002

Drill Guides and Drill Stops

Drill Guides and Drill Stops

CUT-2003

Countersinking Tools

Countersinking Tools

CUT-2004

Threads, Taps and Dies

Threads

CUT-2005

Taps

CUT-2006

Hand Tapping

CUT-2007

Threading Dies

CUT-2008

Lubricants and Cutting Fluids

Cutting Fluids

CUT-2009

Cutting Tools for Metalworking

Cutting Tool Materials

CUT-2010

Indexable Tool Holders

CUT-2011

Inserts

CUT-2012

Solid Cutting Tools

TECHNICAL SKILLS



ELECTRICAL

	Introduction to Electricity
ELE-1001	Production of Electricity
ELE-1002	Transmission and Distribution of Electricity
ELE-1003	Uses of Electricity
ELE-1004	Atomic Structure
ELE-1005	Electrical Circuits
ELE-1006	Electrical Current
ELE-1007	Voltage
ELE-1008	Electrical Power
ELE-1009	Resistance
ELE-1010	Ohm's Law
ELE-1011	Watt's Law
	DC Electricity
ELE-1012	Direct Current
ELE-1013	Batteries
ELE-1014	Circuit Analysis
	AC Electricity
ELE-1015	Electromagnetism
ELE-1016	AC Waveform Generation
ELE-1017	Electromagnetic Devices
ELE-1018	Transformers
ELE-1019	Capacitors
	Solid State Electricity
ELE-1020	Semiconductors

TECHNICAL SKILLS



ELECTRICAL

ELE-1021

Solid State Devices

Introduction to Wiring

ELE-2001

Wires, Connectors, and Circuit Protection

ELE-2002

Connecting Transformers

Introduction to Electric Motors

ELE-2003

DC Motors

ELE-2004

AC Single-Phase Motors

ELE-2005

Three-Phase AC Motors

Electrical Connectors

ELE-2006

Electrical Connectors and Fasteners

Fiber Optics

ELE-2007

Fiber Optics and Light

ELE-2008

Manufacturing Optical Fiber

ELE-2009

Fiber Optic Cable

ELE-2010

Handling Fiber Optic Cable

ELE-2011

Quality and Safety

Sensor Technology

ELE-2012

Introduction to Sensors Technology

ELE-2013

Sensor Technology

ELE-2014

Proximity Sensors

ELE-2015

Position, Speed, and Acceleration Sensors

ELE-2016

Industrial Process Sensors

TECHNICAL SKILLS



ELECTRICAL

ELE-2017

Advanced Sensors

Electrical Hand Tools

ELE-2018

Hand Tools for Electrical Wiring

Electrical Measurement Conversion

ELE-2019

Electrical Measurement and Unit Conversion

Electrical Resistance Test Equipment

ELE-2020

Resistance Test Equipment

ELE-2021

The Fluke® Multimeter

ELE-2022

The Biddle® Ohmmeter

ELE-2023

The Avtron® Ohmmeter

ELE-2024

The Hewlett Packard® Milliohmmeter

ELE-2025

The BCD M1® Ohmmeter

Crimping Terminals and Splices

ELE-4001

Terminals and Splices

ELE-4002

Crimping

ELE-4003

Crimping a Terminal

ELE-4004

Crimping a Pre-insulated Splice

Assembly of Coaxial Connectors

ELE-4005

Coaxial Cable

ELE-4006

Coaxial Connectors

ELE-4007

Coaxial Connector Tools

ELE-4008

Coaxial Connector Assembly

TECHNICAL SKILLS



ENGINEERING DRAWINGS

DWG-1001
DWG-1002
DWG-1003
DWG-1004
DWG-1005

Blueprint Reading Fundamentals

Introduction to Blueprints
Engineering Drawing Terminology
Engineering Drawing Views
Engineering Drawing Lines
Dimensions and Tolerances

DWG-1006
DWG-1007
DWG-1008
DWG-1009
DWG-1010
DWG-1011

Blueprints and Picture Sheets for Aerospace

Aerospace Introduction to Blueprints
Blueprint Terminology
Blueprint Views
Blueprint Lines
Blueprint Dimensions and Tolerances
Blueprint Symbols

DWG-2001
DWG-2002
DWG-2003

Advanced Blueprint Reading

Geometric Dimensions and Tolerances
Assemblies and Fits
Threads and Fasteners

DWG-2004
DWG-2005
DWG-2006

Aerospace Wire Installation Drawings

Engineering Drawing Review
Wire Bundle Installation Paperwork
Electrical Production Illustrations

TECHNICAL SKILLS



ENGINEERING DRAWINGS

DWG-2007
DWG-2008
DWG-2009

Composite Engineering Drawings and Instructions

Engineering Communication
Composite Engineering Drawings
Work Instructions

DWG-3001
DWG-3002
DWG-3003
DWG-3004
DWG-3005
DWG-3006
DWG-3007
DWG-3008
DWG-3009
DWG-3010

Geometric Dimensioning and Tolerancing

Introduction to GD&T
GD&T Terms and Symbols
Rules of GD&T
Geometric Tolerances
Datums
Form Tolerances
Profile Tolerances
Orientation Tolerances
Runout Tolerances

TECHNICAL SKILLS



FASTENERS

FAS-2001	Fasteners Temporary Fasteners
FAS-2002	Rivets
FAS-2003	Bolts, Screws, and Washers
FAS-2004	Threaded Inserts
FAS-2005	Hi-Loks
FAS-2006	Lockbolts
FAS-2007	Nut Plates
FAS-2008	Blind Rivets
FAS-2009	Identifying Fasteners
FAS-2010	Fasteners and Fits
FAS-2011	Securing and Lockwiring Fasteners



HAND TOOLS

HAN-2001	Hand Tools Files, Hand Reamers, and Lapping Tools
HAN-2002	Hammers, Punches, and Chisels
HAN-2003	Pliers and Ratchets
HAN-2004	Scribes, Optical Center Finders, and Drill Blocks

TECHNICAL SKILLS



HYDRAULICS

HYD-1001
HYD-1002
HYD-1003
HYD-1004

Introduction to Hydraulics

Introduction to Hydraulics
Hydraulic Theory
Hydraulic Fluids
Hydraulic Systems

HYD-2001
HYD-2002
HYD-2003
HYD-2004

Components of a Hydraulic System

Hydraulic Actuators
Classification of Hydraulic Valves
Hydraulic Piping and Instrumentation
Hydroelectric Symbology and Circuits



LOGISTICS

LOG-1001
LOG-1002
LOG-1003
LOG-1004
LOG-1005
LOG-1006
LOG-1007

Introduction to Logistics

What is Logistics?
Logistics Technology
Inventory
Distribution and Transportation
Safety, Quality and the Environment in Logistics
Winning in Logistics
Careers in Logistics

TECHNICAL SKILLS



MACHINING

MAC-1001

Machining

Machining Introduction to Machining

MAC-1002

Milling and Drilling

Milling and Drilling Introduction to Milling and Drilling

MAC-1003

Turning and Boring

Turning and Boring Introduction to Turning and Boring

MAC-1004

Grinding

Grinding Introduction to Grinding

TECHNICAL SKILLS



MANUFACTURING

MFG-1001
MFG-1002
MFG-1003
MFG-1004
MFG-1005
MFG-1006
MFG-1007

Introduction to Manufacturing

What is Advanced Manufacturing?
Manufacturing History and Technology
From Ideas to Products
From Design to Manufacturing
Safety, Quality and the Environment in Manufacturing
Measuring Success in Manufacturing
Careers in Manufacturing

MFG-1008

Manufacturing & Logistics Game

The Game of Manufacturing and Logistics

MFG-1009
MFG-1010

Engineering Processes

The Engineering Process
Information Sharing

MFG-1011
MFG-1012
MFG-1013

Manufacturing Paperwork

Airplane Regulations
The Production Order
The Installation Plan

TECHNICAL SKILLS



MATERIALS

MAT-2001
MAT-2002
MAT-2003
MAT-2004

Metals and Materials

Metals and Materials Introduction to Metals
Ferrous Metals
Nonferrous Metals
Heat Treatment of Metals

TECHNICAL SKILLS



MEASUREMENT

MEA-2001
MEA-2002
MEA-2003
MEA-2004

Precision Measurement I

Introduction to Precision Instruments
Rules
Calipers
Micrometers

MEA-2005
MEA-2006
MEA-2007
MEA-2008
MEA-2009
MEA-2010

Precision Measurement II

Small Hole Gauges
Dial Indicators
Bore Gauges
Height Gauges
Go/NoGo Gauges
Test Indicators

MEA-2011
MEA-2012
MEA-2013
MEA-2014
MEA-2015

Attribute Gauges

Go/NoGo Thread Gauges
Attribute Gauges
Thickness and Radius Gauges
Squares and Protractors
Surface Roughness Comparators

MEA-2016
MEA-2017
MEA-2018
MEA-2019

Precision Measurement III

Adjustable Parallels
Surface Plates
Optical Comparators
Optical Center Finders

TECHNICAL SKILLS



MEASUREMENT

MEA-2020
MEA-2021
MEA-2022
MEA-2023
MEA-2024
MEA-2025

Fastener Inspection Gauges

Grip Gauges
Countersink Gauges
Fastener Height Gauges
Rivet Inspection Gauges
Fastener Inspection Gauges
Gap Inspection Gauges

MEA-2026

Weld Inspection Gauges

Weld Gauges

TECHNICAL SKILLS



METAL CUTTING

MTC-1001

Waterjet Cutting

Waterjet Cutting Introduction to Abrasive Waterjet Cutting

MTC-1002

Laser Cutting

Laser Cutting Introduction to Laser Cutting

MTC-1003

Electrical Discharge Machining (EDM)

Electrical Discharge Machining Introduction to Electrical Discharge Machining

TECHNICAL SKILLS



METAL FORMING

MTF-1001

Metalworking

Introduction to Metalworking Processes

MTF-1002

Metal Forming

Introduction to Bulk Metal Forming

MTF-1003

Metal Rolling

Introduction to Rolling

MTF-1004

Forging

Introduction to Forging

MTF-1005

Extruding

Introduction to Extruding

MTF-1006

Wire Drawing

Introduction to Bar and Wire Drawing

MTF-1007

Sheet Metal Forming

Introduction to Sheet Metal Forming

MTF-1008

Metal Stamping

Introduction to Metal Stamping

MTF-1009

Metal Spinning

Introduction to Metal Spinning

TECHNICAL SKILLS



METAL FORMING

MTF-1009

Metal Spinning

Introduction to Metal Spinning

MTF-1010

Roll Forming

Introduction to Roll Forming

MTF-1011

Slide Forming

Introduction to Slide Forming

MTF-1012

Hydroforming

Introduction to Hydroforming

MTF-1013

Tube Forming

Introduction to Tube Forming

MTF-1014

Fabrication

Introduction to Fabrication

TECHNICAL SKILLS



NONDESTRUCTIVE EXAMINATION

NDE-3001
NDE-3002
NDE-3003

Introduction to Nondestructive Examination Aerospace

What is NDE?
NDE Methods
Careers in NDE

NDE-3004
NDE-3005
NDE-3006
NDE-3007
NDE-3008
NDE-3009
NDE-3010
NDE-3011
NDE-3012
NDE-3013

Visual Testing Aerospace

Introduction to Visual Testing
Light and the Human Eye
Standard Inspection Techniques
Visual Testing Equipment
Manufacturing Produced Discontinuities
Standards and Procedures
Visual Testing of Castings
Visual Testing of Wrought Metal
Visual Testing of Welds
In-Service Visual Inspection

NDE-3014
NDE-3015
NDE-3016
NDE-3017
NDE-3018
NDE-3019
NDE-3020
NDE-3021

Magnetic Particle Testing Aerospace

Magnetic Particle Examination
Magnetism
Magnetic Flux
Electricity and Magnetism
Electromagnets
Cast Ferromagnetic Metals
Wrought Ferromagnetic Metals
Secondary Metal Processing

TECHNICAL SKILLS



NONDESTRUCTIVE EXAMINATION

NDE-3022	Introduction to Magnetic Particle Examination Equipment and Materials
NDE-3023	Non-Portable Magnetic Particle Examination Equipment
NDE-3024	Portable Magnetic Particle Examination Equipment
NDE-3025	Lighting Equipment
NDE-3026	Magnetic Particle Materials
NDE-3027	Field Testing Devices
NDE-3028	Light Meters
NDE-3029	Part Preparation
NDE-3030	Technique Selection
NDE-3031	Magnetizing Currents
NDE-3032	Sample Examination #1
NDE-3033	Sample Examination #2
NDE-3034	Sample Examination #3
NDE-3035	Sample Examination #4
NDE-3036	Magnetic Particle Examination Standards

Introduction to Nondestructive Examination Commercial

NDE-3037	What is Nondestructive Examination?
NDE-3038	The NDE Process
NDE-3039	Materials
NDE-3040	Metals Manufacturing and Processes
NDE-3041	Testing of Material Properties
NDE-3042	Loads, Stresses, and Discontinuities
NDE-3043	Fracture Mechanics
NDE-3044	NDE Methods
NDE-3045	Personnel Qualification

TECHNICAL SKILLS



NONDESTRUCTIVE EXAMINATION

	Visual Testing Commercial
NDE-3046	Introduction to Visual Testing
NDE-3047	Light
NDE-3048	Standard Inspection Techniques
NDE-3049	Visual Testing Equipment
NDE-3050	Hierarchy of Product Standards
NDE-3051	Visual Testing of Castings
NDE-3052	Visual Testing of Rolled Products
NDE-3053	Visual Testing of Welds
NDE-3054	VT in Industrial Components

TECHNICAL SKILLS



PLC

Programmable Logic Controllers

PLC-1001	Introduction to Programmable Controllers
PLC-1002	Introduction to Digital Electronics
PLC-2001	Types and Functions of Programmable Controllers
PLC-2002	General Structure of PLC
PLC-2003	Physical Integration of the PLC
PLC-2004	Internal Structure of the CPU
PLC-2005	Basic Concepts of PLC Programming
PLC-2006	Common PLC Applications

TECHNICAL SKILLS



POWER TOOLS

POW-2001
POW-2002
POW-2003
POW-2004
POW-2005

Hand Power Tools

Pistol Grip Drills
Drilling Techniques
Winslow Drills
Compression Riveters
Rivet Installation Tools

POW-2006
POW-2007
POW-2008
POW-2009
POW-2010
POW-2011
POW-2012
POW-2013

Stationary Power Tools

Introduction to Stationary Power Tools
Disc and Belt Sanders
Drill Press
Band Saw
Arbor Press
Bench Grinder
Table Saw
Operating a Table Saw

TECHNICAL SKILLS



PNEUMATICS

PNE-1001
PNE-1002
PNE-1003
PNE-1004
PNE-1005

Introduction to Pneumatics

Introduction to Pneumatics
Pneumatic Systems
The Properties of Gases
Air Compression and Distribution - Part One
Air Compression and Distribution - Part Two

PNE-2001
PNE-2002
PNE-2003
PNE-2004
PNE-2005

Components of a Pneumatic System

Compressed Air Treatment
Pneumatic Actuators
Directional Control Valves
Vacuum Technology
Measuring Pneumatic Variables

PNE-3001

Pneumatic Applications

Pneumatic Applications

TECHNICAL SKILLS



ROBOTICS

ROB-1001	Robotics Introduction to Robotics
ROB-1002	Robot Safety
ROB-2001	Robot Axes
ROB-2002	Robot Manipulator
ROB-2003	Controller and End Effectors
ROB-2004	Robot Programs
ROB-2005	Industrial Robot Applications

TECHNICAL SKILLS



TOOL MAKING

TOL-3001
TOL-3002
TOL-3003
TOL-3004
TOL-3005

Tooling Capstone Project

Tooling Capstone Project Need for Tools
The Process
Permanent Assemblies
Critical Features
Final Details

TECHNICAL SKILLS



WELDING

WEL-2001
WEL-2003

Welding for NDE

Introduction to Welding
Welding and Welding Discontinuities

WEL-2004
WEL-2005
WEL-2006
WEL-2007
WEL-2008
WEL-2009
WEL-2010
WEL-2012
WEL-2012
WEL-2013
WEL-2015
WEL-2015
WEL-2016

Welding Processes

Welding Basics
Weld Defects
Arc Welding Safety
Elements of an Arc Welding Circuit
Shielding
Arc Welding Parameters
Gas Metal Arc Welding (GMAW)
Flux Core Arc Welding (FCAW)
Gas Tungsten Arc Welding (GTAW)
Plasma Arc Welding (PAW)
Shielded Metal Arc Welding (SMAW)
Submerged Arc Welding (SAW)
Electroslag Welding (ESW) and Electrogas Welding (EGW)

